Archaeological Sites: Conservation and Management

Edited by Sharon Sullivan and Richard Mackay

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Contents

Foreword

We are pleased to present *Archaeological Sites: Conservation and Management*, the fifth volume in the Getty Conservation Institute's Readings in Conservation series. The series was developed to provide readers with a selection of the seminal texts that have contributed to the development of our understanding of the history, theory, and practice of conservation. The first volume, *Historical and Philosophical Issues in the Conservation of Cultural Heritage*, was published in 1996 and is now in its fourth printing. It was followed by *Issues in the Conservation of Paintings* in 2004, *Issues in the Conservation of Photographs* in 2010, and *Changing Views of Textile Conservation* in 2011.

Since its inception, the GCI has been engaged in the conservation and management of archaeological sites. The Institute's first major field project, undertaken from 1986 to 1992, focused on the assessment, analysis, emergency treatment, and conservation of the extraordinary wall paintings in the tomb of Nefertari, in the Valley of the Queens near Luxor, Egypt. More than twenty years later, the GCI is again working in the Valley of the Queens, this time developing and implementing a conservation and management plan to address the major threats to the site as a whole, including flooding, instability of tombs, and mass tourism.

Over the span of intervening years, the GCI has worked at many other important archaeological sites in various parts of the world, ranging from three-and-a-half-million-year-old hominid footprints at Laetoli in Tanzania, Roman mosaics in Tunisia, Mayan ruins in Honduras, and Buddhist cave temples in China to wall paintings at Herculaneum in Italy and earthen architecture in the U.S. Southwest. Our work has focused on site conservation and management, which includes documentation and recording; diagnostic research and assessment; the development, testing, and implementation of conservation treatments and strategies; and training and dissemination.

It is therefore fitting that the newest book in our Readings in Conservation series should explore the history and development of archaeological site conservation and management. The readings in this volume, thoughtfully edited by Sharon Sullivan and Richard Mackay, range from classic texts to the most recent

scholarship. We are extremely grateful to Sharon and Richard, who have both been exceptional colleagues and partners for many years. Their professionalism and dedication to this project have resulted in this important, comprehensive volume.

Archaeological sites are among the oldest and most evocative evidence of our shared cultural heritage. We hope that the readings and commentary presented in *Archaeological Sites: Conservation and Management* will be of benefit to students as well as to professionals working to preserve these precious places.

Timothy P. Whalen
Director
The Getty Conservation Institute

Preface

The process of archaeology is essentially destructive; excavation irrevocably changes the nature and context of the site and the excavated data, and the resulting exposure of fabric and artifacts can accelerate their deterioration and decay. By its very nature most archaeological investigation gives rise to an inherent conflict between the practice of archaeology, requirements for physical conservation of fabric, and, often, the cultural values other than archaeological ones that are associated with particular sites. Archaeologists may therefore be regarded as having an ethical responsibility to care for and conserve the sites they put at risk through excavation. Awareness and acceptance of this obligation have come slowly. Understanding the development of archaeological conservation as a discipline consequently involves considering a combination of historical antecedents and relatively recent contemporary practice.

The Getty Conservation Institute Readings in Conservation series collects and publishes texts that have been influential in the development of thinking about the conservation of cultural heritage. The aim of the series is to provide an important resource for students and professionals in heritage conservation and allied fields. This volume in the series addresses key issues in the conservation and management of archaeological sites from both a historical and a contemporary perspective. It takes a broad approach to the definition of "influential" texts. We have chosen readings from a wide range of potential texts that we regard as contributing substantively to an understanding of the development of modern archaeological site conservation and management. The selected readings include texts that have proved seminal or that outline significant processes, issues, or methodologies with clarity, either through review and discussion or through the provision of a pertinent example.

Choices have been made so as to offer a broad spectrum of site types, broad geographic coverage, and diversity in language and cultural context. In addition, individual texts have been assessed in relation to their philosophical and methodological content or specific techniques. It is hoped that this approach will increase

the appeal and application of the volume, even if it has been necessary to omit other well-known works discussing similar sites or covering exemplar controversies.

The term *archaeological site* is commonly used in the literature to refer to a place (or locus) in which evidence of past human activity is preserved, encompassing elements or objects of cultural heritage value, and at which archaeology has played a role in the discovery, identification, and/or study of these cultural values. Archaeological sites range in scope and time from ancient human remains and subtle traces of early human occupation to spectacular rock art and the major iconic monuments of entire civilizations. They include industrial complexes, the remains of massive infrastructure, underwater sites, and places of conflict. The volume engages with this very broad spectrum of archaeological places, considering both individual sites and the archaeological resource itself.

The term *cultural heritage values* is generally taken to mean the values of a site that make it worthy of conservation; in other words, the attributes that are seen as valuable by one or more cultural groups. The historical, aesthetic, and scientific values of archaeological sites have long been recognized, but more recently their social or spiritual values in a range of cultures have also received recognition. The extent to which a site possesses these values determines its cultural significance.

The term *conservation* is interpreted in its broadest sense as "all the processes of looking after a place so as to retain its cultural significance" (*Australia ICOMOS Charter for Places of Cultural Significance* [Burra Charter]). Taking this definition as a starting point, the readings in this volume deal with a wide range of issues relevant to the conservation of archaeological sites. We include under the above definition of conservation what we have termed *physical conservation*—prevention of physical deterioration, in situ conservation of remains, conservation of excavated artifacts, and stabilization and/or repair of excavated features and related issues. However, the concept of conservation also embodies significance assessment, administrative and management regimes, community involvement, legal safeguards, economic considerations, land-use factors, presentation, and education.

Archaeological site management is an integral part of conservation, and in this context the terms *conservation* and *management* are often used interchangeably. The degree to which a site's conservation and management facilitates the long-term retention and presentation of all its heritage values in a dynamic and integrated way determines their success or failure.

The pursuit of relevant readings that best represent these numerous strands is a daunting task for a single volume; therefore, it has been important to set limits while presenting the key texts and issues common to the field generally. We have tried to focus on the development of the key philosophical and methodological issues, using examples and texts from different types of archaeological sites, situations, and locations. The selected readings seek to strike a balance between illustrating early developments in the field (concentrating on those of importance to an understanding of the history of the discipline) and providing more contemporary

examples of the increasingly complex conservation and management issues that face the profession today.

We have made some deliberate and necessary omissions in order to accommodate such an ambitious scope. Physical conservation, curation, and management of individual artifacts, collections, and archaeological data sets have been excluded; there may be an opportunity in the future for a separate volume on this subject. We have also limited readings on technical aspects of physical conservation, conservation treatments, and development of new materials and technologies to those that illustrate or contribute to the development of broader philosophical and methodological concepts.

Archaeological heritage conservation and management is a relatively young field, with comparatively few institutional and individual participants. There is a vast corpus of literature in which authors describe the excavation process and discoveries in detail, but in general this literature is remarkable for the paucity of substantial writing on conservation. This paradox has been a major challenge in the compilation of this volume. While the majority of the readings are not found in common sources, some of the seminal readings necessarily draw from the work of a select few organizations, journals, and books. We have tried to avoid multiple readings from well-known sources, but to achieve the volume's aims we have chosen to reproduce a few readily available seminal texts. In recent years the Getty Conservation Institute and the journal *Conservation and Management of Archaeological Sites* have been influential and prodigious in their respective contributions. This volume therefore draws on both sources with respect to more recent issues, trends, and techniques.

We stand on the shoulders of giants in another respect. The first volume in this series, *Historical and Philosophical Issues in the Conservation of Cultural Heritage* (1996), edited by N. Stanley Price, M. Kirby Talley Jr., and A. Melucco Vaccaro, has become a classic, both because of its scholarly and elucidating approach to some of the key philosophical issues that underpin modern conservation and because of the key texts that it contains. These texts and extracts are not reproduced here, and we urge readers to refer to that volume.

Through the support of the Getty Conservation Institute, we were fortunate to assemble an expert advisory committee with global experience in archaeological heritage management. Our process commenced with the preparation of an initial concept paper. This was closely followed by an interactive workshop, held at the Getty Center in early 2007, during which we were able to refine the project's scope, consider the volume's structure, and gather bibliographic reference material. Using the resources of the Getty Research Institute and the GCI's Information Center, we were able to assemble more than twelve hundred relevant sources, all of which have been reviewed and considered for inclusion in this volume.

While web-based technology and the ability to access interlibrary loan material electronically has assisted greatly with the process of assembling papers for

consideration, we also received considerable research assistance that allowed us to evaluate some papers written in languages other than English. We also established a web-based facility for our advisory committee colleagues to contribute ideas, critique papers, and comment on our work in progress.

The most difficult decision we have had to make is how to bring order to this sprawling subject. There are many ways in which this volume may have been arranged, each with its merits and its inconsistencies. We have chosen the following sequence.

The readings in Part I, "History: Concepts, Methods, and Issues," were chosen to represent aspects of the development of the theory and practice of archaeological site conservation. They are neither comprehensive nor definitive but set the scene by providing illuminating glimpses of this development and the issues related to it in a deliberate sequence, encouraging the reader to engage with emerging issues and consider progressive developments in archaeological heritage management—philosophical considerations, challenges faced, and approaches adopted. Many of the subjects covered are addressed in more detail in later readings.

Threats and responses to the conservation of the broad, often unrecognized archaeological resource are the subject of the readings in Part II, "Conserving the Archaeological Resource." While the majority of the readings in this part are relatively recent, there is an inherent logic in contemplation of issues that pertain to the entirety of the resource before engaging with conservation at the level of the individual site. This part also includes readings that discuss the responsibilities of archaeologists and the development of general protection mechanisms.

Some of the earliest concerns of archaeologists and conservators were related to the complex problem of conserving what has been excavated. Part III, "Physical Conservation of Archaeological Sites," moves from the broad landscape of the archaeological resource to explore the principles, methodologies, and issues of physical conservation as applied to particular excavated sites.

The readings in Part IV, "The Cultural Values of Archaeological Sites: Conflict and Resolution," illustrate the multiple cultural values of archaeological sites and the potential or actual conflict in the conservation of these values. Aspects of this theme arise throughout the volume, since the issue of cultural values is inseparable from any consideration of archaeological conservation. Here we concentrate on pertinent examples from a range of cultures. Recognition and conservation of values, along with appropriate physical conservation, are a prerequisite to effective site management, the subject of Part V.

Effective site management encompasses elements of all the issues covered in the preceding parts. Part V, "Archaeological Site Management," explores aspects of policy development in the field of conservation and management planning, disciplines that require a wide range of skills and expertise to address the varying and challenging circumstances of archaeological sites.

Because the subject of archaeological site conservation and the literature about it is multifaceted and complex, some readings have relevance to more than one part of this volume. We have assigned the readings to the part where they seem to contribute most to the flow of issues and argument, but we are happy to admit that their richness and complexity have sometimes made this a difficult and, perhaps, arbitrary decision. A good example is the article by Clottes and Chippendale in Part III (reading 53), which provides insights into site conservation issues and also into management and interpretation (Part V). The reader is encouraged to wander at will.

The introductory material in each part includes a selection of quotations that highlight key issues and different viewpoints reflecting that part's overall themes. The quotations also provide a hint of the stimulating ideas contained in readings whose inclusion was precluded by space limitations. Each reading is preceded by short prefatory remarks that explain the selection rationale and principal matters covered.

Our preference from the outset was to include complete texts whenever possible. However, many of the seminal readings are sections of much larger works, so it has been necessary to present a combination of complete works and excerpts. The volume concludes with further readings, arranged according to the part sequence above. Selections from many of these publications would have been included in the volume had space allowed.

The conservation and management of archaeological sites remains a major challenge for place managers and heritage regulators around the world. While the field of archaeological conservation has developed rapidly over recent decades, it is still in its infancy, and there are great opportunities for contributions to both methodology and technique. This volume provides ready access to an influential and informative selection of key literature to archaeologists, conservators, managers, scholars, other practitioners, and the general reader who is interested in this rich topic. Our hope is that the work will become a useful reference but more important that it will stimulate new ideas, inspire new approaches, and contribute to animated debate within this growing field.

Sharon Sullivan
Richard Mackay

Acknowledgments

This volume reflects the knowledge, experience, and generosity of many colleagues from the fields of archaeology and conservation. We are particularly indebted to the members of our advisory committee, who offered many thoughtful suggestions, shared bibliographies, reviewed our initial selections, and provided valuable critiques: Neville Agnew, Giorgio Buccellati, Martha Demas, Brian Egloff, Marisabel Hernandez Llosas, Webber Ndoro, Gaetano Palumbo, Thongsa Sayavonghamdy, and Nicholas Stanley Price.

We also wish to acknowledge the contribution of Kate Clark, author of one of the readings, who also reviewed our approach and readings selection. Other colleagues, especially Teresa Patricio and Meredith Wilson, were obliging and gracious as we sought to edit and revise their work.

Readings in Conservation is an important initiative of the Getty Conservation Institute, and we acknowledge the support of the Trustees of the J. Paul Getty Trust, as well as Timothy P. Whalen and Jeanne Marie Teutonico, for their patience and support over the five years it has taken to bring this volume to fruition.

Cynthia Godlewski at the Getty Conservation Institute guided the development of the book, provided constant good-natured support as deadlines passed, and coordinated the many complex logistical details involved in the preparation and production of the manuscript. We are indebted to Tevvy Ball for his skillful and sensitive editorial management of the project. We would also like to thank Sheila Berg for her first-rate copy editing of the manuscript; Jim Drobka, for overseeing the design of the book; and Pamela Heath, for coordinating its production. Gathering and reviewing more than twelve hundred papers in several languages and innumerable institutions was possible only with the efficient and diligent efforts of our two research assistants, Penny Crook and Aedeen Cremin. Penny also managed the website that allowed us to manage our vast database and interact efficiently with our multinational advisory committee. Aedeen assisted further by locating, translating, and summarizing non-English-language papers.

Many of the readings may be found in the vast collection of the Getty Research Institute. Cameron Trowbridge, Valerie Greathouse, Sheila Cummins,

Anna Duer, and Judy Santos at the GCI's Information Center demonstrated imaginative lateral research and showed the fine attention to detail needed to deliver a publication of this caliber.

Above all others, we thank Malin Blazejowski and Carolyn Mackay for their extraordinary support and patience, including their forbearance as looming deposits of archaeological publications threatened to turn our respective homes into a contemporary version of Herculaneum, buried beneath a matrix of books, learned papers, and manuscripts.

As others have observed, any anthology is a selection of readings from which one essential favorite is always missing. In thanking the many colleagues who have contributed, we take full responsibility for our choices and the commentaries herein.

Sharon Sullivan
Richard Mackay

Note to the Reader

The readings in this volume come from a wide range of historical and contemporary sources and comprise a variety of genres. In preparing these texts for publication here, a number of conventions were observed.

Every attempt has been made to respect the textual integrity of the original material. Capitalization has been standardized in heads and subheads, and footnotes in the original publication appear here as endnotes. With texts originally written in English, in all other stylistic matters—spelling, punctuation, capitalization—the original style has been retained. Footnotes and references have not been edited or completed with additional information but appear as they did in the original publication. When a text originally appeared as part of an edited collection of essays with a single, comprehensive reference section at the end of the volume, the references mentioned in our selection have been excerpted and included here.

In the readings, editorial additions, restorations, and corrections to the original text appear within brackets. When the original texts have been editorially abridged for publication here, deleted passages within the body of the excerpted text are indicated by ellipses in brackets; cross-references to elided material have been deleted. Elisions of one or more paragraphs are indicated by the symbol ⸺⨪⸺, placed on a separate line between paragraphs or between the head and the first line of text. Ellipses appearing in the original text are indicated by ellipses without brackets. If there are numbered notes, and some notes have been elided, the remaining notes have been renumbered consecutively. Similarly, if there are numbered illustrations, and some have been deleted, the remaining illustrations have been renumbered consecutively. Type garbled in the original has been corrected in brackets. To avoid redundancy, where the original text contains information that has been editorially extracted and used in the chapter title (author name, book or chapter title, etc.), it has been silently deleted from the text itself. In the short texts excerpted in the Perspectives sections, editorial elisions are indicated by ellipses without brackets.

The readings have been dated and, for the most part, arranged thematically in each of the book's five parts. Dates appear as part of the title of each reading. In cases where a text's date of composition differs significantly from its date of publication, and the date of composition is known, the date of composition is given in the title. In cases of previously published translations, the publication or composition date of the text in its original language, if known, is given. For all readings,

the date of publication and the original title of the work, as well as the edition and page numbers from which our selection has been taken, appear in the source note at the bottom of the first page.

For texts originally written in a language other than English and translated for this volume, every effort has been made to produce a translation that is both accurate and, as far possible, stylistically faithful to the original. Particular attention has been paid to the specific meanings of conservation terminology. Care has been taken to provide translations that are contemporaneous with the text and reflect the meanings of the historical period in which it was written.
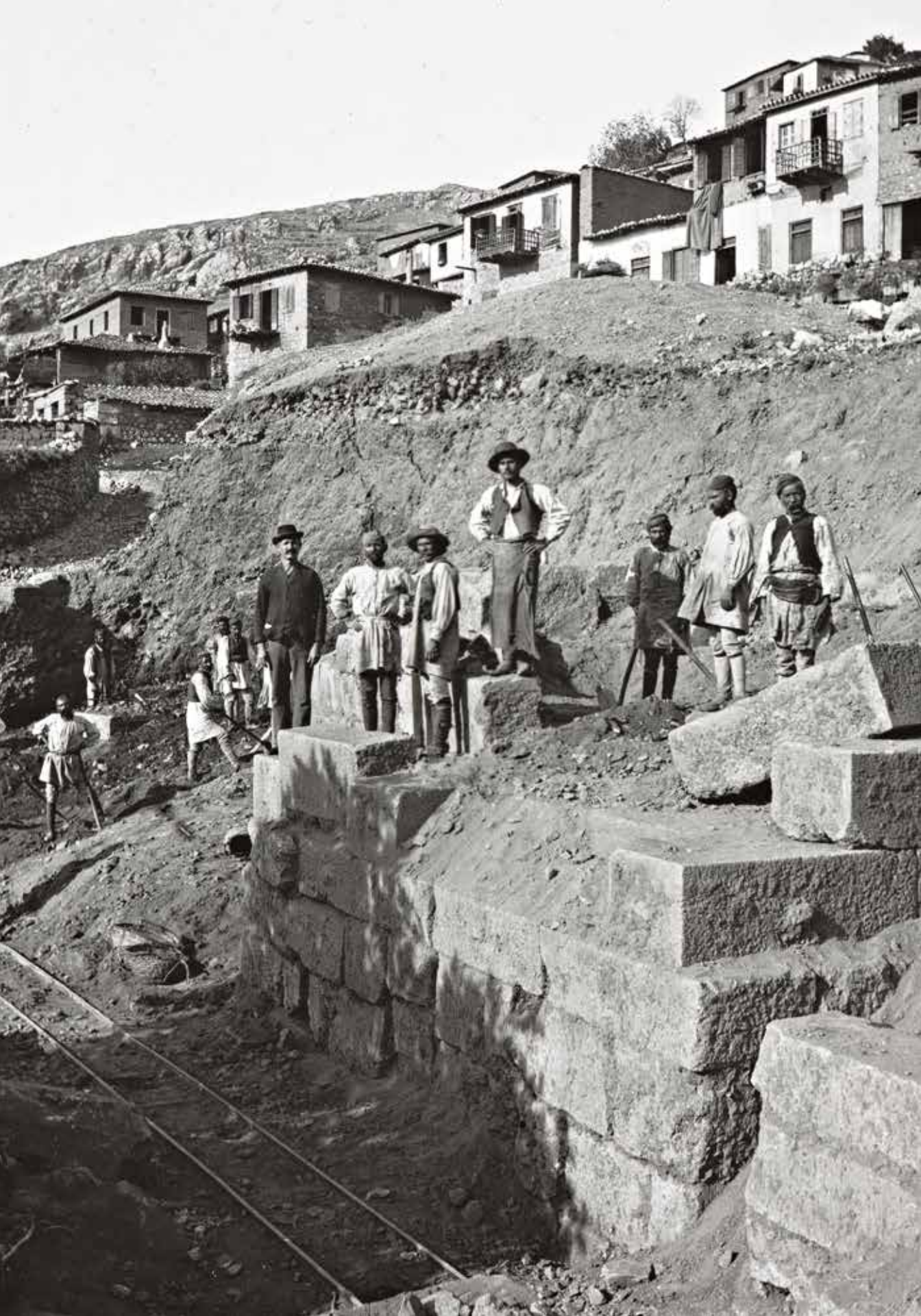
History: Concepts, Methods, and Issues

I met a traveller from an antique land
Who said: "Two vast and trunkless legs of stone
Stand in the desert. Near them on the sand,
Half sunk, a shattered visage lies, whose frown
And wrinkled lip and sneer of cold command
Tell that its sculptor well those passions read
Which yet survive, stamped on these lifeless things,
The hand that mocked them and the heart that fed.
And on the pedestal these words appear:
'My name is Ozymandias, King of Kings:
Look on my works, ye mighty, and despair!'
Nothing beside remains. Round the decay
Of that colossal wreck, boundless and bare,
The lone and level sands stretch far away."

—Percy Bysshe Shelley, "Ozymandias"

The readings in this part highlight the historical development of the key issues, concepts, and methodology of conservation and management in the practice of archaeology. As it is beyond the scope of this volume to provide a full and detailed history of archaeological conservation, our more modest aim is to offer glimpses of changing attitudes and situations, along with summaries of important developments and seminal publications.

Conservation has been practiced throughout human history. Buildings, features, and complexes that are now archaeological sites or ruins were originally conserved by means of traditional practices. This organic conservation was incremental and included ongoing maintenance and reconstruction, restoration, adaptive reuse, and, often, for important public buildings, related ritual or religious practices.

The excavation at Delphi, Greece, in 1892. From Study Photographs of Ancient Architecture. The Getty Research Institute, Los Angeles (76.P.6, Box 158)

People are generally active and confident within their own cultural mores and even today do not need conservation rules, guidelines and charters for most maintenance activities. A key attribute of organic conservation was that traditional materials continued to be used. This traditional approach to conservation was typically lost when the civilization that had created it declined or was influenced by rapid changes in technology. It was in this context that modern conservation methodology evolved as a conscious and intellectually based discipline aimed at the preservation of places and objects valued by individual communities.

Although there are many earlier examples of conscious conservation practice, the development of modern archaeological conservation owes its origins to an appreciation of antiquities and ancient architecture and monuments, in particular those of ancient Egypt and the classical periods of Greece and Rome. Emphasis was initially placed on historic and aesthetic values, but as scholars began to seek new information from the process of archaeology, a parallel interest arose in the analysis and understanding of archaeological sites and finds, leading to a desire to preserve them. Archaeology during this early period was often regarded as a treasure hunt, with little concern for site conservation. However, it was very quickly realized that to achieve its ends effectively, excavation needed to be an ordered and disciplined process. This realization led, in turn, to the development of more sophisticated archaeological techniques and the production of "how-to" excavation manuals. The conservation of archaeological material was initially focused mainly on scientific investigation into the conservation of objects and features and on laboratory analysis rather than on archaeological sites in their entirety.

Another focus of early concern and development was the conservation and restoration of architectural and engineering remains following the excavation of significant monuments and ruins. In the nineteenth century archaeologists, art historians, architects, and other scholars debated approaches to the conservation of ancient monuments. No longer used for their original purpose, or actively conserved by their creators, the monuments were subject to natural deterioration and a range of other threats. The key issue in this debate was philosophical: should monuments be restored to some sort of ideal state, or should they be left as stabilized ruins, with the patina of time apparent?

The twentieth century heralded attempts to standardize approaches, develop methodology, and reach international consensus through the development and promulgation of charters and guidelines. Early doctrines, such as the 1931 Athens Charter, tended to concentrate on monumental archaeology and issues related to the appropriate degree of intervention in the conservation process. The Athens Charter confirmed the gradual growth of the idea that minimal intervention was to be preferred. Even at this time the potential clash between aesthetic, historic, and research values was evident. The Venice Charter of 1964 related primarily to standing monuments but went further in establishing a broadly accepted set of ground

rules for physical conservation. It also reflected awareness that the value of archae-ological sites and the development of physical treatment technologies needed to be paired with the principle of minimal intervention. This principle gained greater importance in later guideline documents and charters such as the International Charter on Archaeological Heritage Management, the first international conser-vation charter to deal only with archaeological heritage. Practitioners in the later twentieth century also came to realize that conservation cannot preserve a site in its current state; the fabric inevitably changes through both natural processes and intervention, as do heritage values and community perceptions. As conservation approaches and technologies evolve, today's solution may become tomorrow's dam-age. Conservation has thereby come to be understood as a potentially perilous and complex exercise, with no single solution or recipe for success. However, the origin of archaeological conservation practice in monumental masonry is often apparent (but not always appropriate) in approaches to the conservation and interpretation of other archaeological sites.

While archaeological sites are commonly valued for their contribution to human knowledge, they may also have other cultural values—the conservation of which can be in conflict with traditional archaeological values. Early archaeo-logical conservation principles relied on Western concepts of culture and science. However, Western conservation methodology is "artificial" in the sense that it is a constructed system of practice consciously devised to conserve defined places and their tangible values. It therefore objectifies and intellectualizes what are essen-tially subjective values based on cultural traditions and beliefs. In this way Western practice differs markedly from other, more integrated conservation and heritage management traditions. In the Western tradition aesthetic, historic, and scientific or informational values have been given precedence over social values. By contrast, an important theme in the late-twentieth-century historiography of archaeology and heritage is increasing recognition of the legitimate role of culture keepers and other stakeholders in decisions that affect archaeological sites and resources. This growing awareness reflects a move away from traditional Western values that are focused on material evidence toward the often less tangible heritage values of the East and the New World. Relatively recent principles and declarations such as the Burra Charter and the Nara Document on Authenticity illustrate this change.

The twentieth century witnessed gradual recognition of an increasing range of external threats and issues for the entire archaeological heritage, including the potential resource offered by the myriad sites that are yet to be identified or ana-lyzed. Among these threats are development, nationalist aspirations, mass tourism, looting, vandalism, and financial shortfalls for conservation and management. The finite nature of our archaeological heritage led to recognition that strategies for conservation of the archaeological resource as a whole are as important as the physical conservation of specific sites. The latter decades of the twentieth century

produced an important body of thinking and literature that for the first time considered the conservation of the whole archaeological resource. Some archaeologists focused on the need for salvage projects to record lost data. Arguments were made for the conduct of such projects within the framework of a well-defined research design, so that even salvage excavation would contribute to the sum of greater knowledge. Other practitioners recognized the need to conserve sites for future research and other uses. Selection and reservation of such sites for future conservation continue to be a challenging conundrum.

Growing national and international social and political recognition of the importance of archaeology has made archaeological sites part of what is now generally called cultural heritage. The concept of archaeology as "heritage" has given rise to a substantial body of theory about the role of archaeological sites, archaeologists, and cultural resource managers in contemporary society. The social and political context for archaeological heritage management has extended beyond physical conservation practice such that archaeology and archaeological sites feature prominently in discourses about cultural, historical, social, and national identity. Formal recognition accords prominence and status and has acted as a stimulus for institutionalized development of a global suite of laws, guidelines, and management practices. Recognized sites may receive national and international statutory protection, but regulation is fully effective only when supported by management regimes that are targeted at retaining all the values of the site.

Archaeological heritage management has therefore developed as an overarching and proactive process that includes physical conservation but also addresses practical issues such as intangible value, social context, economics, site operations, interpretation, and visitor management. Physical conservation is only one part of the management effort needed for the long-term conservation of archaeological sites and enhancement of their values. Recognition of the multiple values of archaeological sites, and the diverse range of management issues presenting themselves for solution, has made looking after archaeological sites increasingly complex.

One way to address this complexity has been the development of a values-based management process for conservation that recognizes and assesses cultural values, researches and assesses condition and management issues, and exercises problem-solving skills to produce policies and strategies (including physical conservation) that result in the conservation of all the site's cultural values. Increasingly, along with archaeologists and conservators, other stakeholders have played an important part in site management systems. A heritage place manager with an appropriate range of skills must be at the center of the process and is increasingly crucial for good long-term conservation outcomes.

As the perceived value of archaeological sites and the purported purpose of their conservation have evolved, so too have the philosophy and techniques that guide and deliver their care and management. Where changes have occurred in the understanding of the meaning and value of archaeology, the issues to be

managed have multiplied simultaneously with an ever-growing suite of available technical approaches and technologies. The readings that follow cannot chronicle several centuries of thinking on archaeological site values, conservation principles, or physical treatment, but they do take us on an allegorical journey through the formative years of the emerging discipline of archaeological site conservation. They are also intended to provide an introduction to the field generally, and the reader will find that the issues raised are pursued in more detail and complexity in later parts of the volume.

Milestones

Space precludes the inclusion of international charters and guidelines relating to archaeological conservation and management. Such charters have played an extremely important role in the development of relevant principles and methodologies. They reflect current thinking and at the same time represent significant milestones in the development of modern conservation norms and standards. Many of the readings in this volume refer to them. Six of the most influential charters and guideline documents for archaeological heritage management are outlined below. They may be found at the ICOMOS website (www.icomos.org).

Athens Charter, 1931

The Athens Charter is a seminal document prepared to promote modern conservation policy for historic monuments. It was adopted at the First International Congress of Architects and Technicians of Historic Monuments, which took place in Athens in 1931, organized by the International Museums Office under the auspices of the League of Nations. The conference covered a wide range of themes: the protection of monuments, administrative and legislative measures, aesthetic enhancement, restoration of monuments, deterioration, restorative techniques, and international cooperation. The Athens Charter endorses the tendency among professionals to eschew fulsome restoration (which in practice often morphed into conjectural reconstruction) by recommending the minimization of restoration of ancient monuments and ruins in toto and instead a concentration on maintenance. When restoration is deemed indispensable, historic and artistic elements from all periods are to be respected. The charter also endorses the use of modern techniques and materials and calls for the protection of the settings in which monuments are located. Excavated sites not immediately restored are to be reburied, and continued use of buildings is to be compatible with conservation principles. The Athens Charter also supports the rights of private property and urges international cooperation, legal protection, the building of expertise, and public education and involvement to build community support. Some have criticized the charter for its broad endorsement of modern materials, leading to an epidemic of reinforced concrete. For its time, however, it is remarkably wide-ranging and lays important foundations for a number of principles that are today taken for granted.

**Recommendation on International Principles Applicable
to Archaeological Excavations, 1956**

The emphasis in the Athens Charter is on the conservation of the architectural elements of archaeological monuments. However, the League of Nations also had been concerned with excavation procedures, producing a manual on the techniques of archaeological excavations in 1940, extracts from which are presented in reading 11. In 1956 UNESCO, the cultural body of the United Nations, built on this work and produced the first set of international recommendations on archaeological excavations, intended as guidelines for member states. The UNESCO rationale for the set of recommendations is that adequate measures for the protection of archaeological sites (monuments and works of the past) will enhance respect for them and allow them to fulfill their international social mission of mutual understanding and that, owing to the universal importance of these sites, the international scientific community has a role to play in their conservation. It recommends that countries undertake the regulation of excavation and legal protection of sites. Each country should create an archaeological service and supervise restoration, ensure the management of excavated sites and monuments, encourage preservation in situ, conserve some unexcavated sites for future research, establish "witness areas" at excavated sites, and run an appropriate comprehensive education program. The International Principles also contains recommendations on international collaboration, including the regulation of foreign excavators and their scientific rights and the regulation of the antiquities trade, including repression of clandestine excavations, the return of materials illegally acquired, and the responsibilities of museums. Egloff and Comer (see reading 20) critique one section of the Recommendation as a narrow interest in the rights of archaeologists working in foreign countries, which reflects their concern about potential loss of control in an environment of growing nationalism in the countries in which they are working. This set of recommendations, however, represents the first attempt at an international level to encourage the protection of the archaeological resource in a broad sense. The recommendations cover significant issues related to conservation of the archaeological resource, many of which remain unfinished business to this day.

**Venice Charter (International Charter for the Conservation
and Restoration of Monuments and Sites), 1964**

The Venice Charter was approved at the Second International Congress of Architects and Technicians of Historic Monuments in May 1964 and remains an active doctrine. The main concern of the charter is to protect the historic and aesthetic value of important material remains (often referred to in the charter as ancient

buildings) in situ. It focuses on the conservation of historic monuments and their settings both as works of art and as historic witness. The Venice Charter provides that the aim of restoration should be to preserve and reveal these aesthetic and historic values by respecting the original materials and documentation. Conjectural restoration is not allowed, any new work must be harmonious and distinguishable, and any new use must be compatible. The charter allows the use of "proven" modern techniques and materials and stresses that all periods in the development of the monument are to be respected. It clearly includes archaeological sites within its purview, indicating that scientific techniques must be used in excavation and that the care of remains exposed as a result of excavation is to be ensured. Anastylosis is the technique proposed to deal with excavated architectural remains. The Venice Charter has been criticized for emphasizing aesthetic and historic values at the expense of scientific and social values. Because its origin is the Western heritage conservation movement, some aspects of its principles are not readily applicable in other societies. In addition, the charter is undoubtedly aimed at important sites with significant architectural remains and has little applicability to the vast number of archaeological sites that contain subtler evidence of the human past. Nevertheless, it has been an important and positive influence in the development of heritage conservation principles and has served as a reference point and a basis for and debate about the further development of these principles. ICOMOS, founded in 1962, adopted the Venice Charter as its principal document. It has been translated into many languages and forms the basis of many other charters.

Burra Charter (Australia ICOMOS Charter for the Conservation of Places of Cultural Significance), 1979, 1999

The Burra Charter is based on the Venice Charter, but it utilizes aspects of U.S. heritage conservation practice to introduce important changes that cater to the wide range of heritage sites recognized in Australia, including those with nontangible social and spiritual value, such as continuing use or tradition. The charter defines cultural significance as including aesthetic, historic, scientific, and social value. It is the first charter to espouse clearly what is now known as values-based management; subsequent amendments have defined this more clearly. It prescribes a logical process of conservation planning and implementation based on recognizing and assessing cultural values, researching and assessing conservation management issues and opportunities, and exercising problem-solving skills to produce policies and strategies (including physical conservation) that result in the conservation of all the site's cultural values. The Burra Charter's primary significance for archaeological sites is its explicit recognition of both scientific or research value and social value and its provision of a mechanism for analyzing and resolving conservation options for potentially conflicting values.

ICAHM Charter (ICOMOS Charter for the Protection and Management of the Archaeological Heritage), 1990

The ICOMOS Charter for the Protection and Management of the Archaeological Heritage is the first major international statement on archaeological heritage conservation and management. Its scope is much wider than that of the 1956 UNESCO recommendations, although it builds on a number of themes first expressed there. This charter lays down principles relating to a wide range of aspects of archaeological heritage management, including the responsibilities of public authorities and legislators; the professional performance of the processes of inventory, survey, excavation, documentation, research, maintenance, conservation, preservation, reconstruction, information, and presentation; public access and use of the heritage; and the qualification of professionals involved in the protection of the archaeological heritage. Concerns for the conservation of the whole archaeological resource are reflected in article 2 of the charter, which urges that policies for the protection of the archaeological heritage should constitute an integral component of policies relating to land use, development, and planning. The ICOMOS Charter was inspired by the success of the Venice Charter as a set of guidelines and a source of ideas for policies and practice of governments as well as scholars and professionals. Guidelines to accompany the charter are currently being developed by the ICOMOS International Committee on Archaeological Heritage Management.

Nara Document on Authenticity, 1994

The Nara Document on Authenticity was drafted by the forty-five participants at the Conference on Authenticity in Relation to the World Heritage Convention held at Nara, Japan, in 1994. The Nara Document builds on the Venice Charter statements on authenticity to widen its applicability in a range of different cultural contexts. It reflects the growing influence of non-Western understandings of cultural heritage, especially through the increasingly global adoption of the World Heritage Convention. Authenticity is no longer defined simply as the conservation of original materials. The document affirms the value of cultural diversity and the different forms and means of tangible and intangible expression that form these traditions. In this spirit aspects of the definition of authenticity are broadened to include elements such as use and function, traditions and techniques, and spirit and feeling.

Perspectives

The archaeological heritage is that part of the material heritage in respect of which archaeological methods provide primary information. It comprises all vestiges of human existence and consists of places relating to all manifestations of human activity, abandoned structures and remains of all kinds (including subterranean and underwater sites) together with all the portable cultural material associated with them.

> —ICAHM, "Article 1. Definition and Introduction," *ICOMOS Charter for the Protection and Management of the Archaeological Heritage* (1990)

Cultural resource management, which is concerned with what things will be rescued from the past, and with how they will be used in the present and future, . . . represents a self-conscious emergence of consideration for an ordinarily implicit process that must be as old as human culture. It is only with the acceleration of the pace of manufacture and discard, and of the rate at which landscapes are being changed, that we have become explicitly concerned with the loss of cultural continuity and contrast brought about by too rapid change in our cultural environments, both built and natural.

A respect for the rights of the past to exist is philosophically continuous with a respect for the rights of the future.

> —William D. Lipe, "Value and Meaning in Cultural Resources" (1984)

Pausanias during his visit to Olympia in the first century A.D., saw a wooden pillar protected by a little cover. In front there was a bronze tablet that announced:

> "Stranger, I am a remnant of a famous house, I, who once was a pillar in the house of Oenomaus; Now by Cronus' son I lie with these bands upon me, A precious thing, and the baleful flame of fire consumed me not."

> —Pausanias, *Description of Greece* (160–76 C.E.), V, xx, 6–7, cited in Jukka Jokilehto, "Authenticity in Restoration Principles and Practices," *Bulletin of the Association for Preservation Technology* 17, no. 3/4 (1985).

All the buildings that have been founded by the ancients as temples and as other monuments, and that were constructed for the public use or pleasure, shall not

be destroyed by any person, and that it shall transpire that a judge who should decree that this be done shall be punished by the payment of 50 pounds of gold. If his apparitors and accountants should obey him when he so orders and should not resist him in any way by their own recommendation, they shall also be mutilated by the loss of their hands, through which the monuments of the ancients that should be preserved are desecrated.

> —*The Theodosian Code and Novels and the Sirmondian Constitutions,* trans.
> Clyde Pharr (1952)

Four hundred years ago at a time when Europeans were being told that the great temples of Angkor were the creation of a lost civilization, and more than 400 years after the construction of Angkor Wat [the Cambodian] Queen Mother, whose son undertook the restoration of the temple, inscribed these lines on its already ancient stones:

> I was struck by the work of my royal child who, full of devotion restored this Preah Pisnulok [Angkor Wat] of the old Cambodia to its true ancient form. At this sight I was overcome with joy.

> —UNESCO, *Angkor: A Manual for the Past, Present and Future* (1998)

The true museum of Rome, the museum of which I am speaking, it is true, composed of statues, of colossi, of temples, of obelisks, of triumphal columns, of baths, of circuses, of amphitheatres, of triumphal arches, of tombs, of stucco decoration, of frescoes, of bas-reliefs, of inscriptions, of ornamental fragments, of building materials, of furniture, of utensils, etc., etc., but it is also composed fully as much of places, of sites, of mountains, of quarries, of ancient roads, of the placing of ruined towns, of geographical relationships, of the interconnections of all those objects to each other, of memories, of local traditions, of still prevailing customs, of parallels and comparisons which can only be made in the country itself.

> —Antoine-Chrysostome Quatremere de Quincy, *Lettres sur le préjudice qu'occasioneroient aux arts et à la science, le deplacement des monumens de l'art de l'Italie* (1796)

It is better to preserve than to repair, better to repair than to restore, better to restore than to reconstruct.

> —Adolphe-Napoléon Didron, "Sur les Travaux du Comité pendant la session de 1839" (1840)

In the growth of states in early modern Europe, intellectuals were active in shaping national identity and creating its symbols, particularly in northern and eastern

Europe. In the Scandinavian kingdoms of the North, fighting to maintain independence, such national identity building, in the absence of a long historical tradition, had looked to the monuments of an unrecorded past for its symbols. The monarchies of the day established State/Royal Antiquaries to record and investigate monuments and antiquities, to set up programs of protection. From the concerns of academics and intellectuals swept up into this bureaucratic and socio-political process, was born the discipline of prehistoric archaeology and traditions of the conservation of archaeological sites as national monuments. These traditions are still powerful.

—Isabel McBryde, "Past and Present Indivisible? Archaeology in Society" (1996)

Yesterday . . . I saw some ruins, beloved ruins of my youth which I knew already. . . . I thought again about them, about the dead whom I had never known and on whom my feet trampled. I love above all the sight of vegetation resting upon old ruins; this embrace of nature, coming swiftly to bury the work of man the moment his hand is no longer there to defend it, fills me with a deep and ample joy.

—Gustave Flaubert, *Correspondance* (1847)

Neither by the public nor by those who have the care of public monuments, is the true meaning of the word restoration understood. It means the most total destruction which a building can suffer: a destruction after which no remnants can be gathered: a destruction accompanied with false description of the thing destroyed. . . . [I]t is impossible, as impossible as to raise the dead to restore anything that has ever been great and beautiful in architecture.

We have no right whatsoever to touch them. They are not ours. They belong partly to those who built them, and partly to all the generations of mankind to follow us. . . . What we have ourselves to build, we are at liberty to throw down; but what other men gave their strength and wealth and life to accomplish, their right over them does not pass away with their death; still less is the right to use of what they have left vested in us only.

—John Ruskin, *The Seven Lamps of Architecture* (1849)

By the end of the [nineteenth] century . . . [William Morris's] views on preservation were widespread among architects, that owing to the changed social conditions it is not possible to restore faithfully and even if it were it would be undesirable. . . .

. . . [I]n 1905 G Baldwin Brown took a similar view in his book advocating new legislation for the protection of ancient monuments. The Society's [Society for the Protection of Ancient Buildings'] rigorous views were adopted by the state service concerned with preservation from the start and have remained with them

ever since. In the Inspector's Report for 1913 restoration was regarded as the most heinous offence making a foreman liable to 'instant dismissal'. It remains at the core of all thinking on the subject.

> —M. W. Thompson, *Ruins: Their Preservation and Display* (1981)

This discipline has undergone profound changes in the present century and above all in the period after World War II. It has also been the subject of a very wide debate, to which the English-speaking world has contributed significantly. The dichotomy inherent in the nature of archaeological origins has been much in evidence, with antiquarians and art historians on one side and scientists and prehistorians on the other.

The theory of stratigraphic excavation sees archaeology as a branch of historical science that uses sites, materials and objects themselves as sources of evidence and investigates them through its own methods of excavation and data processing. Despite their attention to material evidence, even field archaeologists of this persuasion were late in considering the problems of conservation and restoration.

It was the art historians who first began to consider the importance of conservation for recovering the aesthetic and historical values of paintings. Meanwhile the problems of conserving great ruins were tackled almost exclusively by architects. For this reason it is not easy to find "fundamental" texts on archaeological conservation to place beside the others in these readings.

> —N. Stanley Price, M. K. Talley, and A. Melucco Vaccaro (eds.), *Historical and Philosophical Issues in the Conservation of Cultural Heritage* (1996)

Unlike the West where the linear perception of time determines their cultural responses, the concept of cyclical time is the deep cultural mode in India. This fundamental difference in concept of time is highlighted by differences in the concept of authenticity: in the West it is determined by the awareness of time's irreversibility which emphasises the temporal qualities of objects and events—"the golden stain of time"—but in India the cyclical perception of time places no critical temporal values on man-made objects but transfers the quality of authenticity to the site on which the object exists. Thus, cultures where the concept of cyclical time prevails, venerate the place rather than the building built on it while cultures viewing time as a linear phenomena venerate the building.

> —A. G. Krishna Menon, "Rethinking the Venice Charter: The Indian Experience"
> (1994)

Excavation, as the primary physical method by which archaeologists expose and read a site, is a subtractive process that is both destructive and irreversible. In the

revealing of a site, structure or object, excavation is not a benign reversal of site formational processes but rather a traumatic invasion of a site's physico-chemical equilibrium resulting in the deterioration of associated materials and features at various rates and stages of exposure. Conservation, on the other hand, is predicated on the safeguarding of physical fabric from loss and depletion, based on the belief that material culture possesses information to transmit knowledge as well as to inspire memory and emotional responses.

> —Frank Matero, Editorial, *Conservation and Management of Archaeological Sites* (2004)

Archaeological heritage is rarely from a culture or society that is "defunct" or "deceased"—people exist who have a strong sense that the archaeological heritage is part of their current culture. Archaeologists do not have the archaeological past to themselves any longer—if ever they really did.

> —Marilyn Truscott, "Introductory Words: Role of Contributors and Clients" (1996)

Frank Matero, Kecia L. Fong,
Elisa Del Bono, Mark Goodman,
Evan Kopelson, Lorraine McVey,
Jessica Sloop, and Catherine Turton

Archaeological Site Conservation and Management: An Appraisal of Recent Trends (1998)

Consistent use of terminology is a pervasive challenge to conservation. Matero et al. offer a set of generally accepted definitions for many of the relevant terms that appear in this volume. While by no means definitive, these terms provide a basis for a common understanding.

Appendix

Collective definitions of terms are:

Anastylosis: The re-erection of a dismembered historical structure or one part of it in which every recovered element takes up its original position and structural role.[1] The process may entail the minimal introduction of neutral elements in order to stabilize or integrate the form.

Archaeological site: The location of a significant event, a prehistoric occupation or activity or a building or structure, whether standing, ruined or vanished, subterranean or underwater, where the location itself possesses historic, cultural or archaeological value regardless of the value of any existing structure.[2] A spatial clustering of archaeological data comprising artefacts, ecofacts and features in any combination.[3]

Archaeological site conservation: The processes of caring for an archaeological site, *in situ*, as a repository of cultural heritage. These processes invariably include

documentation of the site and its property and a management plan for its present and future states.

Archaeology: The study of the human past through material remains, with the aim of ordering and describing the events of the past and explaining their meaning.[4]

Conservation: The processes of caring for a place so as to safeguard its cultural heritage value. These processes may include maintenance, preservation, restoration, reconstruction and/or adaptation.[5]

Cultural heritage management: The planning, direction and conservation of cultural heritage with an ideological objective of maintaining and establishing cultural continuity and identity. The management of cultural heritage serves an educational function through the preservation and promotion of a culture's history and material property. Sometimes referred to as *cultural resource management*.[6]

Cultural heritage or property: Both movable and immovable cultural property. All the effects of a culture's existence.

Management: Judicious use of a means to accomplish an end; conduct directed by care or address; skillful treatment.[7]

Monument: A lasting evidence, reminder or example of someone or something notable or great. The concept of a historic monument embraces not only the single architectural work but also the urban or rural setting in which is found the evidence of a particular civilization, a significant development or a historic event. This applies not only to great works of art but also to more modest works of the past which have acquired cultural significance with the passing of time.[8]

Preservation: The protection of cultural property in its existing state through activities that minimize chemical and physical deterioration and damage and that prevent loss of informational content. The primary goal of preservation is to prolong the existence of cultural property.[9]

Reconstruction: Reconstruction is the reproduction, through the introduction of new or old materials, in full or in part, of the form and detail of a structure or site.[10]

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Notes

1   D. Mertens, "Planning and Executing Anastylosis of Stone Buildings," in *Conservation on Archaeological Excavations: with Particular Reference to the Mediterranean Area*, ed. N. P. Stanley Price (Rome: ICCROM, 1984), 123.

2   Adapted from *National Register Bulletin*, no. 15.

3   W. Ashmore and R. J. Sharer, *Discovering Our Past: A Brief Introduction to Archaeology*, 2nd ed. (Mountain View, CA: Mayfield, 1996), 242.

4   Ashmore and Sharer, *Discovering Our Past*, 234.

5 Adapted from Australia/ICOMOS, *The Australia ICOMOS Charter for the Conservation of Places of Cultural Significance; Burra Charter* (Canberra, 1981), Art. 1.4.

6 Adapted from H. Cleere, "Introduction: The Rationale of Archaeological Heritage Management," in *Archaeological Heritage Management in the Modern World*, ed. H. Cleere (London: Unwin Hyman, 1989), 4.

7 *Webster's New International Dictionary*, 2nd ed. (1954), 1492.

8 *International Charter for the Conservation and Restoration of Monuments and Sites*, Adopted by the IInd International Congress of Architects and Technicians of Historic Monuments, Venice, 1964, Art. 1.

9 Adapted from AIC definitions of conservation terminology, *AIC News* (May 1996); and Australia/ICOMOS, *The Australia ICOMOS Charter for the Conservation of Places of Cultural Significance; Burra Charter*, Art. 1.6.

10 Adapted from F. Siravo, "Definitions of Terms Frequently Used in Conservation" (paper read at the International Seminar on Urban Conservation organized by the Historic Cities Support Programme of the Aga Khan Trust for Culture, April 1995, Geneva). Photocopy.

Flaminio Vacca

Memoirs (1704)

The value of archaeological resources was initially characterized by interest in collectible antiquarian treasures. This reading and the one that follows, from Pietro Santi Bartoli's "Memoirs," illustrate early modern appreciation of Roman antiquities and how the search for them was an inherently destructive practice. By focusing on the location, exhibition, and appreciation of individual finds, eighteenth-century "archaeology" sanctioned the dismemberment of the architectural elements of buildings. However, there were also some early attempts at restoration.

Find after Find

I remember that in the street where the Leutari live, near the Palace of the Chancellery, in the time of Pope Julius III they found a statue of Pompey beneath a cellar; it was fifteen spans high. There was a wall separating two houses above its neck. The owner of one of the houses was told by the other owner that he could not have it, each of them believing that he was the owner of the statue; one of them alleged that, since he possessed the larger part of it, it should by right be his; the other said that it belonged to him because he had the head, the most important part of the statue, in his house. Finally, after all this quarrelling the case went to court. The judge, an ignorant man, ordered that the head be broken off and that each of them should get his share of the statue. Poor Pompey! It had not been enough that Ptolemy had had his head cut off, his bad luck was pursuing him even in his marble state. When Cardinal Capodiferro heard about this stupid judgment, he had it suspended and went to see Pope Julius to tell him the story. The pope was

Figure 1
Section, elevation, and plan of the Temple of Peace, by Antoine Desgodets. Credit: Bibliothèque nationale de France.

Figure 2
Begun in A.D. 206, the Baths of Caracalla (the ruins of which are shown here) were the most sumptuous in Rome. Able to accommodate sixteen hundred people, this complex contained a gymnasium, a stadium, an art gallery, and pleasure gardens. Credit: Bibliothèque nationale de France.

amazed; he immediately ordered that it be carefully dug up for him, and he sent five hundred crowns to the owners for them to share. Once the statue was removed he gave it to the same Cardinal Capodiferro. It was certainly a papal judgment but it took a Capodiferro [Head of Iron] to accomplish. The statue is presently in a room in his palace at the Ponte Sisto.

In my Father, Gabriele Vacca's, vineyard, beside the Porta Salaria, inside the walls, there is a piece of land that is called the Gardens of Sallust. When the ground was dug up, they found a large oval building surrounded by a portico adorned with yellow columns; they were eighteen spans tall and fluted, with Corinthian capitals and bases. This oval building had four entrances leading to marble staircases that led down to the level of the floor, made of speckled marbles laid out in beautiful patterns; at each of these entrances there stood two columns of transparent oriental alabaster. Beneath the building, we found a few pipes wide enough for a person to walk through without having to bend over all covered with slabs of Greek marble, as well as two lead pipes ten spans long and each over a span in diameter bearing the following inscription: NERONIS CLAUDIVS. Many medals of Gordian, made of silver and other metals and about the size of small coins, were also found there, as well as a large quantity of mosaics. The Cardinal of Montepulciano bought the yellow columns and used them in the building of the balustrade of his chapel in San Pietro in Montorio. He also bought the alabaster columns; he had the one that was whole polished and had the others that were broken made into tables, which he sent as a present to the King of Portugal together with other antiquities. But when they were on the high seas, impetuous Fortune, finding them in her domain, made of them a present to the sea.

PIETRO SANTI BARTOLI

Memoirs of Various Excavations Made in Rome and Surrounding Areas (17th century)

As with the preceding reading from Flaminio Vacca, this extract from the memoirs of Pietro Santo Bartoli illustrates the early European focus on the recovery and exposure of antiquities, which were primarily valued as "objects d'art." The historical integrity and scientific context of the affected sites were thereby compromised, and any activity that might be characterized as "conservation" was typically confined to the finds themselves.

Antoniana (Baths of Caracalla)

The discovery of the Farnese Hercules was an extraordinary event: the body was found at the Antoniana, the head at the bottom of a well in the Trastevere, which was being cleared, and, last, the legs were found at Frattocchie, not far from Marino, where excavations had taken place. Today, these legs may be seen in the cellars of the Villa Borghese, among other antiquities.

The excavations that took place in the Antoniana at the time of Pope Paul III, on the orders of Cardinal Farnese, his grandson, unearthed such a profusion of statues, columns, bas-reliefs, various speckled marbles, not to mention a large number of small objects, metal statuettes, medals, oil lamps, and other similar objects, that this prince's palace became a wonderful place, as it still is today. For it alone can boast of having colossi of such an excellent style as the two *Hercules*, as well as the *Flora*, the *Gladiators*, and other statues, including that marvellous composition, the *Bull*, of stupendous size, and a large number of statues made

of a single piece of marble or the countless heads, busts, and bas-reliefs that still remain heaped up, as if in storage, in two vast rooms on the ground floor. All of this, or the greater part of it, was found at the Antoniana, apart from the bas-reliefs in the outer courtyard where the *Bull* stands, which were found in the Piazza di Pietra, where the eleven great Corinthian columns of the portico called the Basilica of Antoninus can still be seen today [this monument is now identified as the Temple of Hadrian, 2nd century A.D.]. A portion of the marbles that were found there was discovered in the time of Innocent X, when water pipes were being connected to the fountain of the Piazza Navona; others were found during demolition of a church in order to give the place to be used by all the secondhand dealers of the Rotunda a more majestic appearance; Pope Alexander VII wanted this to be done in order to give the imposing temple a more noble character by opening up one's view of it. A few houses that were crowding in on the temple's portico were demolished, and in doing this, in the walls of that portico, they found similar statues representing Provinces [statues belonging to the Temple of Hadrian], filling the spaces between the columns; the best-preserved of these were then placed on the staircases of the palace of the cardinal, his nephew. Those that were found in the time of Innocent were fastened to the facade of the palace in his villa outside the Porta San Pancrazio. Others were placed on the Capitol.

Heinrich Schliemann

Memoirs (1873/1876)

Schliemann's work at Troy and Mycenae is the stuff of archaeological legend. These passages illustrate early excavation techniques and attitudes to archaeological conservation. In the first we see that Schliemann's interest was finding lost cities and wonderful treasures. In terms of modern conservation sensibilities, there is a wonderful irony in his presenting the locals with the architectural features through which he dug in search of Homer's Troy for use in new buildings and in the delicious story of the removal of what he interpreted as "King Priam's treasure," bravely saving it for posterity in his wife's shawl. The second extract chronicles Schliemann's excavation of tombs at Mycenae, his subsequent conservation problems, and his well-meaning but amateur efforts to conserve the remains of "a body of a man of the mythic heroic age."

Pergamus of Troy, March 15th, 1873

I have continued the excavations with great zeal, favoured by glorious weather and an abundance of workmen. [. . .]

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The many thousands of stones which I bring out of the depths of Ilium have induced the inhabitants of the surrounding villages to erect buildings which might be called grand for the inhabitants of this wilderness. Among others, they are at present building with my Ilian stones a mosque and a minaret in the wretched Turkish village of Chiplak, and a church-tower in the Christian village of Yenishehr.

A number of two-wheeled carts, drawn by oxen, are always standing by the side of my excavations, ready to receive the stones which can be of any use as soon as they have been brought to the surface; but the religious zeal of these good people is not great enough for them to offer to help me in the terrible work of breaking the large, splendidly hewn blocks so as to make them more convenient to remove.

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In the new large excavation on the northwest side . . . I have convinced myself that the splendid wall of large hewn stones, which I uncovered in April 1870, belongs to a tower, the lower projecting part of which must have been built during the first period of the Greek colony, whereas its upper portion seems to belong to the time of Lysimachus. To this tower also belongs the wall . . . , 9 feet high and 6 feet broad, and as continuous with the surrounding wall of Lysimachus; and so does the wall of the same dimensions, situated 49 feet from it, which I have likewise broken through. Behind the latter, at a depth of from 26 to 30 feet, I uncovered the Trojan city wall which runs out from the Scaean Gate.

In excavating this wall further and directly by the side of the Palace of King Priam, I came upon a large copper article of the most remarkable form, which attracted my attention all the more as I thought I saw gold behind it. . . . In order to withdraw the treasure from the greed of my workmen, and to save it for archaeology, I had to be most expeditious, and although it was not yet time for breakfast, I immediately had *"païdos"* called. This is a word of uncertain derivation, which has passed over into Turkish, and is here employed in place of ννπανσιδ [*anápausis*], or time for rest.

While the men were eating and resting, I cut out the treasure with a large knife, which it was impossible to do without the very greatest exertion and the most fearful risk of my life, for the great fortification-wall, beneath which I had to dig, threatened every moment to fall down upon me. But the sight of so many objects, every one of which is of inestimable value to archaeology, made me foolhardy, and I never thought of any danger. It would, however, have been impossible for me to have removed the treasure without the help of my dear wife, who stood by me ready to pack the things which I cut out in her shawl and to carry them away.

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Mycenae, 6th December, 1876

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Already while engaged in the excavation of the large fourth tomb, the results of which I have described, I explored the fifth and last sepulchre, which is immediately to the northwest of it, and which had been marked by the large *stêlé* with the

bas-relief of frets or key-patterns resembling two serpents, and by an unsculptured tombstone, both of which were 11 ft. 8 in. below the surface of the mount, as it was when I began the excavation. . . .

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[. . .] The three bodies which the sepulchre contained lay at a distance of about 3 ft. from each other, and had been burnt in the very same place where I found them. . . . Only with the body which lay in the midst the case was different. The ashes had evidently been disturbed; the clay with which the two other bodies and their ornaments were covered, and the layer of pebbles which covered the clay, had been removed from this body. As, besides, it was found almost without any gold ornaments, it is evident that it had been rifled. . . .

The three bodies of this tomb lay with their heads to the east and their feet to the west; all three were of large proportions. . . . The bones of the legs, which are almost uninjured, are unusually large. Although the head of the first man, from the south side, was covered with a massive golden mask, his skull crumbled away on being exposed to the air, and only a few bones could be saved besides those of the legs. The same was the case with the second body, which had been plundered in antiquity.

But of the third body, which lay at the north end of the tomb, the round face, with all its flesh, had been wonderfully preserved under its ponderous golden mask; there was no vestige of hair, but both eyes were perfectly visible, also the mouth, which, owing to the enormous weight that had pressed upon it, was wide open, and showed thirty-two beautiful teeth. From these, all the physicians who came to see the body were led to believe that the man must have died at the early age of thirty-five. The nose was entirely gone. The body having been too long for the space between the two inner walls of the tomb, the head had been pressed in such a way on the breast, that the upper part of the shoulders was nearly in a horizontal line with the vertex of the head. Notwithstanding the large golden breast-plate, so little had been preserved of the breast, that the inner side of the spine was visible in many places. . . .

The colour of the body resembled very much that of an Egyptian mummy. The forehead was ornamented with a plain round leaf of gold, and a still larger one was lying on the right eye; I further observed a large and a small gold leaf on the breast below the large golden breast-cover, and a large one just above the right thigh.

The news that the tolerably well preserved body of a man of the mythic heroic age had been found, covered with golden ornaments, spread like wildfire through the Argolid, and people came by thousands from Argos, Nauplia, and the villages to see the wonder. But, nobody being able to give advice how to preserve the body, I sent for a painter to get at least an oil-painting made, for I was afraid that the body would crumble to pieces. Thus I am enabled to give a faithful likeness of the body,

as it looked after all the golden ornaments had been removed. But to my great joy, it held out for two days, when a druggist from Argos, Spiridon Nicolaou by name, rendered it hard and solid by pouring on it alcohol, in which he had dissolved gum-sandarac. As there appeared to be no pebbles below it it was thought that it would be possible to lift it on an iron plate; but this was a mistake, because it was soon discovered that here was the usual layer of pebbles below the body, and all of these having been more or less pressed into the soft rock by the enormous weight which had been lying for ages upon them, all attempts made to squeeze in the iron plate below the pebble-stones, so as to be able to lift them together with the body, utterly failed. There remained, therefore, no other alternative than to cut a small trench into the rock all round the body, and make thence a horizontal incision, so as to cut out a slab, two inches thick, to lift it with the pebble-stones and the body, to put it upon a strong plank, to make around the latter a strong box, and to send this to the village of Charvati, whence it will be forwarded to Athens as soon as the Archaeological Society shall have got a suitable locality for the Mycenaean antiquities. With the miserable instruments alone available here it was no easy task to detach the large slab horizontally from the rock, but it was still much more difficult to bring it in the wooden box from the deep sepulchre to the surface, and to transport it on men's shoulders for more than a mile to Charvati. But the capital interest which this body of the remote heroic age has for science, and the buoyant hope of preserving it, made all the labour appear light.

Howard Carter and A. C. Mace

The Tomb of Tut-ankh-amen (1923)

Howard Carter is arguably the world's best-known archaeologist. With his colleague A. C. Mace, Carter was an advocate for archaeological conservation, albeit with a focus on finds rather than the site itself. The selection from their famous work on the tomb of Tutankhamen demonstrates a growing appreciation of the need for careful and well-documented excavation and conservation techniques, as well as the ethical responsibility of archaeologists to ensure appropriate conservation. In addition, it illustrates the dilemmas of choosing when to remove important site elements and when to leave them in situ.

[. . .] In 1898, acting on information supplied by local officials, M. Loret, then Director General of the Service of Antiquities, opened up several new royal tombs, including those of Thothmes I, Thothmes III, and Amen-hetep II. This last was a very important discovery. We have already stated that in the Twenty-first Dynasty thirteen royal mummies had found sanctuary in this Amen-hetep's tomb, and here in 1898 the thirteen were found. It was but their mummies that remained. The wealth, which in their power they had lavished on their funerals, had long since vanished, but at least they had been spared the last indignity. The tomb had been entered, it is true; it had been robbed, and the greater part of the funeral equipment had been plundered and broken, but it had escaped the wholesale destruction that the other royal tombs had undergone, and the mummies remained intact. The body of Amen-hetep himself still lay within its own sarcophagus, where it had rested for more than three thousand years. Very rightly the Government, at the representation of Sir William Garstin, decided against its removal. The tomb was barred and bolted, a guard was placed upon it, and there the king was left in peace.

Unfortunately there is a sequel to this story. Within a year or two of the discovery the tomb was broken into by a party of modern tombrobbers, doubtless with the connivance of the guard, and the mummy was removed from its sarcophagus and searched for treasure. The thieves were subsequently tracked down by the Chief Inspector of Antiquities, and arrested, although he was unable to secure their conviction at the hands of the Native Court. [. . .]

One moral we can draw from this episode, and we commend it to the critics who call us Vandals for taking objects from the tombs. By removing antiquities to museums we are really assuring their safety: left *in situ* they would inevitably, sooner or later, become the prey of thieves, and that, for all practical purposes, would be the end of them.

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Each object [in the tomb] presented a separate problem, and, [. . .] there were cases in which only experiment could show what the proper treatment was to be.

It was slow work, painfully slow, and nervewracking at that, for one felt all the time a heavy weight of responsibility. Every excavator must, if he have any archaeological conscience at all. The things he finds are not his own property, to treat as he pleases, or neglect as he chooses. They are a direct legacy from the past to the present age, he but the privileged intermediary through whose hands they come; and if, by carelessness, slackness, or ignorance, he lessens the sum of knowledge that might have been obtained from them, he knows himself to be guilty of an archaeological crime of the first magnitude. Destruction of evidence is so painfully easy, and yet so hopelessly irreparable. Tired, pressed for time, you shirk a tedious piece of cleaning, or do it in a half-hearted, perfunctory sort of way, and you will perhaps have thrown away the one chance that will ever occur of gaining some important piece of knowledge.

Too many people—unfortunately there are so-called archaeologists among them—are apparently under the impression that the object bought from a dealer's shop is just as valuable as one which has been found in actual excavation, and that until the object in question has been cleaned, entered in the books, marked with an accession number, and placed in a tidy museum case, it is not a proper subject for study at all. There was never a greater mistake. Field-work is all-important, and it is a sure and certain fact that if every excavation had been properly, systematically, and conscientiously carried out, our knowledge of Egyptian archaeology would be at least 50 per cent greater than it is. There are numberless derelict objects in the storerooms of our museums which would give us valuable information could they but tell us whence they came, and box after box full of fragments which a few notes at the time of finding would have rendered capable of reconstruction.

Granting, then, that a heavy weight of responsibility must at all times rest upon the excavator, our own feelings on this occasion will easily be realized.

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By December 27th all our preparations were made, and we were ready to make a start on the actual removal of the objects. We worked on a regular system of division of labour. Burton came first with his photographs of the numbered groups of objects; Hall and Hauser followed with their scale plan of the chamber, every object being drawn on the plan in projection; Callender and I did the preliminary noting and clearing, and superintended the removal of the objects to the laboratory; and there Mace and Lucas received them, and were responsible for the detail-noting, mending, and preservation.

The first object to be removed was the painted wooden casket. Then, working from north to south, and thus putting off the evil day when we should have to tackle the complicated tangle of chariots, we gradually disencumbered the great animal couches of the objects which surrounded them. Each object as it was removed was placed upon a padded wooden stretcher and securely fastened to it with bandages. Enormous numbers of these stretchers were required, for, to avoid double handling, they were in almost every case left permanently with the object, and not re-used. From time to time, when a sufficient number of stretchers had been filled—about once a day, on an average—a convoy was made up and dispatched under guard to the laboratory. This was the moment for which the crowd of watchers above the tomb were waiting. Out came the reporters' notebooks, *click, click, click* went the cameras in every direction, and a lane had to be cleared for the procession to pass through. I suppose more films were wasted in The Valley last winter than in any other corresponding period of time since cameras were first invented. We in the laboratory had occasion once for a piece of old mummy cloth for experimental purposes; it was sent up to us in a stretcher, and it was photographed eight times before it got to us!

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An excavator, then, must see every object in position, must make careful notes before it is moved, and, if necessary, must apply preservative treatment on the spot. Obviously, under these conditions it is all-important for you to keep in close touch with your excavations. Holiday trips and days off are out of the question. While the work is actually running you must be on the spot all day, and available at all hours of the day. Your workmen must know where to find you at any given moment, and must have a perfectly clear understanding that the news of a discovery must be passed on to you without any delay.

W. M. Flinders Petrie

The Ethics of Archaeology (1904)

A conservation ethos is apparent in archaeology during the first years of the twentieth century. Petrie's 1904 volume provides an introduction to thinking about the need for conservation and the moral obligation of archaeologists, whose work is destructive, to ensure both conservation and investigation of archaeological sites. The following reading outlines how site destruction may occur from various means, including treasure seeking, obtaining specimens for museums, "restoring," and conducting essential destruction of some site elements so as to conserve others. Petrie highlights the responsibility of archaeologists and the consequent duties of those who excavate.

Chapter XIII

The Ethics of Archaeology

Individual Rights.

[. . .] In archaeology there is perhaps a greater range of ethical questions, of the individual *versus* the community, than in any other science. And results of action are the more serious as the material is very limited, and perhaps no other chance of observation may ever occur. In most sciences opportunity of experiment and observation is unlimited. If an alloy is spoiled it can be remade at once, if a star is not examined to-night it may be next night, if a plant is not grown this year it may be next year. But Theodoric's gold armour once melted, we shall never know what it was like; the heads of the Parthenon statues once burnt to lime, are gone for

ever; or the Turin papyrus once broken up, we can hardly hope ever to recover all the history it contained.

Destruction.

The destruction that has gone on, and is now going on continuously, seems as if it could leave scarcely anything for the information of future ages. Every year sees wiped out the remains which have lasted for thousands of years past. Now, in our own day, the antiquities of South Africa and of Central and South America have been destroyed as rapidly as they can be found. Elsewhere, engineers of every nation use up buildings as quarries or wreck them for the sake of temporary profit, or for more legitimate purposes as in the submersion of Philae and Nubia. Speculators, native and European, tear to pieces every tomb they can find in the East, and sell the few showy proceeds that have thus lost their meaning and their history. Governments set commissioners to look after things, who leave the antiquities to be plundered while they are living in useless ease. And the casual discoveries that are made perish in a ghastly manner. The Saxon regalia of Harold, the treasures of Thomas à Becket's shrine, the burial of Alfred, the burial of Theodoric, and the summer palace of Pekin, have within modern memory all gone the same way as the wonders that perished in the French sack of Rome or the Greek sack of Persia. However we may deplore this, our present consideration is destruction by archaeologists, and what their responsibilities are in difficult situations. In all ages there has been destruction for gold and valuables, and in the Renascence a ruthless seizure of marbles and stone work. To that succeeded destruction for the sake of art, excavations in which everything was wrecked for the chance of finding a beautiful statue. Then in the last generation or two, inscriptions became valued, and temple sites in Greece and in Egypt, and palaces in Babylonia, have been turned over, and nothing saved except a stone or a tablet which was inscribed. At last a few people are beginning to see that history is far wider than any one of these former aims, and that, if ever we are to understand the past, every fragment from it must be studied and made to tell all it can.

But still there continues the plundering of sites in the interest of show museums, where display is thought of before knowledge, as is unhappily the case in many national collections. To secure an attractive specimen, a tomb will be wrecked, a wall destroyed, a temple dragged to pieces and its history lost, a cemetery cleared out with no record of its burials. And when carefully authenticated and recorded specimens reach museums, their fate is not yet a safe one, especially in local museums. Stones will be built into walls, and ruined by the damp bringing salt out; objects are left to drop to pieces from lack of chemical knowledge, or from the official dread of the responsibility of doing right instead of allowing wrong. Information is deliberately destroyed; labels are thrown away or heaped together out of the way in a glass case where the objects are artistically displayed, with no

more history than if they had come from a dealer. Groups of things, whose whole value consists in their collocation as they were found, are scattered up and down a museum as if they had no meaning. Or priceless antiquities will be left out for years of exposure to weather, as certain sculptures were in London, until at last they received worthy safeguarding in defiance of the Treasury. Unhappily far too many of those who are responsible for keeping the things which have at last reached a haven, need educating in the elements of their profession.

Restoration.

This leads to another difficult question, that of restoration. The horrible destruction which has gone on under that term is now somewhat recognised, after much, or most, of the original buildings of our ancestors have disappeared beneath scraping and recutting, so that we only possess a copy of what has been. And in museums till within the last few years, statues were so elaborately built up out of what was—or was not—to be had, that it is often a difficult preliminary study to set aside the shams. In the Louvre there is the honesty of stating how much has been added to the original; and the list is sometimes so long that it is hard to make out what gave the first idea to the restorer for building up his work. Yet in many cases some mere supports are needful, and the best museums now make such helps as distinct as possible from the original. The only full solution of the matter is the great extension of the use of casts; and the ideal museum of sculpture would have the originals untouched on one side of a gallery, and the full restoration of casts of the same things on the other side.

Sacrifices.

When we stand face to face with a problem like that of the Forum at Rome there rise a multitude of questions which have intricate and far-reaching solutions. The removal of the latest of the pavements of the Forum has been bitterly resented. The Sacred Way is gone, and what is there for sentiment to dwell on! Yet who would reasonably prefer the Lower Empire to the Twelve Caesars? And then is not the Republic still more interesting and less known? And then the Kings hold a prerogative of glamour to every schoolboy; and what was Rome before the Kings? We see the inevitable result of such a crowd of interests, in the honeycomb of pits and planks and tunnels and iron girders which now bewilder the visitor, where formerly he walked down the Sacred Way and blessed his soul in romantic peace.

Now this elaborate treatment is most desirable, but is scarcely attainable unless there is a strong public interest, and a government willing to carry out proper conservation. Let us turn to a different set of conditions, as at the temple of Osiris at Abydos. There were more than a dozen different levels of building; all

the lower ones only of mud brick; the whole of the lower levels under the high Nile, and certain to be a mud swamp so soon as the Nile rose next summer. To treat such a place like the Forum would have involved enormous iron substructure layer under layer, and a wide drying area for hundreds of yards around, at a cost of certainly five figures. No one would be likely to give a hundredth of the cost to attain that end. If any part were left without clearing to the bottom, the next high Nile would make entire pudding of it. And so the permanent preservation of such a site was impossible. All that could be done whenever it was begun, was to dig it in as dry a season as possible, when the water was at its lowest; to clear it entirely to water level; and to make plans, levelling, and records, of every wall and every detail, removing everything that stood in the way of going lower. Henceforward that temple site, instead of existing in unseen layers of solid earth, exists only on paper.

Responsibility.

Now here is a great responsibility. Whatever is not done in such an excavation can never be done. The site is gone for ever; and who knows what further interests and new points of research may be thought of in future, which ought to have received attention. Are we justified morally in thus destroying a temple site, a cemetery, a town, while we may feel certain that others would see more in it in future? If a site would continue untouched, and always equally open to research, it would be wrong to exhaust such places. But what are the conditions? In Egypt sites are continually passing under cultivation, and once cultivated no one would ever know more about them. They are being continually dug away for earth to spread on the fields, and all that lies in them is scattered and lost. The stonework is continually the prey of engineers and lime-burners. The Nile is always rising, so that every few centuries makes ground inaccessible that was previously out of water. And the probable movement of invention and appliances will most likely bring under cultivation in future most of the cemetery sites which are now bare desert. In the last few years most of the cemetery and temple sites of Nubia have been blotted out by the new lake for irrigation. Further, on any site of cemetery, temple, or town which is known to contain anything, the native will dig by night if he cannot do so by day, and will leave nothing but a wreck behind. It is sadly unlikely that there will be anything left to excavate in Egypt a century hence; all the known sites will be exhausted in twenty years more at the present rate. A thousand years hence—a trifle in the history of Egypt—people will look back on these present generations as the golden days when discoveries came thickly year by year, and when there was always something to be found. And therefore the best thing that can be done under all these conditions is to work with the fullest care and detail in recording, to publish everything fully, and to then trust the history of Egypt to a few hundred copies of books instead of to solid walls and hidden cemeteries. The destruction which is

needful to attain knowledge is justified if the fullest knowledge is obtained by it, and if that is so safely recorded that it will not again be lost. The only test of right is the procuring the greatest amount of knowledge now and in future.

Rights of the Future.

Here we are landed in a question on which very different positions are taken. What are the rights of the future? Why should we limit our action, or our immediate benefit or interest, for the sake of the future? If ever this question comes into practical dealings, it does so in historical work. Anyone who is above the immediate consideration of food and starvation, does consider the future. Our public buildings are preserved for the use of coming generations; our libraries and museums are largely for the benefit of those yet unborn. Was not the future of England the great charge, the inspiring aim of Alfred, of Edward I, of William III? Do we not even now spend ungrudgingly for the great future of our colonies? In every direction we unquestioningly assume that the future has its rights; that distant generations of our own flesh and blood are far more to us than present millions of other races; that the knowledge, the possessions, the aims, that we have inherited are but a trust to be passed on to the nation yet to be.

And to those who live not only in the present but also in past ages by insight and association, the transitory stewardship of things becomes the only view possible. In this generation I possess a gem, a scarab, a carving: it is almost indestructible, it may be lost for a time but will reappear again a thousand, five thousand, twenty thousand years hence in some one else's hands, and be again a delight and a revelation of past thought, as it is to-day. We have no right to destroy or suppress what happens just for the present to be in our power. To do so is to take the position of a Vandal in the sack of Rome.

Rights of the Past.

The past also has its rights, though statues may be misappropriated and churches be "restored." A work that has cost days, weeks, or years of toil has a right to existence. To murder a man a week before his time we call a crime; what are we to call the murder of years of his labour? Or, without touching life, what difference is there between putting a man in prison for a year so that he cannot work, and destroying a year's work when it is done? If anything, the balance is in favour of preventing rather than destroying his work. Every monument we see has been lovingly intended, carefully carved, piously erected, in hopes that it would last. And who are we to defeat all that thought and labour? Every tablet, every little scarab, is a portion of life solidified;—so much will, so much labour, so much living reality. When we look closely into the work we seem almost to watch the hand that did it; this stone is a day, a week, of the life of some living man. I know his mind, his feel-

ing, by what he has thought and done on this stone. I live with him in looking into his work, and admiring, and valuing it. Shall I then turn on him like a wild beast and kill so much of his life? Surely if we would draw back from wiping out a few years of the life of some man with whom we have no sympathies, far more should we shrink from even hurting the beautiful and cherished result of the life of a man whose mind we admire and honour in his work. I give my life to do so much work in it, and if I were to know that every night the work of the day would be annihilated, I had rather be relieved of the trouble of living. In all worth, in all realness, the life of past men preserved to us has rights as veritably as the life of present men.

The work of the archaeologist is to save lives; to go to some senseless mound of earth, some hidden cemetery, and thence bring into the comradeship of man some portions of the lives of this sculptor, of that artist, of the other scribe; to make their labour familiar to us as a friend; to resuscitate them again, and make them to live in the thoughts, the imaginations, the longing, of living men and women; to place so much of their living personality current side by side with our own labours and our own thoughts. And has not the past its rights, as well as the present and the future?

What care then, what conscience, must be put into the work of preserving as much as possible of the past lives which those about us are wishing to know and to share in. The mummy of Rameses or of Thothmes, the portrait of the builder of the great pyramid, or of the Pharaoh of the Exodus is a permanent mental possession of all cultivated mankind, as long as our literature shall last. The knowledge of the growth of the great civilisation of Egypt, from the days of men clad in goat-skins to the height of its power, has all been reconstructed in the past ten years, and will be part of the common stock of our knowledge of man, so long as civilisation continues.

Duties.

With the responsibilities before us of saving and caring for this past life of mankind, what must be our ethical view of the rights and duties of an archaeologist? Conservation must be his first duty, and where needful even destruction of the less important in order to conserve the more important. To uncover a monument, and leave it to perish by exposure or by plundering, to destroy thus what has lasted for thousands of years and might last for thousands to come, is a crime. Yet it is the incessant failing of the thoughtless amateur, who knows nothing of the business; and far too often also the inexcusable malpractice of those who know better. To wantonly destroy a monument by cutting pieces out, whether to put them in a museum or to hide them in a pile of curiosities, is unjustifiable if the whole can be preserved entire. In the case of only fragments remaining, a selection often must be chosen; yet even then copies of the whole of the material should be made and published all together. To unearth whole tombs or chambers full of objects, whether

in an Egyptian cemetery or a Roman camp, and neglect to record and publish the facts of the position or groups of the objects, should debar the inefficient explorer from ever touching such places again. To remove things without ascertaining all that is possible about their age, meaning, and connections, is as inexcusable as it is easy. To undertake excavating, and so take the responsibilities for preserving a multitude of delicate and valuable things, unless one is prepared to deal with them efficiently, both mechanically and chemically, is like undertaking a surgical operation in ignorance of anatomy. To turn over a site without making any plans, or recording the positions and relations of things, may be plundering, but it is not archaeology. To remove and preserve only the pretty and interesting pieces, and leave the rest behind unnoticed, and separated from what gave them a value and a meaning, proves the spirit of a dealer and not that of a scholar. To leave a site merely plundered, without any attempt to work out its history, to see the meaning of the remains found, or to publish what may serve future students of the place or the subject, is to throw away the opportunities which have been snatched from those who might have used them properly.

To suppose that excavating—one of the affairs which needs the widest knowledge—can be taken up by persons who are ignorant of most or all of the technical requirements, is a fatuity which has led, and still leads, to the most miserable catastrophes. Far better let things lie a few centuries longer under the ground, if they can be let alone, than repeat the vandalisms of past ages without the excuse of being a barbarian.

Sir Arthur Evans

Work of Reconstitution in the Palace of Knossos (1927)

Interpretation is now regarded as an integral part of conservation. However, the interpretation of archaeological sites, as opposed to the finds and information yielded by excavation, is a relatively recent phenomenon. Evans's work at Knossos was a seminal attempt to conserve and stabilize a major site in a manner designed to facilitate understanding by the visitor. His own description of his work offers clear insight into the practice and philosophy of the time, which today might be regarded as heavy-handed and inappropriately conjectural. Reading 8, from John Papadopoulos, provides a modern perspective on Sir Arthur Evans's work.

Although in the work of conservation and reconstitution of upper stories new lines have been recently struck out at Pompeii, at Ostia, and elsewhere, it may be fairly said that they have followed the example already set on the site of Knossos, where the work has now proceeded with successively improving methods for twenty-six years.

To the casual visitor who first approaches the site and sees before him an acre or so of upper stories the attempt may well at times seem overbold, and the lover of picturesque ruins may receive a shock.

But the truth is that this supreme effort to preserve the record of the upper floors revealed by the process of excavation was from the first actually imposed on myself and my colleagues by the unique character of the remains with which we had to deal. The conditions were in fact quite different from those with which excavators have had to deal in the case of the mighty stone buildings of Egypt, or the massive brick structures of Mesopotamia, or of the somewhat parallel experiences to be met with on the Classical Greek and Roman sites.

At Knossos from the earliest stage of the excavations it became evident that, over and above the ashlar and rubble masonry of the walls, we had to deal with a solid wooden framework, in which much of it was cradled, and with wooden posts and columns supporting the massive beams above. This wooden skeleton had been reduced for the most part to mere charcoal, in a minor degree, however, by actual conflagration and clearly to a much larger extent by a chemical process of carbonization.

It might perhaps be concluded from this that, the supporting and binding power of this original framework having been removed, the whole building would have collapsed into a confused heap. It is evident that in almost all cases the upper floors have sunk, in a certain measure owing to the decay of the lateral supports intercalated in the surrounding walls. But the remarkable and recurring phenomenon that presented itself was that, in spite of all this, throughout a good deal of the West Quarter of the Palace and to a still greater degree in the 'Domestic Quarter' on the East slope, as well as in many of the surrounding private houses, gypsum paving slabs, door-jambs, limestone bases, the steps of stairs, and other remains came to light on the upper level, almost at the height at which they had originally rested, though the intervening supports, such as the wooden posts and columns that had originally raised them above the lower floors, were reduced to brittle masses of charcoal.

In the 'Domestic Quarter' the maintenance of upper story remains, more or less at their original level, was no doubt helped by the fact that it was built into a great cutting in the hill-side and had received a good deal of lateral support. But this itself was far from explaining the at first sight miraculous evidence of upper story remains that we there encountered, which has made it possible to recover an almost perfect plan of the first floor.

The problem is seen under its most striking aspect in the 'Hall of the Colonnades', where the balustrade on the North side was found as it were suspended almost at its original level, while the triple balustrade of the upper flight of stairs on the West side is seen to rest on a mass of clay and rubble, the supporting columns having been in both cases carbonized and disintegrated. It was necessary indeed to follow the downward course of the lower flight of stairs by means of a tunnel carried out with the aid of props and with all the precautions of mining operations.

These props made it possible to reconstruct, fitting them into the old sockets, columns built of stone and covered with plaster, subsequently coloured to reproduce the effect of the original Minoan columns as shown on the wall-paintings. The supporting beams were at the same time superimposed on these, in this case iron girders being supplemented by cement. The supporting wooden framework could then be removed and the staircase above left to rest securely on the restored beams and columns. Finally, the corner staircase column of the upper tier was also restored so as to make it possible—thanks to Mr. Christian Doll, and the practical

knowledge of our foreman, Gregorios Antoniou—to set up at their original level the fallen stair-blocks above belonging to a fifth landing.

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[. . .] In a series of cases great stair-blocks have been thrown into the void, and one of the most arduous tasks encountered in the way of reconstitution was the raising of these to the positions that they had originally occupied. This could only be done by an arrangement of inclines, with very solid planks, up which the blocks were levered, pushed, and pulled with the aid of ropes by gangs of workmen. In the case of the 'Domestic Quarter', where the depth was great and the space for manoeuvring relatively small, this taxed all the resources of our architect, Mr. Christian Doll, and our then overseer, old Gregori, though he was highly experienced in this kind of work. [. . .]

A very serious problem was presented by the upper dividing wall of the Grand Staircase of this Quarter; it had heeled over and threatened ruin, not only to itself, but to the outer staircase and the rising balustrade above it. Professional guidance ceased at this point but, as the case seemed desperate, I took upon myself the responsibility of what might be thought a very risky operation. A slit was first cut along the base of the mid-wall on either side, the whole wall was cased with planks and roped round, a block of timbering was constructed to stop the movement of the wall at the point where it became perpendicular, and, these preparations having been made, a body of sixty workmen on the terrace above, under the skilled direction of Gregori, was harnessed by ropes to the casing of planks round the masonry and at a given signal pulled as one man. It was a moment of breathless excitement, but the great mass moved all together, righted itself, and stopped on the line fixed for it. The slit on the inner side of the wall was thus closed. That on the outer side was filled in at once with rubble and cement, and the work was done.

Knossos, as was remarked by a German colleague, has passed through three 'periods' of conservation—marked respectively by the use of wooden supports, of iron girders, and of ferro-concrete. In the first stage of the excavations in the West Quarter of the Palace, where the depth of the excavated area was less and the amount of upper story remains more limited, wooden props and beams, with at most iron bars to reinforce them over horizontal openings, were made to serve. But the quite unprecedented conditions met with in the 'Domestic Quarter' soon demonstrated the inadequacy of such supports. The violent alternations of the Cretan climate and vicissitudes of damp and heat were found to rot woodwork in an incredibly short space of time, and some serious collapses of supports and masonry were the result. Mr. Christian Doll, the architect, who came out to assist me in the conservation and reconstitution of the upper structures of the 'Domestic Quarter', found it necessary to take the bull by the horns and to have a large recourse to iron girders to fulfil the supporting function of the great beams. At the same time the

originally wooden columns were replaced, as had already been done in the 'Room of the Throne' on the West side, by stone cores with a covering of plaster.

In this way it was possible for Mr. Doll to reproduce both the effect and the reality of the original timber framework of this part of the building as it existed in the last Middle Minoan phase. The windows, especially, presented great difficulties, since, owing to the carbonization of their wooden posts and lintels, the great limestone blocks with which the beams were overlaid had sunk deep into their openings and had to be taken out stone by stone and replaced at their original level. Many tons of masonry had thus to be extracted and re-set, notably in the case of the lower window of the right wall of the Hall of the Double Axes, which had been almost entirely choked with sunken blocks.

Finally, in order to preserve the results of considerable supplementary researches undertaken in the West Quarter and in the urban area surrounding the whole Palace site, I decided to have recourse to the experience at that time gained by our Cretan masons in the use of ferro-concrete. This material was not only much more manageable than the ponderous girders, but proved to be much better fitted for such purposes as the reconstitution of floors and could be also applied to the reconstruction of great piers and columns.

Perhaps the greatest difficulty met with in the whole course of the excavation was presented by the South-East angle of the Palace. This was first brought out in a completely ruinous state with tumbled and sunken blocks pointing to the collapse of some cavity below. It was at first supposed that we had here to deal with a subterranean 'beehive' vault such as had been discovered underlying the South Porch. A great cavity was indeed brought to light,[1] but on exploration it proved to be part of a kind of underground quarry made in Early Minoan times for the purpose of following out certain veins of a highly prized red earth. The builders of the South-East angle of the Palace had evidently been ignorant of the existence of this vault and had laid their heavy foundations and massive base blocks on its upper crust. The great earthquake that, as is now clearly demonstrated, brought about the catastrophe of the 'Middle' Palace caused this to collapse, and the result was a precipitation of the blocks of this part of the structure, some of them to a very low level.

As, however, the plan could be for the most part traced out, and the sunken blocks and bases lay in a certain relation to one another, it has been eventually possible to put the remains together in what seems to have been their original form, including the lower part of a staircase and a light area between it and the south wall. The reconstitution of these remains was only made possible by building cement piers from the floor of the vault, in places 25 ft. down, and the laying in turn of ferro-concrete beams on them to support the base-blocks of the original structure.

The use of reinforced concrete for disintegrated floors was found very useful in reconstituting the upper stories of some of the surrounding houses, parts of which were supported by cuttings in the hill-sides. This was notably the case

with the 'South House', where many of the upper elements remained, including two flights of stairs sunken to a somewhat lower level. The West section of this house has in this manner been reconstructed as far as the floor of a third story. The remains of the upper floor of the 'Royal Villa' supplied materials for an almost complete restoration illustrating a very interesting relation of the main upper hall or 'Megaron' to the lower.

The well-preserved 'Pillar Crypt' of this house, finely constructed of gypsum blocks, contained evidence of quite a unique kind as to the original timber supports of the floors above. Sockets were here observable in the upper part of the walls where the woodwork had once rested. A split trunk, widening at one end and not hewn out too much to conceal its original form, had rested on the central pillar and over this had been laid at intervals three rounded cross-beams. By the aid of ferro-concrete all this timbering has been reproduced during the last season in its original shape and coloured like wood, so that after a lapse of some three and a half millennia the eye can still take in the original construction.

The new facilities afforded by the use of reinforced concrete made it possible not only to renew in a more substantial form the supports of upper elements in the West section of the Palace, but to profit by a better knowledge of the meaning of existing remains.

In what had been the principal upper hall, South of this, two of the fallen column bases were restored to their places above the pillars of the crypts below. In the area beyond, the existing door-jambs and pillar bases—now raised to their original level—afford a key to the plan of the system bordering the great hall to the South. At the same time, for explanatory purposes, copies of these jambs and bases have been cast in concrete to fill the places where they are wanting.

The great supporting beams, of which carbonized cores, disintegrated splinters, and dust had been found within the cavities that they had occupied, and the dimensions of which were ascertainable, were in many cases reproduced in concrete form. The sunken bases and door-jambs were at the same time replaced at their proper level on the excavated pavement.

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In the area [. . .] bordering the 'Stepped Porch', West of the Central Court, it was also possible to carry out a striking reconstitution on the basis of some newly acquired data which had either escaped notice or been imperfectly understood in the first stage of the excavation. Pavement slabs of blue slate and part of a column base that had sunk into a magazine on that side gave a clue to the upper landing of the Porch and at the same time revealed the fact that it had had another somewhat lower column in its upper section. Blocks that rested on a wall beyond were found to bear the marks of an ascending staircase, parts of the gypsum steps of which were also discovered, and in this way materials were given for the restoration of the entire first flight to the middle landing.

The whole arrangement of this part of the upper floor was thus recovered, including a passage bordering the staircase and leading West from the landing of the Stepped Porch to an important inner corridor answering to the 'Long Corridor' of the magazines below, but, as remains of its cement paving showed, in this case open to the sky and serving the purpose of a light area for the great halls that bordered it.

Parts of the verandah that overlooked the South-West borders of the Central Court have been also set up, and in the area South of this the recovery of the original system, due to recent supplementary researches, has encouraged still more ambitious efforts towards the resuscitation of the monumental structures that there existed.

The painted relief of the Priest-King with a crown of lily crests and peacocks' plumes that had fallen from the wall of a corridor leading up to the Central Court from the South has been replaced by a painted stucco facsimile in the place that it had occupied. This in turn has been roofed over for protection, as had already been done in the case of the Room of the Throne with its restored Griffin guardian.

In the area immediately West of this, these renewed investigations have thrown much fresh light on both the earlier and the later form of what had been the principal entrance hall on that side, the South Propylaeum, which now proves to have had four columns and to have supplied on a grander scale the prototype of those of Tiryns. The interior of this hall in its final shape had been adorned with a great processional wall-painting, continued in the adjoining corridor, and the well-known Cup-Bearer Fresco, which belonged to this, was found fallen from the West wall of this structure. A careful copy of this and of part of a similar subject which had occupied the frieze above, executed for me by Monsieur Gilliéron, fils, has now been replaced in its original position. To protect this, one of the great columns and part of the entablature and roofing have been restored, and the visitor approaching the Palace from that side can now obtain something of the original effect of this monumental entrance hall.

Notes

1 See *Antiquaries Journal*, ii, 319.

John K. Papadopoulos

Knossos (1997)

John Papadopoulos's thoughtful summary of the archaeological work conducted at Knossos by Sir Arthur Evans provides a modern critique of Evans's approach, informed by the passage of time and decades of developing thought on approaches to archaeological heritage conservation. (See also Nicholas Stanley Price, reading 52.)

Issues Addressed

[. . .] When decisions are made about a site, attempts to uphold all the values can create immediate conflicts; problems can also arise later when certain values are given preeminence over others. In the case of Knossos, many of the key issues that require attention stem from the reconstruction and restoration carried out by Sir Arthur Evans. The restoration, one of the largest and earliest of its kind, has placed the historical and scientific values in conflict with some of the social and economic values. The need to balance the historical values of a site and its surroundings with the demands of mass tourism is an issue common to many archaeological sites in the Mediterranean. At the same time, the example of Knossos emphasizes certain issues more clearly than others. Among these, the following may be singled out for discussion.

Prominence Given to One Historic Phase

Evans's restoration, although in part representing an amalgam of various Minoan phases, disregards significant earlier and later remains at the site. The casual

visitor—and often even the specialist—can forget that Knossos is the largest Neolithic site on Crete (the excavated Neolithic remains are largely reburied under the Central and West Courts of the later palace) and, along with Gortyna, is one of the two largest Greek and Roman sites on the island. During the early Iron Age (1100–600 B.C.E.), Knossos may have been a large and thriving urban nucleus (Coldstream 1991). Evans's restoration not only neglects the historical significance of the site during other periods but, in fact, actively hides their remains. Similarly, of the numerous monuments excavated within the vicinity of the palace, the ones that have been restored are mostly of the Minoan period.

Extent and Accuracy of the Restoration

The scale and extent of Evans's reconstruction and restoration have posed a number of problems for the subsequent study of the original remains. In certain parts of the monument, it is difficult to distinguish original architectural elements from restored ones, and in other parts it is often difficult to establish whether original elements incorporated in the reconstruction are in their original positions or have instead been moved from elsewhere. Indeed, the impact of these problems on future research on the original remains was a concern expressed as early as 1927 by the president of the Society of Antiquaries of London.[1]

The question of the accuracy of the restoration in light of current research and knowledge has received much attention. Because of the meticulous photographic records kept by the excavators, and especially of the detailed notebooks of daily activities maintained by Duncan Mackenzie, Evans's assistant and supervising field archaeologist, it is possible to reconstruct, to a certain extent, some of the elements of Evans's restoration. It is clear, for example, that some details of the restoration are wrong—the position of certain frescoes, even the number of floors in parts of the monument.[2] Moreover, some parts of the palace were restored on the basis of fragmentary, and perhaps little-understood, Minoan iconography, whereas others were restored in the light of the architectural fashion of the day. This is most noticeable in the area of and around the Throne Room, parts of which closely resemble Art Nouveau and Art Deco buildings of the 1920s. Furthermore, although Evans's expressed aim was to preserve the record of the upper floors of the building revealed by the process of excavation, the use that some of the restored upper stories were put to was not always commensurate with Minoan practice. A good example is the "picture gallery" above the Throne Room, an entirely modern upper story used for the display of replicas of frescoes from various parts of the palace.

Introduction of Modern Building Materials

Related to the issue of accuracy, but itself a source of further problems, is the heavy reliance on reinforced concrete, a material alien to the original building.

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Regarded by Evans as a virtual panacea, reinforced concrete permitted more sub-
stantial solutions than wood or iron girders could afford.[3] Quite apart from the
issue of the compatibility of reinforced concrete with the original fabric of the
monument is the whole question of reconstruction in permanent or semiperma-
nent materials that do not permit reversibility.

Historical Identity of Evans's Restoration

Perhaps more so than for any other archaeological monument in the Mediter-
ranean, the *restoration* of the palace at Knossos—as distinct from the original
building—has developed its own historical identity. Largely the result of one man's
vision and interpretation, the palace is one of the best-known and most visited
archaeological sites in Greece and the Mediterranean. Evans's restoration has itself
assumed historical significance; this is nowhere more obvious than in the most
recent conservation at the site, which has focused on repairing and consolidating
the reinforced concrete poured by Evans. There has even been reluctance to cut
down any of the trees planted by Evans, even ones that have interfered with recent
excavations or that threaten various parts of the palace.

Long-Term Maintenance of the Site

The example of Knossos raises the question of responsibility for long-term conser-
vation and maintenance—an issue common to many Mediterranean archaeological
sites where excavations have been conducted by members of foreign schools or
institutions. The excavations at Knossos constitute one of the most visible, long-
term projects undertaken by a foreign school in Greece. Following Evans, several
generations of British scholars worked on the palace itself, as well as on many other
buildings and cemeteries of various periods at the site. Although the scholarly work
on Knossos, including a long list of prestigious publications, has been mainly car-
ried out by members of a foreign school, the direct responsibility for conservation
and maintenance has fallen since 1951 on the shoulders of a national authority, the
Greek Archaeological Service. This history raises the issue of the role currently
played, or to be played, by foreign institutions in the protection of the cultural
resources of a host nation.

Notes

1   In the discussion following Evans's paper, the president of the society noted that
    "caution was necessary, as repairs might be taken in the future for original work"
    (Evans 1927: 267).
2   The position of the Dolphin Fresco, for example, restored above the door of the
    Queen's Megaron, has been questioned by Robert Koehl, who has argued that it was

more likely a floor fresco from the story above (Koehl 1986). Elsewhere, the various phases of the reconstruction of the Stepped Portico, south of the Throne Room, that led up from the Central Court to the upper floor, or Piano Nobile, were carefully recorded in a series of photographs dating from 1904 through 1930 (Brown 1983: pls. 25–27). In addition to the steps leading to the upper floor, a further flight gave access either to a second floor or to the roof. With regard to this flight, Brown states, "Mackenzie thought, probably wrongly, that two slabs forming a 'seat' in the Room of the Chariot Tablets were steps from here" (Brown 1983: 42).

3 The use of reinforced concrete (*béton armé*) is praised and discussed in detail in Evans (1927); compare Fyfe (1926: 479).

References

Brown, A. 1983. *Arthur Evans and the Palace of Minos*. Oxford: Ashmolean Museum.

Coldstream, J. N. 1991. Knossos: An urban nucleus in the Dark Age? In *La transizione dal Miceneo all'Alto Archaismo: Dal palazzo alla città. Atti del Convegno Internazionale a Roma, 14–19 marzo 1988*, ed. D. Musti et al., 287–299. Rome.

Evans, A. J. 1927. Work of reconstitution in the palace of Knossos. *Antiquaries Journal* 7: 258–67.

Fyfe, T. 1926. The palace of Knossos: An example in conservation. *Journal of the Royal Institute of British Architects* (26 June): 479–80.

Koehl, Robert B. 1986. A marinescape floor from the palace at Knossos. *American Journal of Archaeology* 90: 407–17.

John Marshall

Conservation Manual: A Handbook for the Use of Archaeological Officers and Others Entrusted with the Care of Ancient Monuments (1923)

One legacy of eighteenth- and nineteenth-century colonialism was the spread of Western conservation ideas and practice across the globe. This extract from Marshall's 1923 handbook offers a glimpse of some of the earliest material written for field use, by the Indian Archaeological Service. If Western practice is taken to be the benchmark, the practices documented therein mark an important step forward in systematized conservation methodology, certainly in advance of much contemporary European practice. In reading 10 Nayanjot Lahiri provides a more contemporary perspective on early archaeological conservation practice in India.

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25. Archaeological, Public Works, or other officers charged with the execution of conservation work should never forget that the reparation of any remnant of ancient architecture, however humble, is work to be entered upon with totally different feelings from a new work or from the repairs of the modern building. Although there are many ancient buildings whose state of disrepair suggests at first sight a renewal, it should never be forgotten that their historical value is gone when their authenticity is destroyed, and that our first duty is not to renew them but to preserve them. When, therefore, repairs are carried out, no effort should be spared to save as many parts [of] the original as possible, since it is to be authenticity of the old parts that practically all the interest attaching to the new will owe itself.

Broken or half decayed original work is of infinitely more value than the smartest and most perfect new work.

26. In the case of "living" monuments (by which is meant those monuments which are still in use for the purpose for which they were originally designed) it is sometimes necessary to restore them to a greater extent than would be desirable on purely archaeological grounds. In every such case the Archaeological Officer responsible for the restoration should state clearly in his conservation note on the monument as well as in his Annual Report the reasons which have compelled him to depart from the principle usually followed by the Archaeological Department. . . .

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43. The task of conserving ancient monuments is in all countries a peculiarly difficult one. In India the difficulties which inherently [pertain are] still further [enhanced?] by the adverse climatic conditions, by the general lack of skilled labour and by the fact that the overseers who are charged with the execution of the work are rarely equipped by training for this class of work. For these reasons it is of paramount importance that the closest supervision should be exercised by District and Executive Engineers on the one hand and by the Archaeological officers on the other. The need for such supervision cannot be too strongly emphasised; for upon it will depend the success or failure of every undertaking.

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57. The Subordinate in charge must understand quite clearly that every endeavour is to be made to keep the original portions of the structures in position. Pulling down any part of original work, or its restoration as commonly understood (viz., the insertion of new work into the old), will only be permitted upon the written instructions of the Archaeological Officer in charge. . . .

58. All excavation is to be carried out with great care, in order that any old masonry or other remains buried in the earth may not be damaged. Any such remains should, [. . .], wherever possible, be left lying untouched as they were found, and, if [. . .] liable to decay [from] exposure to the atmosphere, [they] [sh]ould be covered over with sacking or other material and kept permanently damp or dry as may be required.

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69. Overseers are to remember that every scrap of evidence existing in the building on which they are working—such as broken corbals, string courses, relieving arches, et cetera.—is to be preserved and not in any way obscured by the works of preservation and that all new evidence brought to light should be reported.

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194. Notice Boards warning the public against damaging protected monuments or for other purposes should be conspicuous enough to attract attention but not such as to be an eyesore; nor should they [disfigure] the monument by being set up on the face of it [or] directly in front of it. The narrowest part of the approach to the precincts is, in most cases, the best place for their erection.

Nayanjot Lahiri

Destruction or Conservation?
Some Aspects of Monument Policy
in British India (1899–1905) (2001)

Lahiri, writing recently, reflects on the same period in India discussed by John Marshall (see reading 9). Lahiri recognizes the colonial spread of Western conservation ideals and their early achievement in India, suggesting that good conservation policy was an inextricable part of the imperial mission. But he also highlights by pertinent examples the resulting absence of any official understanding of local conservation methodologies and values.

> I cannot conceive any obligation more strictly appertaining to a Supreme Government than the conservation of the most beautiful and perfect collection of monuments in the world. (Curzon, September 1900)

Introduction

This chapter examines some aspects of the monument policy of the British Raj during the viceroyship of George Nathaniel Curzon (1899–1905), an initiative which has almost unanimously been hailed both by the viceroy's contemporaries and by subsequent scholars. Consider what John Strachey had to say as early as 1900:

> Few things in these troublous times when there has been so much to make one unhappy, has given me so much pleasure as the knowledge that India has found a viceroy who has resolved that the British Government shall become a more faithful guardian of her 'priceless treasure-houses of art'. (*Indian Archaeology* 1899–1905: 362)

In a similar vein, almost forty years later, Alfred Foucher recorded a series of perceptive reflections on the character of archaeological conservation during this phase which he, in fact, treated as a watershed. He described Curzon's initiative, compared with the 'spasmodic extemporizations' of the nineteenth century, as marking the advent of

> [a] period of a well-organized service, of projects carefully prepared and brought to completion, of wisely conducted preservation work, of excavations steadily resumed year after year, of Annual Reports building up stately arrays on the shelves of libraries, whereby each new discovery became the common possession of students throughout the world. (Foucher, in Cummings 1939: 353)

Scholars and political leaders of independent India have also remembered this epoch in much the same way. Sourindranath Roy characterized it as 'the dawn of a new era' (Roy 1961: 78), while Jawaharlal Nehru believed that 'after every other viceroy has been forgotten, Curzon will be remembered because he restored all that was beautiful in India' (cited in Rose 1969: 239).

While such writings have highlighted the important ways in which archaeological policy was consolidated during the time of Lord Curzon, they have quite remarkably viewed it as a neutral domain. They fail to refer in any detail either to the political content of the empire or to the various groups of Indian people for whom these monuments constituted an integral aspect of their physical and mental landscapes.

The issue that is absent, then, in previous assessments of the Curzon era will form the theme of this chapter. I shall draw attention to the varied and complex connections between imperialist attitudes, which such assessments almost completely ignore, and the upkeep and conservation of monuments that form the focus of their attention. The sources used in this context are the records of the various government departments, meticulously and (fortunately for scholars) obsessively docketing the proceedings relating to archaeology. What these sources reveal also permits us to reconsider the 'preservationist mission' of Curzon and the attitudes towards 'native sensibilities' and community rights it embodied.

The Scale and Character of Conservation

There is no doubt at all about the scale of the conservation work undertaken under the supervision of Curzon and his young director of archaeology, John Marshall, in these years. Scores of monuments ranging from the beautiful Pearl mosque at Lahore to the Mandalay Palace in Burma, from the viceroy's special love, the Taj Mahal in Agra, to the medieval temples of the Madras presidency, were overhauled and repaired in a fairly short time (Marshall 1939). In the case of the Taj Mahal, this involved clearing the approaches of bazaars, rebuilding the ruined colonnades

of the *chowk-i jilo khana* (forecourt), restoration of the Fatehpuri mosque and also the whole garden, its pavilions and water architecture (ibid.: 16). The spectrum of conservation and restoration work undertaken at many other less famous monuments was equally wide ranging.

Equally important is the fact that conservation was generally executed with skill and sensitivity. Apart from paying close attention to technical details which ensured that the restorations were unobtrusive, specialized stonemasons were, in several cases, brought from a great distance to ensure the quality of the work. The masons who worked on Mandugarh came from Jaipur. New funds were also made available at federal and provincial levels. The Archaeological Department was provided with a lakh of rupees for the purpose of giving subsidies to aid special work that was beyond the financial capacity of the local administrations. Additionally, provincial budgets significantly expanded, multiplying sevenfold in a brief span of five years. From the statistics that Marshall provided in 1904 it seems that whereas in 1898–9 the provincial outlays were in the vicinity of Rs. 43 292, in 1903–04 these had expanded to Rs. 33 0429 (*Indian Archaeology* 1899–1905: 24). Because of the close association of the Archaeological Department with such work, repairs were often satisfactorily completed at a much lower cost than initially envisaged by local governments. The Public Works Department at Ahmedabad, for instance, had estimated that a lakh of rupees would be needed to restore the famous Sidi Sayyed mosque there, whereas the actual cost of restoration was only Rs. 1680 (ibid.: 193)!

At the same time, monuments were sometimes destroyed in the process of ostensibly conserving them. Thus in 1904, a Mr Cook, the State Engineer, while repairing the famous Buddhist *stupa* ('The Great Stupa') at Sanchi near Bhopal, removed and destroyed a number of original pillars and coping stones of the main railing, several of which were inscribed with the names of donors of the early historic period.[1] Many of these were badly split, some had collapsed, but instead of finding some way of preserving the stones in their original contexts, Cook replaced them with new ones. Hoping to undo the damage, Marshall personally inspected Sanchi but found that the 'restorations' could not be rectified. And so Sanchi became the site where, to borrow Curzon's description, the Archaeological Department was forced to consecrate 'a desecration'.[2]

It has been necessary to mention Sanchi because, like many other such cases, it is rarely ever discussed in the available publications on the subject. Even Marshall, in his definitive volumes on Sanchi, while summarizing the history of conservation there, chose to remain silent on Cook's destruction of the main railing of the monument (Marshall and Foucher 1983 reprint). Treasure hunters and British archaeologists of the nineteenth century including Alexander Cunningham and H. H. Cole were mentioned and the harm done by 'Moslem iconoclasts' was specially highlighted, but Cook's act of 'restoration' was excluded. Possibly, this silence was the result of a larger anxiety to construct an unsullied narrative of archaeological conservation in the Curzon era.

Apart from preserving buildings, Curzon also addressed the question of securing portable antiquities lying around the Indian countryside that he considered of some significance. However, in contrast to the earlier practice of carting antiquities to museums in major cities, he stressed the necessity of developing local museums for preserving ancient relics and antiquities at or near some of the major monuments with which they were originally associated. The question of whether antiquities should be preserved in the provincial capitals or at archaeological sites came up specifically when the issue of removing the collection of objects at Bijapur was being discussed. Henry Cousens, the archaeological surveyor of that area, had suggested that the Bijapur objects should form the nucleus of an antiquarian museum for Western India that could be situated at Poona. The Governor of Bombay considered that this museum should be based in Bombay's Town Hall. Curzon, on the other hand, argued against removing them from their original locality:

> The question raised is one of principle, and it involves a much wider range of application than the limited case of Bijapur. It is a question whether we are to encourage local collections or museums in India, in connection with the localities or neighbourhood where the objects have been found, or whether we should, for the reasons named by Bombay and by Hon'ble Member, centralize in capital cities or larger towns. To my mind there can be little doubt that the former is the sound and the latter the faulty principle . . . where a collection already exists, in connection with a famous group of monuments or remains, that attracts visitors on its own account, and represents the architecture or sculpture of a particular epoch or style, then I think it is a great pity to sever these objects from their natural surroundings, in order to add to the size or the symmetry of a central collection. (*Indian Archaeology* 1899–1905: 62–63)

Because of this initiative, several local collections were started along these lines at Bijapur, Malda, Peshawar and Pagan. To these ideas, Curzon added yet another perspective. While the colonial administration was to jealously safeguard India's archaeological heritage, this in no way gave it the automatic right to cart away antiquities to Great Britain. Instead, relics of archaeological and historical value were to be conserved in British India. Cultural plunder, in some cases, could even be returned to India. It was, after all, at Curzon's initiative that the *pietra dura* panels which today form the backdrop to Shah Jahan's throne in the Diwan-i-Am of Lal Qila, Delhi, had been brought back from the Victoria and Albert Museum, London, and successfully restored to their original place.[3]

This was a perspective that also led to tensions of various kinds. Some saw it as encroaching on the legitimate rights of the British Museum in London. On the question of the proposal to give the collection that Aurel Stein had made in Chinese Turkestan in its entirety to the British Museum, the viceroy's suggestion to keep a major portion of this at the museums in Calcutta and Lahore was strongly opposed. Curzon, however, stuck to his original proposal and his note on

this clearly underlines why he wished to reassert the Government of India's control over Indian heritage:

> We shall never get a really representative collection in India if the British Museum argument is steadily and logically applied. Our object should be to persuade scholars to come out here, and to study our treasures and relics in India, instead of allowing them to be swamped in the overstocked collections of the British Museum. . . . The answer to the second question, why should our Indian Museum have the first claim on archaeological finds in Chinese Turkestan, seems to me to be equally simple. It was because they were found with our money and our man. (*Indian Archaeology* 1899–1905: 61–2)

Curzon did not always get his way. Antiquities continued to find their way to the British Museum and other such institutions, even with his knowledge. Clearly, vested interests of various kinds blocked what was a crucial departure in notions of colonial heritage from getting as successfully deployed as the viceroy desired.

These then, very broadly, are some of the important ways in which Curzon undertook to conserve and restore India's monuments. At the same time, as was stated earlier, this policy was conceived and deployed in India as part of the policy of a colonial state. Its functioning is thus part of a history that is more complex than is suggested by a mere recounting of the technicalities of upkeep. It is to some of these issues, which impinged upon and influenced the manner of conservation, that I now turn.

The Viceroy's Conservationist Agenda: Motives and Methods

First, what were Curzon's motives in undertaking a vigorous conservation policy? His deep interest in matters pertaining to monuments is well known (Linstrum 1995). Even before he came to India in 1899, conservation was a high priority of his. As early as 1890, following his visit to Greece, he had publicly advocated and had tried to persuade Gladstone to return the Parthenon marbles to their original site on the Acropolis of Athens (Gilmour 1995: 82). In India, however, he articulated this concern in terms that were often pompous and patronizing. Curzon claimed to be 'an imperialist heart and soul. Imperial expansion seems to me to be an inevitable necessity and carries a noble and majestic obligation' to provide good administration and priority to Indian development (cited in Gopal 1965: 224). Good governance was also considered necessary because India was the focus of British interests and on her Curzon believed, the position of the British empire in many ways depended: 'As long as we rule India we are the greatest power in the world. If we lose it, we shall drop straightaway to a third-rate power' (cited in Gopal 1965: 224). One of the important instruments for making imperial governance seem more

human and which, he believed, would foreground its beneficence in India was the restoration of her architectural heritage. Curzon's speech at the temple town of Brindaban (5 December 1899) illustrates this:

> Your most ancient structure, the temple of Govind Deva which I have seen described as the most impressive religious edifice erected by Hindu art in Northern India, also owes its restoration to the British Government, which 25 years ago, alloted a sum of more than Rs. 30 000 to the task . . . it exemplifies what, in my opinion is one of the primary duties of government in this country.
> (*Indian Archaeology* 1899–1905: 71)

This policy, it was hoped, would also help the British Raj in atoning for what was described by the viceroy as 'a century of British vandalism and crime' (ibid.: 421) towards Indian monuments. The natural and human factors involved in the despoliation of subcontinental monuments were several: exuberant vegetation, illegal and unscientific excavation, indigenous as well as British destruction and conversion of archaeological structures into offices and residences, the lack of responsibility and of a financial and supervisory system at both imperial and provincial levels. Curzon, however, singled out the era of 'vandalism' inaugurated by the early phase of British rule in India, as being the most recent and widespread context of such despoliation.

The structural and functional metamorphosis of many of India's magnificent medieval monuments into dingy governmental spaces has been vividly captured in Curzon's communications. In Lahore alone, the Diwan i-Am was serving, without any apparent sense of incongruity, as a hot weather dormitory for British soldiers, while Moti Masjid was a currency reserve treasury, the Choti Khwabgah a church, Anarkali's tomb the Civil Secretariat record room and library and the Dai Anga Masjid (also called the 'Railway Mosque') served as the railway traffic superintendent's office (for details, see *Indian Archaeology* 1899–1905: 421–41). Clearly, from the perspective of viceregal policy, monuments needed to be restored and colonial desecration—'from which even a Goth would have shrunk'—rolled back in order to provide a more 'enlightened' face to British rule in India.

Along with making the restoration of monuments an essential aspect of imperial beneficence, Curzon tried to make a further statement. The very enterprise of restoring historic buildings was a British responsibility and not a European one. Consequently, its sustenance could not, in any possible way, be provided by the organization that his predecessor, Elgin, had warmly welcomed—a European association overseeing an 'Indian Exploration Fund' (cf. Lahiri 1997: 131). Curzon lacked enthusiasm for that proposal because he believed that continental scholars and travellers would, as in the past, use the opportunity to loot Indian antiquities for enriching the collections of European museums. This was a widely shared

sentiment. In a confidential letter, James Burgess had complained about French vandalism in the Gandhara region in 1900. 'The British Museum possesses very few Gandhara sculptures, mostly presented by private individuals: at Paris I hear about a hundred pieces representative of early Buddhist art from Swat and Yusufzai are to be exhibited—all brought home by a French traveller quite recently'.[4] More importantly, he used this letter to draw attention to a case of German 'banditry' in Pagan, where Thoman Gillis had removed, slab by slab, the fresco paintings at the Theinmazi Pagoda and had tried to sell them to the Ethnological Museum of Berlin. Subsequently, at the instance of the Indian government, this case was taken up by the British ambassador at Berlin. The German government admitted that Thoman Gillis had indeed offered for sale a collection of objects from Burma, including the frescoes mentioned by Burgess but 'owing to the disproportionate amount of the price asked for, the offer was not accepted'.[5] A vigorous conservation policy along with the Ancient Monuments Preservation Act of 1904 would, it was hoped, help in stemming the flow of such antiquities from the sub-continent to European museums.

Second, which monuments came to be conserved in these years? Curzon's address on the Ancient Monuments Bill to the Legislative Council in Calcutta suggested that it was the duty of the imperial government to restore all 'the great remains or groups of remains with which this country is studded from one end to the other' (quoted in Raleigh 1906: 198). The viceroy's notes on a Foreign Department file, however, reveal a more discriminating system. It was clearly understood that while the political horizon of the British government encompassed the eight provinces of India constituting British territory and the nearly 700 Native States, monuments in British territory were to have, on the whole, a prior claim to those in Native States.[6] So monuments came to be most systematically preserved in the 943 000 square miles under the direct sovereignty of the Crown, while the roughly 770 000 square miles falling within the expression 'Native States' were relegated to a secondary position. Additionally, Curzon believed that 'Monuments that are likely to be visited by large numbers of people have a prior claim to those in out of the way parts'.[7] While he did not spell out the meaning of 'visitors', he does not seem to have included worshippers at religious shrines. This is evident from the correspondence that was exchanged on the issue of restoring the Khajuraho temples. While the Director of Archaeology in India forcefully argued for a large financial outlay for conserving them, which he described as the 'most famous group of Hindu temples in Northern India', Curzon was not very enthusiastic. This was because the Khajuraho temples did not fall within British territory, nor were they visited very often—'I do not know if visitors are ever attracted to Khajraha. I should imagine but rarely, though it is possible that the temples may attract Hindu pilgrims'.[8] Possibly, the term 'visitors' only implied scholarly researchers, administrators and European travellers.

Indigenous Sensibilities

So where did the colonized (the 'natives' of the British Raj) figure in this grand imperial programme of monument conservation? What was the state's perception of indigenous groups who regarded many of these monuments as forming part of their living heritage?

There are various types of statements concerning the 'natives'' relationships to India's monuments. There are those which reflect the impatience or inability of British officials to confront and grapple with the alien world of Indian religious complexes. Curzon, for instance, was incensed at the refusal of a temple committee to admit non-Hindus, including the viceroy, into a temple enclosure at Bhubaneswar. I quote his observation in full:[9]

> It struck me as very absurd that the Bengal Government should be willing to spend money upon the restoration of this group of temples, but that, owing to the supposed prejudices of the peasant population of this tiny place, which ought to be overjoyed to get any money spent upon it at all, the Engineer should not even be permitted to inspect the work which it was proposed to undertake.

On discovering that after the handing over of a mosque at Bijapur to Muslims, it had been 'whitewashed, that prayer matting had been spread, lamps suspended, and prints pasted on the back wall', John Marshall suggested that no mosques or other buildings which had once been the property of the government should be handed back to Muslims and that they should only be allowed to pray subject to strict regulations. The act of conservation, thus, was clearly loaded with the same ideological rationale as imperial rule to 'reconstitute the native as someone to be ruled and managed' (Said 1994: 158). And in case the 'natives' refused to be easily 'managed', then the state, in the name of salvaging India's archaeological heritage, could threaten the resumption of monuments. That the spirit of such conservation was clearly positioned against the indigenous inhabitants is also evident in the viceroy's comments regarding the above mentioned Bijapur mosque:

> having saved them from the destructive carelessness or the uncultured neglect of white men, we were not going to hand them back to the dirt and defilement of Asiatic religious practices. (*Indian Archaeology* 1899–1905: 217)

Another recurring theme is that of trying to link monument destruction by Indians to genetic defects, while British colonial destruction of the same was merely uncultured behaviour. Thus the removal of the marble pillars and fretwork from Jahangir's tomb at Lahore by Ranjit Singh, an important nineteenth-century Sikh ruler in the Punjab, for the purpose of decorating the Golden Temple at Amritsar, was

explained as a consequence of congenital vandalism in the Sikhs (*Indian Archae-ology* 1899–1905: 420). Among the Muslims as well, the defacing of buildings was considered to be a 'natural sequence' of their occupation or reoccupation. At the same time, there were the realities of the Indian situation, where the British Raj was co-operating with several Indian princely families who were actively involved in monument conservation. In such situations, the tenor of government proceedings became more generous. For instance, while recommending that a reasonable sum should be given by the government for the monuments at Mandu, even Curzon was forced to acknowledge that the ruling family of the Dhar Darbar had 'at different times within the past quarter of a century expended certain sums upon the upkeep of a possession of which it is intensely proud'.[10]

Nevertheless, it is necessary to remember that at the level of formal policy, there is no acknowledgement of such Indians or of the possibility that they could be incorporated as active collaborators in the monument policy of the state. This is evident from the provisions of the Ancient Monuments Preservation Act of 1904 (*AIR Manual* 1989 [I]: 581–93), two of which are especially relevant. First, for the purpose of preserving 'protected monuments', Clause 5 of this act, at least theo-retically, regarded as essential the transference of the guardianship rights enjoyed by all owners, trustees and village officers to the government (ibid.: 583). This was a unilateral transference that precluded any active initiative towards conservation by individuals or groups of people outside government portals. 'The Bill provides that the owner or the manager of the building which merits greater care than it has been receiving may be invited to enter into an agreement for its protection and that in the event of his refusing to come to terms the collector may proceed to acquire it compulsorily or take proper course to secure its application' (ibid.: 581). Second, in the case of religious monuments, only those owners could enter into an agree-ment with the government who were followers of the religion to which the monu-ment belonged: 'Nothing in this section shall be deemed to empower any person not being of the same religion as the persons on whose behalf he is acting to make or execute any agreement relating to a protected monument which or any part of which is periodically used for the religious worship or observances of that religion' (Clause 6.3 of the act). Ingrained in this provision is a larger colonial notion that the religion of a 'native' congenitally prevented him from acting in the religious interests of 'natives' following religious practices other than his own, while the British, being a more superior race, ostensibly displayed an exemplary impartiality towards shrines and establishments of all religions and creeds.

If such provisions had, in the main, remained only in the statute books, they could have been treated as mere theoretical formulations. But in fact archi-tectural conservation came to be premised on such assumptions. An instance in point relates to a group of monuments in Jaunpur where a barrister, Moulvi Abdul Majid, and his family had, for several generations, been spending thousands of rupees annually on repairing and restoring mosques (*Indian Archaeology* 1899–1905:

413–14). Instead of creating a system whereby an equable partnership could be created, with the Archaeological Department guiding the barrister on the manner of restoration, the government thought that it would be more fitting to create a committee on which Majid, the collector and District Engineer would be *ex-officio* members and on which the leading Sunni Muslims of Jaunpur would be invited to sit. Why the state considered religious affiliation as being the most important criteria for membership to this committee makes sense in the light of the provisions of the Ancient Monuments Preservation Act.

More serious were those cases where this exclusive religious frame of reference attempted to exclude and evacuate several shrines of their varied patronage. One example of such exclusion was the renowned shrine of Mahabodhi in the Indian State of Bihar where Siddhartha Gautama, the historical founder of Buddhism, had attained enlightenment in the sixth century B.C. Since the time when a temple was first built at Mahabodhi in commemoration of that sacred incident, it had continued, with only occasional interruptions, to be a 'living' shrine. Like many such shrines with long histories, however, it became a religious place where a mass of heterogeneous practices and traditions, Buddhist and Hindu, came to be inscribed. This is evident from the various medieval antiquities and inscriptions that the shrine complex has yielded and from which it is apparent that intense Buddhist veneration existed alongside Vaishnava and Saiva worship (Cunningham 1892; Barua 1934). By the fourteenth century A.D., for example, the Bodhi tree under which the Buddha had meditated was incorporated into the circumambulation of holy places that Hindu pilgrims to Gaya (a religious town, 8 kilometres from Bodh-Gaya) were to visit. It was a circuit steeped in Vaishnava tradition and which continues well into the present century. The legal proprietorship of Mahabodhi has, incidentally, been vested since 1727 in a Saiva *mahant* (priest).[11]

This did not create any problems for Buddhist worshippers until the creation of a pan-Buddhist axis towards the end of the nineteenth century. The contentious politics that subsequently came to surround the shrine, the nature of the pan-Buddhist agenda in which the historical evolution of the shrine was ignored, and the other implications of this controversy for the land of Buddha's birth deserves to be the subject of a separate study. What is, however, relevant is that this coincided with an imperial initiative, undertaken by Curzon, which, contrary to the principle that the British government did not interfere in matters of religion, invested great prestige and energy in the dispute.

The Maha Bodhi Society spearheaded the movement to 'reclaim' the Mahabodhi temple from a Hindu proprietor and Hindu forms of worship. Curzon also considered the Bodh-Gaya temple complex to be exclusively a Buddhist shrine 'intended for the accommodation of Buddhist images and Buddhist worship' (*Indian Archaeology* 1899–1905: 228). Nowhere did he choose to refer to features connected with Bodh-Gaya's archaeology and history or to the fact that these clearly attested to the antiquity of its mixed pilgrim traffic. This is both interest-

ing and important, especially for those who have followed and admired Curzon's deep interest in monuments. This view of Mahabodhi was obviously premised on a classification of religious complexes, very similar to that contained in the Ancient Monuments Preservation Act of 1904, in which these were perceived as belonging to only one religion and its community of believers—the religion of the founders of the shrine. Any hybridity or blurring of distinctions among places of worship came to be seen as evidence of debasement and/or degeneration. So, in Curzon's scheme, the multi-religious character of Mahabodhi was only evidence of the shrine's desecration, from which he now proposed to rescue it.

The case of Bodh-Gaya, however, also demonstrates that such classifications could be effectively resisted. Notwithstanding various recommendations and draft agreements and the threat held out by Curzon to take over Mahabodhi through legislation, the Hindu priest, Krishna Dayal Gir, was obdurate and refused to negotiate seriously. What seems striking, in retrospect, is that this priest was the only person who put forward a resistance premised on the multi-religious character of this shrine and similar shrines in India. As he put it, while there were other Indian temples where worship was carried on by people of different sects and religious faiths, nowhere had the British government desired to exercise control or superintendence as they were trying to in the case of Mahabodhi. His statement, citing examples of places where people of various faiths worshipped, often in their own ways, is worth quoting:

> The renowned Durgah, or tomb, of Ata Saheb in Ajmer, Rajputana is daily visited by numberless Hindu and Muhammadan pilgrims from different parts of the country simultaneously; the shrine of Mahakal on the Observatory Hills at Darjeeling is regarded as a very sacred spot by the Hindus (of all classes) and the Buddhists, each performing their worship in accordance with their own faith; the Hindus offer sacrifices of animals too; the temple of Bodh in Nepal is a place of great sanctity to the Hindus and Buddhists, where both the sects perform their worship without the least friction. . . . But the object of so-called religious crusaders is quite different from that of *bona fide* pilgrims, *viz*. to create certain rights over the shrine and thereby to cause a friction and disturbance. (*Indian Archaeology* 1899–1905: 319–20)

Subsequently, in 1904, Curzon was forced to abandon his agenda of making the main temple an exclusive Buddhist shrine, partly because of the stout resistance offered by the Mahant.

Similarly, with regard to the Sanchi monuments, John Marshall believed that the protection of the Buddhist *stupa* there was only possible through the appointment of Buddhist *chowkidars* (guards).[12] Without consulting Sultan Jahan Begum, the local ruler of the princely state of Bhopal, who all along had borne the cost of maintaining Sanchi, he had even arranged with the Mahabodhi Society for such

a caretaker. The Begum, however, was horrified at the idea, and very effectively withstood all pressure for making such an appointment. Over time, she success-fully showed how the religion of the guardians of Sanchi, be it that of the humble *chowkidars* or the ruling house, was irrelevant to the issue of providing support to these monuments. It is no coincidence, then, that Marshall was eventually to dedicate his Sanchi volumes 'to the memory of Her Highness Nawab Sultan Jehan Begam Sahiba'.

Conclusion

Since the British ruled India, it was in their interest to construct an image in which they appeared as the saviours and guardians of subcontinental monuments. However, as this chapter has tried to demonstrate, it is important to look beyond the frameworks that were created for India and reconstruct a picture where the mapping of the Indian archaeological universe is shown as being related to the larger imperial agenda of the British Raj. That this was an agenda that could view the pious as 'desecrators' and attempt to remove heterogeneous forms of wor-ship and guardianship at religious shrines has also been highlighted. Viewed in this light, the terms of the problem are altered in several important ways. Among other things, instead of the stereotyped image of Curzon as the conservator *par excellence*, a more complicated picture emerges where the destruction/exclusion of cultural meanings accompanies the conservation of cultural property. Equally important is the sense that 'natives' resisted conforming to British notions of them. Instead of a passive accommodation to the conservation measures proffered by the government, indigenous groups appear to articulate their sentiments and policies around their own agendas, agendas that were not exclusively shaped by those of the colonial state.

Notes

The primary sources mentioned in the notes were consulted in the National Archives of India, New Delhi.

1 Details of this are available in Proceedings of the Foreign Department (PFD hereafter) (Internal), nos. 421–22, August 1905.
2 Proceedings of the Home Department (Archaeology and Epigraphy [AE hereafter]), no. 6, July 1905. 'Notes' section for Curzon's comments, dated 8 May 1905.
3 Proceedings of the Department of Revenue and Agriculture (PRAD hereafter) (AE-A), no. 28, January 1903.
4 PRAD (AE-A), no. 4, August 1900, letter from Burgess (marked confidential) to Secretary to the Government of India, dated 5 April 1900.
5 PRAD (AE-A), no. 3, December 1900, communication from Frank C. Lascelles, Her Britannic Majesty's Ambassador to Berlin, to Secretary of State for Foreign Affairs, dated 30 July 1900.

6 PFD (Internal – A), nos. 49–62, May 1906, 'Notes' section for Curzon's note, dated 18 April 1905.

7 Ibid.

8 Ibid.

9 PRAD (AE-A), no. 3, December 1903.

10 Southern States of Central India and Malwa Agency Records, no. 4/21/1903 (II), Curzon's note on Mandu.

11 This section on Bodh-Gaya is based on *Indian Archaeology* 1899–1905: 218–338.

12 PFD (Internal – B), nos. 378–9, May 1906.

References

AIR Manual. 1989. *The AIR Manual Unrepealed Central Acts*. Vol. 1. Nagpur: All India Reporter Limited.

Barua, B. M. 1934. *Gaya and Buddha Gaya*. Vols. I–IV. Calcutta: Indian Research Institute.

Cummings, J., ed. 1939. *Revealing India's Past*. London: The India Society.

Cunningham, A. 1892. *Mahabodhi or the Great Buddhist Temple under the Bodhi Tree at Buddha Gaya*. London (reprinted Varonasi: lndological Book House).

Gilmour, D. 1995. *Curzon*. London and Basingstoke: Papermac.

Gopal, S. 1965. *British Policy in India, 1885–1905*. Cambridge: Cambridge University Press.

Indian Archaeology. 1899–1905. Printed copy in the Curzon collection. lndia Office Records of the India Office Library, London.

Lahiri, N. 1997. John Marshall's appointment as Director-General of the Archaeological Survey of India: A survey of the paper pertaining to his appointment. *South Asian Studies* 13: 127–39.

Linstrum, D. 1995. The sacred past: Lord Curzon and the Indian monuments. *South Asian Studies* 11: 1–17.

Marshall, J. 1939. The story of the Archaeological Department in India. In J. Cummings (ed.), *Revealing India's Past*, pp. 1–13. London: The India Society.

Marshall, J., and A. Foucher. 1983. *The Monuments of Sanchi*. 3 vols. Delhi: Swati Publications. First published 1940.

Raleigh, T. 1906. *Lord Curzon in India. Being a selection from his speeches as Viceroy and Governor-General of India, 1898–1905*. 2 vols. London: Macmillan.

Rose, K. 1969. *Curzon: A Most Superior Person*. London: Weidenfeld & Nicholson.

Roy, S. 1961. *The Story of Indian Archaeology, 1784–1947*. New Delhi: Archaeological Survey of lndia.

Said, E. 1994. *Culture and Imperialism*. London: Vintage. First published 1993.

INTERNATIONAL MUSEUMS OFFICE

Manual on the Technique of Archaeological Excavations (1940)

An outcome of an international conference held in Cairo in 1937 was the production of a comprehensive manual on archaeological excavations by the International Museums Office. The Cairo conference followed on from the Athens conference of 1932, which produced the highly influential Treatise on the Conservation of Artistic and Historic Monuments. The manual covers different archaeological processes, including preliminary documentation, survey and assessment, working with different cultures, excavation, conservation of finds, and conservation and presentation of sites. The manual reflects the outlook of the times and offers a rather Eurocentric view, which can be seen in the excerpt from chapter 1 defining "important" archaeological sites. Similarly the section on the relationship between archaeologists and locals is one-dimensional, though it is nevertheless an example of early recognition of the importance of this relationship for long-term conservation. The manual is clear also on archaeologists' obligations with regard to sites and sets out principles to be observed in the enhancement of excavated buildings and the permanent layout of an archaeological site.

Introduction

[. . .] Professional excavators know very well that when they undertake excavation operations—which differ from biological or chemical research, for example, where experiments can be repeated, for biological and chemical materials are constantly renewed and always available—they are opening up tangible evidence, which, once it has been brought to light, layer by layer, will forever be lost for subsequent

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research in the conditions in which it was found at the time of the investigation. This observation is, in itself, sufficient to emphasise the very heavy responsibility devolving on the scholar who undertakes the task of extricating and examining this evidence. [. . .]

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[. . .] There is no need to dwell on the fact that the excavator will find it to his advantage to win and secure the confidence of the native populations, if he has not already been prompted to do so naturally from purely human motives. Previous knowledge of the customs and habits of the natives is therefore indispensable for the successful carrying through of operations and the excavator should make a point of initiating himself to these characteristics by consulting the records of explorers and ethnographers who have already worked in the region to be studied. [. . .]

This good understanding [between archaeologists and locals] will not only facilitate the material organisation of the operations and the recruiting of labour, and help to give the heads of the expedition the authority they require—results which are already appreciable—but, very often, the archaeologist will, in his dealings with the natives, also be able to glean extremely valuable information on the past history of the locality, on its traditions and customs, traces of which may be found in the objects brought to light in the course of his excavations and thus contribute to their interpretation.

And this is not all. An excavator is sometimes called upon to pursue his investigations in a region which is sacred to the native population and where excavation work might be regarded as a sacrilege. If he has taken the trouble to make the natives understand the aim and meaning of his work—very often a difficult task—he will be able to persuade them that his investigations are not sacrilegious but really constitute the respectful study of their history and of their own past. In this connection—for this is one of the most delicate problems with which the excavator will be faced—it is all a matter of tact, perspicacity and, above all, patience. But it is also on this point that the mission of the excavator reconciles the demands of science with his responsibilities as an educator. [. . .]

The significance of these relations between the excavator and the population indeed outweighs the interest attaching to the satisfactory development of the work undertaken by an expedition: they may be a determining factor in the subsequent preservation of the archaeological documents discovered. We here touch upon a new aspect of the excavator's mission, and by no means the least important, namely his educational mission in the enhancement of the vestiges of bygone civilisations. Besides the material precautions which he must take to ensure the preservation of such objects as cannot be removed from the site, he will have to satisfy himself that these objects will later be protected against willful damage and respected by the local inhabitants. In paving the way for this moral safeguard, the excavator must

use every possible means to bring home to the natives the value represented by these tokens of their past, which are entitled to the same reverent respect as their own beliefs and traditions.

This is a delicate and complex task, one that is sometimes difficult to reconcile with the scientific aims of the expedition, which involve to a certain extent the destruction or removal of these historic records. There is, however, one point on which the education of the public and the practice of archaeology coincide: the reconditioning of archaeological groups and the conservancy of excavation sites. Any measures which tend to give an explored site an intelligible appearance, a rationally organised aspect, help to make it a valuable document for science and a place where the public will be able to study the history of the culture of those who inhabited it in the past.

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The restoring of an excavation site to its original state with the idea of facilitating future investigations and also of guiding the public as to the meaning and intentions of the work already accomplished constitutes an international obligation to which all conscientious excavators will readily subscribe. But this "finishing touch" given to a site will fail to satisfy the requirements of subsequent investigations if during the whole of the operations the head of the expedition has not already borne constantly in mind the ultimate destination and future use of the area he has explored. The reconditioning of the site will also be largely facilitated if the excavator makes all necessary provision for this in the procedure which he adopts for his excavation work.

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Chapter I

Preliminary Documentation

The choice of a site for archaeological excavation is governed by several considerations and the sites chosen may be grouped under the following heads:

1. Famous cities and centres of civilisation of the past:
   (a) of which few remains survive above the surface, e.g. Antioch, Sparta, or Troy;
   (b) of which the ruins are extensive and, in part at least, well preserved; Persepolis, Mycenae, Bogazkoy, Ostia.
2. Cities of secondary importance:
   (a) which have been almost completely buried, more or less forgotten, and therefore well preserved and discovered by accident. Classic examples of this type are Pompeii, Herculaneum, Dura-Europos and Ugarit;

(b) of which the ruins are so well preserved that they afford a striking picture of the life of the past, e.g. Gerasa, Timgad and Leptis.

3. Prehistoric sites or mounds marking the positions of comparatively insignificant settlements of the Neolithic and Bronze Ages. The scientific excavation of such sites, especially in the Near East, has in a large part provided the material for the reconstruction of prehistory in that region. Typical sites are Alisar, Phylakopi (Melos) and Cucuteni.

1. Cities of the first class, to whichever sub-division they belong, are naturally extremely suitable sites for excavation. The more famous the city the greater the likelihood of recovering important historical and artistic monuments and of extending our knowledge of the past. In Egypt, such a site still unexcavated is Sais. The advantages—archaeological, historical, artistic and ethnological—of excavating such sites are so obvious that there is no need to emphasise them here. Practically all important cities have been identified by the discovery of inscriptions, by the recognition of some of their known monuments, or by the preservation of their fame on the spot.

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Chapter IV

Technical Methods of Excavation

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The essential principle of all exploration, and the fundamental rule for all excavators, is to examine everything of historic interest which is found in the zone of search from the surface of the ground to the deepest archaeological layers. Neither the search for and recovery of particular objects, nor the quest for and excavation of monuments of a specific epoch, nor even the excavation of important buildings of the classical era, should be carried out to the detriment of elements, or archaeological strata, of more modest appearance or of a more recent age. In fact, experience teaches us that the life of a building or city rarely stops suddenly; more commonly it flows on and becomes transformed through various epochs of civilisation. Further, the more precise judgment which we are in a position to form to-day of historic monuments of the post-classical epoch; the problems relating to architectural styles of the Palaeochristian and Byzantine age; the rarity and value of objects and burial grounds of the barbarian era; and finally the problem, which is so important and still obscure, of the passage from ancient civilisation to the medieval and modern era, imposes a less restricted criterium on the archaeologist, and one less exclusive in the execution of his programme of work. Thus, excavations in a Greek Temple should, under no circumstances, lead to the destruction of the remains of a Palaeochristian basilica, and according to the very wise resolution of

the Egyptian Department of Antiquities, the search for papyrus in the region of a *kôm*, or in the ruins of a Greco-Roman site in Egypt, must under no circumstances be the occasion of spoiling a whole archaeological area.

The excavator, to-day, should make it a rule to respect every trace of civilisations which he may find, with the utmost scrupulosity, especially when unavoidable circumstances compel him to touch the upper layers, either partially or wholly, in order to reach objects or buildings of greater historic or artistic interest. In such cases, which should always be considered as exceptional, especially when it is a question of veritable buildings superposed on older structures, complete graphic and photographic documentation should be considered as indispensable. But it is unwise to fall back on the only aesthetic criterium and to follow the rule, generally admitted in the past, which was to restore monuments of the classical age to their original appearance, by removing all additions and transformations of more recent origin. This method can be justified only when absolutely essential. It must be remembered, on the contrary, that frequently the clearing of an edifice, following principles which are too rigid, may take away from it not only a large part of its historic interest, but may deprive it of those very elements which would precisely render it intelligible to the world of savants and the general public. The following is an example, among many others: On the Acropolis of Cumae (Campagna) two temples were discovered, in 1912 and 1927, the one on the lower esplanade, the other on the upper esplanade of the Acropolis. Both bore traces, on the ancient Greek foundation, of important remains of successive changes of the Augustinian, post-Augustinian, and Palaeochristian eras. The excavations in the site of the temple on the lower esplanade, carried out in 1912, only left the structures of the Greek and Roman period. On the other hand, the excavations in 1927, concerned with the minor temple on the upper esplanade, respected the structures of the last conversion into a Christian basilica, in the Vth–VIth century. Now, these constitute the most exact and the most instructive document which we possess of the millenium of Cumae, during the dark period of the barbarian invasions; moreover, it is also one of the most precious remains of Palaeochristian architecture in the Campagna. Also, we see in this case, how the end in view, namely to bring to light a temple in one of the oldest Greek colonies in Italy, did not cause the traces which remained of Palaeochristian, Byzantine and medieval Cumae to be neglected and forgotten.

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Chapter X

Laying Out of Excavation Sites from the Standpoint of Research and the Education of the Public

The question of the organisation of an excavation site on the completion of the work of exploration is bound up with various other problems.

One of the most important questions is that of determining in what manner the objects discovered are to be arranged and deciding the positions to be allotted to them, so that the site explored may be presented intelligibly to visitors, without losing any of its scientific interest for archaeologists desiring to study it in detail. Its documentary value would indeed suffer if, for example, architectural features were insufficiently cleared of their surroundings or if characteristic data in the matter of sculptural work were not rendered perfectly visible.

It is true that the archaeologist can always consult the reports and plans published in connection with the investigations of an archaeological expedition. Further, the laying out of an excavation site, reconstruction and restoration work, upkeep of approaches, sign-posts and plans for the guidance of visitors [. . .] may result in a heavy charge on a field budget. The present, and legitimate, tendency of countries in whose territory particularly numerous excavation missions carry out their work, is to regard excavation not only as a contribution to science, but also as a duty to be fulfilled towards the public at large. This balance between the scientific and the educational aim of excavation, advocated at the Athens Conference of 1931, convened under the auspices of the International Museums Office, was, on the occasion of the Cairo Conference, once more recognised to be one of the guiding principles which should be observed by the responsible authorities as well as by the institutions that undertake excavations.

I. Arrangement of Antiquities on the Excavation Site.

The solution of the problem concerning the arrangement of antiquities on an excavation site depends on the nature of the excavation undertaken, that is whether the site contains a temple, a city building, urban dwellings, tombs, etc.; it will also depend on the state of preservation of the objects discovered, on their significance and the period they represent; lastly, consideration must be given to the distance between the site and a fair-sized town in the locality.

Consequently, it is difficult to apply indiscriminately to all these cases hard and fast rules which would, once and for all, govern the excavation and organisation of a site containing say a temple, a bouleuterion, an agora, etc.

It is, however, possible to formulate certain general rules, similar to those adopted by the Athens Conference for the specific case of anastylosis in respect of the monuments of the Acropolis: elements to be reconstituted or reinstated; choice of materials; role of casts; protection of certain architectural features against weather. Although, at that time, the principle of anastylosis was applied solely to the superstructure of buildings, it can profitably be taken up again here and extended to the field of architectural groups in general. [. . .]

With regard, first of all, to visible structures, all the heavier architectural features to be used in the reconstruction of a building, whenever anastylosis is possible, would have to remain on the site if their preservation is not likely to be

attended by grave risks of deterioration. In cases where anastylosis is impractical, the existing parts can be reinstated in their original positions (drums of columns set up on the existing bases, with what capitals remain; imposts; cornices on the existing architraves; lintels over doorways, porches, etc., etc.), in so far, of course, as these architectural fragments were found in their respective original positions when the excavation operations were begun.

The excavated monument will, in this way, retain at least some of its decorative aspect and the visitor will be able to form a more faithful and more complete idea of its general design.

If it is a matter of organising and reinstating fragments of urban dwellings or tombs, it will be necessary to measure the significance of these remains and to arrange them in accordance with the above observations wherever they can be followed.

Any architectural and sculptural elements which it is thought advisable to leave on the site must be repaired without deteriorating them, properly attended to and displayed in a manner that will ensure their preservation, in so far as this can be guaranteed on the spot. They should in all cases be numbered so that they can easily be identified in the excavation register when information is being sought regarding the place and circumstances in which they were found.[1]

Lastly, signposts and guide panels for the information of the public must be fixed at all important points of the excavation site, indicating the most interesting sections and the most convenient route to follow. General plans should also be provided, the spot at which the visitor consults them being marked conspicuously in colour. Certain appropriate signs may be adopted to indicate the spots at which particularly interesting discoveries were made. When the excavation work has been carried out at varying depths, it is advisable to provide, at the different spots, plans and sections showing the different levels excavated.

In this connection, particular care should be taken not to mar the general aspect of the site by unsightly notice-boards, etc.; all signs should be set as low as possible and sheltered from weather.

The possibility of rebuilding certain significant portions of a building or of its walls (at least up to the level of the highest part still standing of the building brought to light) raises a delicate problem.

Obviously, the replacing of a shaft or a drum on its proper base should be done whenever possible, for this will largely contribute to an understanding of the monument discovered. It may even be said that anastylosis, if only in part and however limited it may be, is essential for the education of the public.

But is it permissible to complete, by the use of some other material, architectural fragments found on the site? If so, to what extent should this be tolerated?

This question, which has a more direct bearing on the principles of conservation, was [. . .] very exhaustively discussed at the Athens Conference and it would be superfluous to return to it here.[2] It should be pointed out, however, that

anastylosis may be necessary not only for aesthetic and educative reasons, but also for the purpose of preservation,—when there is a deficiency in the method of construction and the materials employed, as is almost invariably the case in Byzantine monuments. In such cases, anastylosis must sometimes be carried through to almost total reconstruction. Nevertheless, in ancient buildings, durable material permits of anastylosis only as regards the parts that are more or less well preserved and which can be completed when it is a matter of consolidating other parts of the building by such means. For example, if there remains the base of a column, with a few drums, there is no reason why the column should not be completed if, by so doing, the epistyle above could be saved.

Notes

1 Ancient pits opened during excavations should be sealed before visitors are admitted to the site and the spots marked, with a notice to the effect that the shafts have been thoroughly explored.

2 It will generally be found of interest to refer to the *Treatise on the Conservation of Artistic and Historic Monuments*, already cited, Part III of which gives the principles that should be observed in the enhancement of excavated buildings and the permanent laying out of an archaeological site. Section III of the *General Conclusions of the Athens Conference* deals particularly with these problems.

Jukka Jokilehto

Conservation Concepts (2007)

Many of the archaeological sites that first received European attention are those that have an important architectural component and are often referred to as ruins or monuments. One important stream of modern archaeological site conservation is therefore inextricably bound up with ideas about the conservation of significant buildings or groups of buildings or their ruins or excavated remains. Although a very recent contribution to the discourse, Ashurst's edited volume, Conservation of Ruins, *provides an outstanding synthesis of the history and concepts that underpin these aspects of modern archaeological site management. Jokilehto's contribution to that volume, "Conservation Concepts," is a succinct yet comprehensive summary of the history of building (and ruins) conservation, from nineteenth-century ideas of stylistic restoration to modern conservation theory, together with discussion of an evolving international framework for conservation policies and approaches to authenticity and integrity.*

One is often faced with the significance given to words used to define the approaches to the conservation of the built heritage. One such pair of words is: principles vs. theory of conservation-restoration. We could see these two concepts as complementary. A principle can be defined as: 'origin; primary element; fundamental truth; a general fact by virtue of which an instrument operates'. Theory, instead, would describe: 'a mental scheme of something, or of the method of doing it; a system of ideas held as an explanation of phenomena accepted as accounting for the known facts' (*Oxford English Dictionary*). *Conservation principles* are generally brief statements summarised in various conservation charters and recommendations (such as those of UNESCO and ICOMOS). *Conservation theory* instead can

be seen as the description of the methodology that should be followed, starting with the identification of the heritage resource, the definition of its character, significance and condition, and the development of projects or programmes required for its appropriate conservation and eventual rehabilitation. This theory results from the evolution in the critical thought and experience in the conservation of different types of properties. While the main lines of the theory will be generally applicable, it is obvious that each property requires due attention, taking into account not only its individual character and condition, but also its physical and social-cultural context. In fact, in many cases, conservation of similar properties in differing circumstances may result in different solutions. It is therefore necessary to base any conservation approach on a coherent methodology, as described in the conservation theory.

Evolution of Modern Conservation Thought

Modern conservation thought and the consequent theory result from the various developments that took place especially in the eighteenth and nineteenth centuries. This was seen particularly in the identification of values, and consequently the significance of heritage to society. On the basis of this development, F. W. Nietzsche (1844–1900) concluded that the relativity of cultural values is fundamentally dependent on human beings as members of society. Nietzsche stated that the former concept of absolute and universal values imposed by religion had been replaced by values that were the product of human culture. Hence, his famous: *'Gott ist tot!'* (i.e. God is dead!). The concept of *'Der Übermensch'* was referred by him to man in his being in the new reality and with his new obligations defined by and for the will to power. In this context, man is expected to take full responsibility for his own being, and found this in generating values. Values, in fact, become a product of society. Therefore, also the identification of heritage and its safeguarding fundamentally depends on the awareness of values and significance.

The approaches to conservation have evolved over the past two centuries or so, and there have been different schools of thought:

- All through this period the *traditional approach* to existing building stock continued, involving repairs, changes as well as demolition, depending on the emerging requirements and the needs of the users. It also meant continuity in the use of traditional techniques and materials, rather than introducing modern industrial methods. However, with time, this approach has been increasingly 'corrupted' due to the impact of increasing 'globalisation' in society.
- From the end of the eighteenth century, there developed two lines of thought, both based on emerging heritage values but looking at the issues from different angles. One of these was the so-called *stylistic restoration* (i.e. restora-

tion of stylistic integrity), later introducing a line called *historic restoration* (i.e. restoration based on historically certified evidence).

- The second line of thought emerged as a protest movement, an 'anti-scrape' approach, which then evolved into the modern *conservation movement*, based on the recognition of the irreversibility of time, and the specificity of human activity subject to cultural values and social-economic context.

- From the 1880s, there emerged a third line of thought, taking note of the previous, and suggesting a compromise. This so-called *philological restoration* compared an ancient monument or historic structure to a manuscript. Modern restoration should respect the text inherited from the past, and any additions should be clearly readable. In the 1920s, this approach evolved into the so-called *scientific restoration*, which emphasised the importance of scientific methods in restoration. With time, this approach tended to eliminate the cultural issue, stressing material evidence complemented with archival research. This approach has also stressed the pragmatic adherence to principles.

- Over the early decades of the twentieth century, there matured an approach that was spelled out in the aftermath of the Second World War. This approach could be called the *modern conservation theory* (or 'modern restoration theory'), which recognised the specificity of each heritage object, introducing a critical methodology based on sound judgement regarding its character and significance.

- Since the 1970s, there has been yet another line of thought and action, this time related to the social and natural environments. On the one hand, this has emphasised the ecological aspects in any exploitation or change in the natural environment. On the other hand, the approach has broadened the concept of cultural heritage to the built environment, also taking into account the human and social context. This has introduced the *'culturally and environmentally sustainable development'*, which has become a major concern in the worldwide context today.

From Stylistic Restoration to Modern Conservation Theory

In the nineteenth century, one of the leading figures in the development of 'restoration' principles was the French architect E. Viollet-le-Duc. His definition of restoration was the following:

> The term Restoration and the thing itself are both modern. To restore is not to preserve it, to repair, or to rebuild it; it is to reinstate it in a condition of completeness which may never have existed at any given time.

While his numerous followers and disciples have often caused more destruction than conservation, one of Viollet-le-Duc's merits should be seen in his attention

to the development of restoration methodology. To him, restoration was a form of archaeology as well as being 'pure science'. Even though sometimes carried away on hypotheses, in most cases he correctly documented and recorded the structures before any restoration, analysing all available evidence. In the case of Carcassonne, he carried out a long archaeological analysis of the ruined fortification, before any work. His restoration of the defence walls was limited to completing the upper parts—previously dismantled by the people—and his intervention remains clearly readable with respect to previous construction phases.

In many cases, however, emphasis on stylistic unity led to complete reconstruction, which became a fashion in many countries of Europe and even outside. There thus developed a counterpoint, the 'conservation movement', which has generally been identified in the figure of John Ruskin, but which also had other protagonists in various countries. Ruskin emphasised life in historic buildings, claiming that 'Restoration' (i.e. actually reconstruction) would definitively abolish the spirit of time:

> That which I have above insisted upon as the life of the whole, that spirit which is given only by the hand and eye of the workman, can never be recalled. Another spirit may be given another time, and it is then a new building . . . (Ruskin, *The Seven Lamps of Architecture*, 1849, vi: xviii)

His disciple, the socialist and arts and craftsman, William Morris, took Ruskin's message and stated words that have since become the trademark of the Society for the Protection of Ancient Buildings (SPAB) that he founded:

> . . . to put Protection in the place of Restoration, to stave off decay by daily care, to prop a perilous wall or mend a leaky roof by such means as are obviously meant for support or covering, and show no pretence of other art, and otherwise to resist all tampering with either the fabric or ornament of the building as it stands; if it has become inconvenient for its present use, to raise another building rather than alter the old one; in fine to treat our ancient buildings as monuments of a bygone art, created by bygone manners, that modern art cannot meddle with without destroying. (Morris, 1877)

These ideas were clearly reflected in the intentions of Camillo Boito (1836–1914) when be wrote a circular letter (in 1883) on behalf of the Italian Ministry addressed to the officers responsible for ancient monuments. He expressed the principle:

> Historic buildings should be consolidated rather than repaired, repaired rather than restored, taking great pains to avoid any additions or renovations.

He also demanded:

> Modern work and new materials to be kept to the minimum and to differ from
> the historic, in harmony with artistic appearance . . . contributions of all to be
> respected; exception can be made and parts removed if these are manifestly of
> minor importance compared to forms that they cover.

These principles became the first Italian charter on restoration, and many of the
ideas were later integrated in another charter, written by Gustavo Giovannoni
(1873–1947) after the international meeting in Athens in 1931 (published in 1932).
Giovannoni emphasised the scientific character of restoration work, and main-
tained that historic phases should not be eliminated or falsified by additions that
might mislead scholars. He stressed the importance of regular maintenance and
appropriate use. The monuments should be kept in situ, and any alterations should
be kept to the minimum, simple in form, and carefully documented. He also intro-
duced training in restoration at the school of architecture, which was established
in the 1920s.

The question of values had already been analysed by Alois Riegl, the chief con-
servator in the Austro-Hungarian Empire, in a study in 1903, where he distinguished
between a *memorial* (*Gewollte Denkmal*) vs. *historic building* (*Ungewollte Denk-
mal*), one being built in order to remind people about something, the other instead
being associated with historic values later on in its 'life'. Riegl identified two catego-
ries of values: *memorial values* (age value, historic value, intended memorial value)
and *present-day values* (use value, art value, newness value, relative art value). Riegl
also coined the concept of *Kunstwollen*, which means that each period or each cul-
ture has its particular conditions, within which artistic production achieves its char-
acter. In this context, there is mutual influence between an artist and his society.

Riegl's thinking was well received in Italy, where his thought was continued,
for example, by G. C. Argan (1909–94), who dealt especially with works of art, and
introduced the concepts of 'conservative restoration' and 'artistic restoration'. In
conservative restoration, priority would be given to consolidation of the material
of the work of art and prevention of decay. The emphasis would be on maintaining
the status quo of the object. In artistic restoration, instead, a series of operations
would be undertaken, based on the historical-critical evaluation of the work of art.
The aim in this case would be to re-establish the aesthetic qualities of the disturbed
object. This could involve reintegration of losses (*lacunae*) and even the removal of
parts that were not considered essential from the historic or artistic point of view.
Obviously such interventions needed to be founded in critical judgement based
on the quality and significance of the work concerned. In this regard, priority was
often given to aesthetic demands of the work, but on the other hand each work had
to be taken case by case.

Cesare Brandi, the first director of the Italian Central Institute of Restora-
tion (Rome, 1938), wrote the fundamental text clarifying the modern theory of

restoration (*Teoria del restauro*, 1963). He distinguished between the restoration of 'common, industrial products' (where the purpose was to put them back into use) and works of art. The restoration of the latter he defines as a methodology that depends chiefly on aesthetic and historic values:

> Restoration consists of the methodological moment of the recognition of the work of art, in its physical consistency and in its twofold aesthetic and historical polarity, in view of its transmission to the future.

The theory of Brandi emphasises restoration as methodology, based on a critical judgement. Brandi maintained that a ruined structure should be understood as a fragment of architecture. In line with Ruskin, Brandi also stressed the limits of any reintegration. He was against the so-called 'archaeological restoration', which would be simply based on some principles. Instead, he stressed the requirement of a thorough analysis and identification of the meaning of each element within the whole—just as in any other historic structure.

International Framework for Conservation Policies

From the period following the Second World War, there has been increasing international collaboration in the protection and conservation of cultural and natural heritage. A milestone in this regard was the World Heritage Convention of UNESCO in 1972, which has since involved most countries of the world in the process of clarifying culturally and environmentally sustainable conservation policies and strategies. The World Heritage List, while being strictly limited to sites considered of outstanding universal value, has become a model which is having an increasing impact also in the rest of heritage. One of the most interesting features of this convention has in fact been the interaction between culture and nature, a parallel that may well benefit both in the long run. The convention encourages the development of effective and active measures to be taken for the protection, conservation and presentation of heritage integrated in the life of the community. It has also promoted debate on various fundamental issues in conservation, such as the concepts of authenticity and integrity, and, even more fundamentally, the convention has promoted the exploration of new types of heritage that risk being neglected and destroyed. As a result, the World Heritage List with its over 700 entries is gradually being enriched with an increasing variety of items, ranging from traditional rice fields to sacred mountains, or from historic railways to canal systems and pilgrimage routes. There is an increasing tendency to identify larger areas such as historic towns or cultural landscapes rather than single structures and monuments, which obviously will increase the variety of stakeholders responsible for their conservation and development.

In this international context, it will be increasingly important to identify the values and methods of intervention. In terms of values, we can see two basic categories:

- *Cultural values*. Identity value and emotive value based on recognition; relative artistic and relative technical values based on evidence and research; and rarity value, which is more of an administrative nature, and based on statistics.
- *Contemporary socio-economic values*. Economic value based on heritage as resource; functional value and usefulness of the property; educational value, tourism, social value, awareness, and the political value that often depends on the priorities of the ruling regime.

The ICOMOS Training Guidelines of 1993 emphasise that conservation works should only be entrusted to persons competent in these specialist activities. In fact, education and training in the conservation and restoration of the built heritage has become a recognised activity in society. According to the 1993 guidelines, such training should produce, from a range of professionals, conservationists who are able to cope with a great variety of tasks, such as 'reading, understanding and interpreting' historic structures and areas. Particular attention is given to communication between specialists and non-specialists, considering that the different sectors of society would be required to have informed participation in the conservation process. Conservationists should be able to make balanced judgements based on shared ethical principles, accepting responsibility for the long-term welfare of the heritage.

The same ICOMOS Training Guidelines define 'conservation' as follows:

> The object of conservation is to prolong the life of cultural heritage and, if possible, to clarify the artistic and historical messages therein without the loss of authenticity and meaning. Conservation is a cultural, artistic, technical and craft activity based on humanistic and scientific studies and systematic research. Conservation must respect the cultural context. (Par. 3)

As mentioned above conservation is a process consisting of the identification, understanding, interpretation and presentation of heritage. It will necessarily include several phases:

- *Survey* (inspection and documentation of heritage, its historical setting, physical and cultural environment).
- *Definition* (a critical-historical definition and assessment of the significance of the heritage resource within its setting and regarding relevant cultural, social and economic considerations).
- *Analysis* (examination of the resource using scientific methods, the diagnosis of its physical consistency, material, structure, risks, vulnerability and spiritual significance).

- *Strategy and implementation* (short-term and long-term plans and pro-
  grammes for the conservation and management of change; monitoring, regu-
  lar inspections, cyclic maintenance and environmental control).

A necessary tool to acquire knowledge of cultural heritage in all the necessary
aspects is provided by recording. Recording is an essential part of the conservation
process, in order to get to know the place concerned and its physical condition,
and subsequently to monitor any changes occurring over time. It is necessary for
the management of a heritage site, programming maintenance and timely repair, as
well as any time a new restoration or rehabilitation project is launched. Recording
should be understood in the broad sense so as to meet all the requirements, from
the inventory to research and site projects. It will thus include inspections, reports
and graphic records, as well as scientific data on the condition and behaviour of
the building within its social, cultural and environmental context. It is obvious that
records should be properly deposited in safe places, possibly with a second copy in
another location, and made available for relevant consultation and research regard-
ing the site. Results should also be published (see: ICOMOS, *Principles for the
Recording of Monuments, Groups of Buildings and Sites*, 1996). The survey phase
is fundamental for the identification of the resource and its significance, and vital
for the definition of what should be preserved and what are the limits of change. It
includes detailed inspections and reports, and the relevant graphic documentation
and scientific analyses. The task is to define the structural system, the historical
phases of construction and change, the condition of the building and the causes
of decay.

The Test of Authenticity

Sites that are inscribed on the World Heritage Lists are expected to pass the 'test of
authenticity' in relation to design, material, workmanship or setting. This demand
is not only relevant to the moment of nomination, but remains always valid in the
process of conservation and eventual change. Authenticity means that an historic
building should be seen as a true testimony of the culture or traditions that it rep-
resents. The Nara conference of 1994 indicated that while the word 'authentic' was
not necessarily used in all languages, it was possible to find corresponding words
to express the intent. The *Nara Document on Authenticity* has further emphasised
that 'the diversity of cultures and heritage in our world is an irreplaceable source
of spiritual and intellectual richness for all humankind' (par. 5). Living cultures
are subject to a continuous and dynamic process of change; the values and mean-
ings that each culture produces need to be re-appropriated by each generation
in order to become a tradition that can be handed over to the next. As a result of
such cultural process, each moment on an historic timeline is characterised by its
specificity, reflected in all that is conceived and built. Authenticity is expressed in

the tangible and intangible aspects of a building, including historic changes and additions.

The Venice Charter invites us to safeguard historic structures 'no less as works of art than as historical evidence' (Art. 3). In relation to the *artistic aspect*, it would refer to the building as a genuine result of the human creative process. This can be verified in the quality of design and execution, but requires critical comparison with similar works of the same culture. Authenticity in this sense is at the root of the definition of the outstanding universal value. Another aspect of authenticity refers to the historic structure in its quality as *historic document*. Due attention is required to safeguard not only the quality and aesthetics of the surface, but also the material and structure, which document the workmanship and different phases of construction in the past.

The Venice Charter notes that the concept of monument 'applies not only to great works of art but also to more modest works of the past which have acquired cultural significance with the passing of time' (Art. 1).

Even if we may be able to build a replica of something that has been lost, the cultural meaning of the new work is different from the old. The Venice Charter therefore recommends that any indispensable new work should be 'distinct from the architectural composition and must bear a contemporary stamp' (Art. 9).

Condition of Integrity

The condition of integrity in relation to cultural sites should be understood in the relevant historic context describing the state that a particular place has acquired by the present time. Integrity can be referred to visual, structural and functional aspects of a place. It is particularly relevant in relation to cultural landscapes and historic areas, but even a ruin can have its historic integrity in its present state and its setting.

The *visual integrity* of a building or an area indicates what is visually relevant to its historically evolved condition in relation to its context. The identification of the visual integrity of an historic building should take into consideration not only its architectural character but also the impact of historic time. Building materials such as stone, brick and timber obtain patina of age as a result of the ageing process and weathering. Replacement, reintegration and other types of treatments of such surfaces require a sensitive eye and an undemanding mind in order not to lose the historically established visual integrity of the place:

> Replacements of missing parts must integrate harmoniously with the whole, but at the same time must be distinguishable from the original so that restoration does not falsify the artistic or historic evidence. (Venice Charter, Art. 12)

The *structural integrity* refers to the mutual relationship that links the different elements of an historic structure or area. Any change to such balance should be

carefully thought out, and based on a sound judgement of the values and priorities in each case. In an historic building, the question of structural integrity is particularly relevant when discussing consolidation and reinforcement. Nature is a laboratory that tends to reveal the faults and weaknesses of human constructions. It is therefore important to give due consideration to structural integrity, particularly in areas subject to seismic action. Experience has shown most traditional structures in seismic areas can resist earthquakes if in a good state of repair. Failure generally results from poor condition due to lack of proper maintenance. Even modern reinforcement in an historic building may turn out to be destructive if not carried out with full understanding of the behaviour of the existing structure. This leads us to stress the importance of follow-up and monitoring in order to learn from experience and improve for the future. This is also one of the reasons for 'reversibility'; one should be able to repeat a treatment when necessary.

Architecture is conceived in reference to a functional scheme, the basis for *social-functional integrity*. Altering the function of or introducing new uses to historic buildings and areas may often cause conflicts. It is necessary, therefore, to establish limits on the modifications that such function might cause, and recognise the character of an historic building as the basis for rehabilitation. The notion of functional integrity is particularly relevant in relation to large sites and landscapes, where traditional functions may be challenged by the introduction of modern technology and new priorities. It is useful for an appropriate balance in the policies of development and conservation, with due regard to the character of traditional uses. Even museum use is a new function in an historic building, and often imposes radical changes, e.g. for requirements of safety and security.

The concept of integrity is relevant in relation to ruins or architectural remains. Archaeological sites are often inside the urban area of a city or in its immediate vicinity. Such areas are a major concern. For example, in Jerash, the lack of liaison between archaeological site managers and the community has resulted in an uncontrolled expansion of residential areas around the archaeological site. This has been the main reason why the site was deferred from being nominated to the World Heritage List of UNESCO. Sites whose existence has been revealed through urban archaeology in the middle of an already existing living city, such as Beirut, have been subject to major campaigns, but unfortunately too often with scarce results. The conflicts of public and private interests in the management and change of the territory are generally linked with high economic interests, where historic values may well be given much less attention than the construction of business centres. In suburban areas, the historic integrity of archaeological sites is subject to high risks due to frequent conflicts with the interests of developers on privately owned land.

Conservation of cultural heritage is increasingly seen in the context of parallel approaches that have emerged in the past decades, including the policy of human sustainable development as a complement to development based on eco-

nomic factors. In fact, progress should take into account cultural, social, economic and functional resources and values, striking a balance in order to identify the most appropriate approach. Sustainable society should be based on a long-term vision and it should ensure continuity of renewal processes within the scope of social justice. The built and cultural heritage resources are a great potential, offering new alternatives and new strategies for the future. The preparation and setting up of appropriate strategies need to start from appropriate knowledge and understanding of the history and the resource potentials of an area, aiming at a balanced integration of all relevant issues within the planning process.

Gionata Rizzi

Preface to *Conservation of Ruins* (2007)

Gionata Rizzi's preface to Ashurst's edited volume, Conservation of Ruins, *is a scene-setting poetic discussion of ruins, especially the development of ideas about them, their various values, and the extent to which they may be legitimately altered, a point discussed in more detail by Nicholas Stanley Price in reading 52.*

> Rocks impregnable are not so stout, nor
> Gates of steel so strong, but time decays
> (Shakespeare, Sonnet 65)

Ruins: buried cities brought to light by archaeologists in every part of the world; sacred temples dedicated to divinities that we have ceased to worship; towers, forts, strongholds, military defences made useless by the unremitting development of new weapons; industrial plants and factories no longer compatible with modern techniques of production and abandoned like the carcasses of huge old-fashioned cars; buildings that have been gnawed, mutilated and reduced to a state that bears no relation to their original purpose; buildings that have sometimes deteriorated to a point where their original form can hardly be recognized; buildings that only survive in the form of isolated fragments.

Ruins are everywhere. They form a considerable part of our architectural heritage and, actually, even of the World Heritage List: they are preserved as ruins, maintained as ruins and visited by a growing number of people who, in ruins, see values, significance and meaning—in spite of their condition.

In spite of their condition or *because* of their condition? Henry James[1] puts it clearly: 'It has often seemed to me . . . that the purest enjoyment of architecture

was to be had among the ruins of great buildings'. True, although the enjoyment he describes is probably not only architectural: the interest in archaeological ruins and the taste for architectural fragments go far beyond the historical and artistic importance the remains of a given building may have; as the ephemeral traces of the human activity on earth, ruins are actually among the most evocative icons of times past.

Indeed, the 'enjoyment of ruins' seems to thrive in contemporary sensitivity nourished, as it is, by many aspects of our mentality; the aesthetic pleasure in the patina of time, the romantic sensitivity for the work of man reconquered by nature, the positivist interest in architecture denuded of ornament and observable in its bare 'anatomy', the taste for the part wrenched from its context, for the unity turned into pieces, for the isolated fragment.

As a matter of fact, this fascination of contemporary culture for ruins appears to have its roots in at least two centuries of history of ideas. A crucial moment for the development of such sensitivity is perhaps to be seen in the great excitement that seized Europe when Winckelmann, before being murdered in 1769, began to reveal to Northern Europe the extraordinary discoveries of Pompeii and Herculaneum. It is difficult to imagine a historical moment when European culture could have reacted with greater interest to the discovery of a buried city; eighteenth century sensibility was by then ready to become excited at the romantic notion of the ruin, while neoclassical antiquarian taste was anxious to find in archaeological remains new material for its aesthetic. From the end of the eighteenth century, and for a period that was to last many years, an avalanche of writers, thinkers and artists descended upon Pompeii and Herculaneum; Goethe visited the excavations in 1787, Stendhal in 1817 ('The strangest thing I have seen on my journey . . . one feels transported into antiquity . . .'); and subsequently Chateaubriand, Taine and Gautier. Thus, in a few decades, the aesthetics of the *bella nana*, the literary sensibility for the 'pleasing decay', the poetry of ruins, received a strong impulse that would have a profound effect on the history of taste.

Ruins, however, do not only attract for romantic reasons. Actually, at the very same time as the romantic emotion primed by the discovery of Herculaneum, a completely different attitude inspired the scholars who saw in the archaeological excavation a chance to study classical antiquity *in the field*; remains to be observed, buildings to be measured, objects to be catalogued just as naturalists were doing, in those years, with the flora and fauna of tropical forests. Since then, endless drawings of ruins, in Europe, in Africa, in the Middle East, have been produced with the evident desire for scientific precision; drawings made in the same style as a treatise on anatomy—clear, precise, perfectly rendered in watercolours—where the interest in architecture is clearly higher than the pictorial taste for wear and tear.

These were the type of drawings that young French architects studying in Rome at the Villa Medici were asked to make as part of their training, and it is on

that basis that they had to draw the hypothetical reconstruction of the buildings in their original state, in its *pristine form*: this work of *restitution*, this backward itinerary from the fragment to the whole, was to have a fundamental effect on the study of ancient architecture, a starting point and a testing bench for archaeological restoration, still in its infancy.

What in fact these scholars did was to use archaeological remains as 'anatomical specimens' of architecture.

Architecture, at least until the advent of the Modern Movement, never shows how it is built. There are certainly periods where the gap between the load-bearing structure and the architectural form is very thin, but even in the case of gothic cathedrals, where the gap is reduced to a minimum, the structural core is well hidden beneath layers of plaster and paint. Indeed, most of western architecture from the Renaissance to the nineteenth century is characterised by a kind of representation of the structural form: columns, pilasters, capitals, cornices and entablatures—all the elements of classical vocabulary—refer directly to the tectonics of a building and to its structural articulation; generally, however, these elements have nothing to do with what makes the building stand up. The Romans were maybe the first to 'hide', behind a decorative apparatus of stucco and marble, an independent structure made of concrete: since then, for much of the architecture that we admire, we can only attempt to guess at its anatomy.

Ruins are fascinating even for this: they reveal how they were built. Once the cloak of the finishes has been removed, ruins unmask their entrails: the materials of which they are built, the structural principles that determined their design and the techniques that made their construction possible. It is perhaps no accident that the architects of the Renaissance spent their time drawing ruins: while their notes and drawings seem to focus on proportion and mathematical ratios, one can bet they were paying great attention to building technique and that from the close observation of ruins they learned many lessons about the ancient structures.

But what is, in fact, a ruin? An art historian, an archaeologist and an architect would probably answer in different ways, depending on the specific work that each specialist is required to carry out and on the cultural, technical and scientific approach of each discipline; a case study for a given period of history of architecture, an opportunity to analyse the relationship between the standing building and the stratigraphy of its surroundings, a challenge for consolidation and conservation. If, however, one wanted to conform to the evidence and formulate a definition that would be suitable for a dictionary, it would be tempting to answer 'a ruin is a building which, having lost substantial parts of its architectural form, has ceased to function as such'. Elementary, but full of implications: a building that has lost its natural defences (roof, windows, plaster, etc.), unarmed against the ravages of atmospheric agents and consequently more vulnerable to the destructive effects of time; a building that has stopped to fulfil its functions, to shelter human activities

and which, in a sense, has begun its journey towards progressive decline and final disappearance—here, between architecture and nature, in a sort of no man's land, lies the ruin.

An entire book would not be enough to describe how ruins are created. There are different reasons underlying the formation of a ruin and different causes that trigger off the process. The medieval ruins scattered through the English country-side (Fountains, Rievaulx, Byland, etc.; they seem created on purpose to explain the term '*picturesque*') originated when, after the dissolution, the lead of the roofs was ripped off to be reused elsewhere; and, by the time conservation was taking its first conscious steps, they had already become celebrated landmarks.

In other cases, natural phenomena of extreme violence have condemned entire cities: Jerash, one of the most extraordinary urban structures of the Roman empire, with its famous circular forum, was shaken by an earthquake of such intensity that it never managed to recover and was abandoned soon afterwards. Ephesus, like many other cities in antiquity, was condemned by the silting up of rivers and ports, a less spectacular cause, but just as inexorable.

Added to these is the destruction caused by man during wartime, either in the course of military operations designed to destroy strategic objectives or with the deliberate aim of striking at the enemy through the mutilation of its cultural heritage. In general, these types of ruins are quickly repaired in the attempt to heal the injuries of a war: the bridge of Mostar, after its single arch of stone was shelled and reduced to just two macabre stumps, has been entirely reconstructed; sometimes, however, a monument hit by a bomb is voluntarily turned into a ruin and, as with Coventry cathedral, becomes a memorial.

Experience shows that a piece of architecture, left to itself, does not take long to begin its journey towards wear and tear; a few decades is all that is necessary for a leak to open up in a roof; a century of abandonment is enough to cause the initial collapse of the walls in a castle or to transform a monastery into an impenetrable tangle of brambles and rubble. After this it is simply a question of time before, as an eighteenth century writer[2] put it, 'nature takes its revenge and, through the assaults of vegetation, reconquers what man has built'. But the way a ruin is formed—whether, little by little, it gradually silts up and is brought to light after centuries as a disinterred burial or, still above ground, is reduced to a bleached skeleton by the sun and rain—has a great influence on how it is perceived, used and eventually conserved. Ruins that—thanks to their size and to the quality of their materials—never disappeared underground often became part of modern urban fabric. Either reused for new purposes or treated as quarries of building materials, these structures keep a function and mix with the architecture of the living city: the stones of the roman amphitheatre of Milan, dismantled in the sixth century, were used to build the foundation of the nearby church of San Lorenzo; in Lucca the amphitheatre lent its radial walls to the houses that grew on the tiers while the arena dissolved into the piazza; medieval Rome turned into

houses the arches of the Teatro di Marcello; in Tarragona (Spain) the vaults of the hippodrome form part of the medieval city wall; Diocletian's palace has become the historic centre of Split; and so on, with endless examples.

Other ruins, instead, emerge from the archaeological digs after centuries of oblivion; when they are excavated they may risk to suffer the same fate as those Egyptian mummies which, brought to light after thousands of years, disintegrate in front of the eyes of the discoverers. But they are immediately recognized as monuments, treated as cultural objects, studied and conserved with due consideration for the historic, artistic and documentary value they bear.

An interesting case, in this respect, is represented by Pompeii and Herculaneum which, although considered almost a prototype of the archaeological remains, are actually an exception, for they have ceased to be buildings but, in a way, have never become ruins. As everyone knows, they were buried overnight during the eruption of the *Vesuvio*, Pompeii by showers of *lapilli* and Herculaneum by a river of boiling mud which filled every hollow space. What makes these sites special is that the wave of liquid sludge, an amalgam of water and volcanic ash, solidified as tuff and protected the buildings—with their finishes and their content—for centuries. As a result, the remains that archaeologists brought to light, especially in Herculaneum, are like fossils as they appear when one breaks open the stone that conceals them; pieces of architecture that emerged from the tuff like the imprisoned forms that Michelangelo imagined to liberate, stroke after stroke, from a marble block.

Is it good to restore a ruin? The question is less rhetorical than it might seem at first sight. The fact that a ruin cannot be *restored*, in the sense of *taken back to its original state*, is obvious. To start with, there is a philological problem: with the exception of monuments built of large blocks of stone, which can be re-erected with great precision like a gigantic three-dimensional jigsaw puzzle, *the original state* is usually unknown. One can obviously make hypotheses on the grounds of solid archaeological evidence and careful stylistic comparisons, but they are hypotheses nonetheless. To reconstruct what has been lost based on these arguments may lead to the 'invention' of a monument that has never existed. And even when it was possible to determine with absolute certainty the original state of the building, the lack of original finishes, of original details, of original colours would give the reconstruction an artificial and unreal appearance. This is what has happened at Babylon, where the reconstructed portions resemble a film set more than a real ruin of a real city.

In reality, the problem is not solely the correspondence to the original form: even when philologically correct, the reconstruction of something that no longer exists is, to a certain extent, a fake. Or, if we want to stay away from any theoretical consideration, the more it loses its authenticity; the more its evocative power is diluted, the more its archaeological truth is blurred.

Authenticity and archaeological truth: they appear to be among the most intrinsic values of ruins, but are the ruins we see really authentic? Not always. What one often fails to realise is that sites like Ephesus, the Parthenon or Pompeii have been restored for hundreds of years and have by now a long history as *historic monuments*. In that period of time, frescoes have been detached from the walls, stones have been replaced, columns have been re-erected, walls reconstructed. In Ephesus, more than a century of restoration work by the Austrian Archaeological Institute has shaped the excavated remains into the present site; the Parthenon is almost unrecognisable in the photos taken before the work of Balanos; in Herculaneum, 200 years of restoration have gradually transformed the ancient fabric into a mixture of authentic and reconstructed, where modern additions merge inexorably with the original buildings (a recent study demonstrates that nearly 50 per cent of what we see today was built between 1930 and 1950).

In fact, in an attempt to preserve them as *found*, to present them as ruins, many remains have been reshaped and retouched several times. Odd as it may sound, more ruins than we suspect are made-up ruins.

If it is impossible to restore a ruin to its original shape; if, on the other hand, the romantic idea so well described by Gilpin—'it's time alone which meliorates the ruin, which gives it the perfect beauty'—cannot be put into practice for it leads to a growing and continuing process of deterioration; if authenticity is so easily lost by the attempt to restore the elements that made the building stable in an open environment; then we can only try to protect it against further decay and preserve it as it is. But this is precisely where the contradictions and ambiguities begin. In order to preserve a broken artefact *as it is*, one needs to provide it with new defences that never belonged to it and never existed; thus, to prevent an archaeological remain from disintegrating completely, one may have to put up shelters, to build buttresses, to reinstate a bit of masonry, to construct some sort of capping at the top of the walls; in other words, one has to make all those alterations, more or less visible, that can guarantee the survival of a ruin. Indeed, Viollet-le-Duc's much-criticised definition, according to which restoration would consist of turning a monument into a state in which it may have never existed, seems to be the fate which ruins are unable to avoid: a conserved ruin is always, in a way, an artifice.

We have reached the core of the problem: up to which point—it is the question that torments the practitioners who deal with ruins—is it legitimate to alter the original in order to preserve it? And to what extent must restoration work be visible and distinct from the original? Should the restored parts merge with the rest and become unrecognisable or should they strike the eye of the observer? And lastly, should the consolidated parts be made using ancient materials and techniques or with modern ones?

All these questions arise from the awareness that much of the value of ruins lies in the sense of transience they emanate. This is perhaps the main point of

ambiguity: we want to preserve a ruin without obliterating the offences of time, we want to slow down decay to enjoy for longer their presence; what we actually want to do is to keep them suspended 'in the middle of the ford', no longer architecture and not yet nature. Maybe our real attempts when we work on these fragile fragments is to take them away from their temporal dimension: not without reason has the conservation of ruins been defined as a *respectful kidnapping*.

It is clear by now that conserving a ruin is a cultural activity. It is a cultural activity because it has to do with cultural objects and because it has to do with our sense of the time past. All cultural activity is controversial and as in all cultural activities there are no ready-made recipes. Trying to define what is a 'proper restoration' is probably vain: there is no such intervention that satisfies all the criteria of an abstract idea of 'conservation correctness', that is irreproachable both from a theoretical and a technical point of view: each site has a different story, each case calls for a specific approach. And, what is more, the same ruin can be treated in different ways.

Once again, Herculaneum is a telling example: the presence, along with masonry structures, of wall paintings, mosaics and stucco creates a problem that leads to a painful dilemma—is it better to put the entire archaeological area under a modern shelter, turning the site into a museum and losing for ever its outstanding urban value, or to detach and display elsewhere the decorative apparatus that cannot survive unprotected, denying the special quality that Herculaneum possesses and losing at once what the eruption miraculously preserved? Probably a less dramatic alternative can be found, but one which requires following the slippery path between excessive reconstruction and insufficient protection, which involves reconstructing more than is desirable and verging on falsification.

Even anastylosis, which one would think to be the least critical degree of intervention, raises many problems and much controversy. Apart from the correct interpretation of archaeological evidence, one can actually argue on the phase and the extent to which a monument should be restored if not on the worth of remounting scattered elements that lay for centuries on the ground. In addition to this, one can debate about the due level of respect of the original static behaviour of buildings and, in seismic areas, about the earthquake response the re-erected structure must have. An interesting case, to give but one example of the inherent uncertainties of anastylosis, is the Propylaeum of the temple of Artemis in Jerash. More than 90 per cent of the original pieces of the monumental entrance had survived and their position could be determined with accuracy; a more careful analysis, however, indicates that the entablature had been taken down in Roman times and that the pediment was possibly never positioned. Should one envisage to reconstruct what has never collapsed but was deliberately dismantled?

Indeed, in conserving a ruin, it is impossible to be neutral. Experience teaches that, no matter how cautiously the work is designed, a conserved ruin always bears the traces of the intervention carried out. So different is, for instance,

the way to treat a ruin from country to country that, by looking at it, one can almost guess the nationality of the architects who did the work.

But if one cannot be neutral—as a musician cannot be neutral, though fully respectful of the score—one can at least try to be elegant and effective, To do so we need the best acquaintance with all the possible techniques of repair and stabilisation developed in years of activity all over the world. After that, we have to rely on a profound knowledge of the architectural body we set to conserve: of its form, of its history, of the history of past intervention; on a perfect insight of its structural behaviour, on a solid understanding of the materials it is built of and on a deep comprehension of the mechanisms of decay.

Only this 'close encounter' with the remains to be conserved can hopefully be of assistance in defining the most appropriate conservation strategy and to guide the battle against the silent work of time with the technical and intellectual elegance ruins deserve.

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References

1 *English Hours*, Elibron Classics, 2005.
2 Ercole Silva, *Dell'arte dei giardini Inglesi*. Milan, 1801.

Charles R. McGimsey III

Statement . . . before the [House] Subcommittee on National Parks and Recreation of the Committee on Interior and Insular Affairs (1973)

The first conservation priority for archaeologists in the twentieth century was the development of a methodology for the conservation of significant excavated sites and ruins. But there was a gradual realization that these known sites constituted only a small proportion of the wider archaeological resource, which was being increasingly threatened even before it was identified. In this short extract from a congressional hearing in 1973, McGimsey eloquently describes the major twentieth-century crisis in American archaeological resource management caused by the sanctioned destruction of sites through development and massive land alteration. This evidence offers insight into a significant debate that subsequently gave rise to a growing concern for the long-term conservation of the wider archaeological resource.

This Nation presently is faced with a major crisis with respect to its archeological resources. Our heritage from the past lies buried in the ground where it has accumulated for thousands of years. For the great majority of that period, this resource lay largely undisturbed. Four hundred years of interaction (A.D. 1500–1900) between the native American cultures who were responsible for the country's more ancient past and the European-derived cultures upon which much of our present culture rests, saw the dissemination of the native Americans and the near-total destruction of much of their culture. The hundred years between A.D. 1900 and the year 2000 will see also the near-total destruction of the physical remains of the past of *both*

the Indian and our own cultures without any adequate record having been made, unless corrective action is taken now.

The last 25 years have seen the rate of land alteration, all of which destroys or adversely affects our archeological resources, increase at a staggering rate; the next 25 years will see this rate of destruction multiply many fold. While not every inch of ground will have been altered, a large proportion of it will have been, and there is no way to predict what portion will remain undisturbed; certainly there no longer will remain a large enough portion of the total range of history to enable archeologists of future generations to interpret adequately the past. It is for this reason that we are faced with the last opportunity to preserve, to recover, to protect, and to understand any meaningful portion of this Nation's long history. If we do not meet this need adequately, we will have deprived all future generations of any possibility of knowing and benefiting from the past, and without this knowledge, the future will be infinitely poorer. If this disaster is to be averted, archeologists, and the Federal, state, and private agencies through which they operate, must develop new approaches to the problem of recovering and protecting our archeological resources. We cannot delay. Our children will not be able to preserve the past for their children, unless we preserve it for them.

I believe the bill presently under consideration (H.R. 296) will be a major step toward Federal assurance that the past will have a future.

This legislation really began several years ago when Dr. Corbett, Chief Archeologist of the National Park Service, and several archeologists from Missouri and Arkansas got together informally to discuss the problem of destruction of sites by land-leveling. This resulted in a few small cooperative agreements between the National Park Service and Missouri and Arkansas to investigate the nature and extent of the problem. The extent of the problem, when we discovered it, shook us to the core. In Arkansas, for example, we discovered that only 20,000 acres had been leveled in all the years prior to 1953, the year in which the Federal cost-sharing program began. In the 14 years between then and 1967, the year of our survey, the Soil Conservation Service, which handles the program, stated that 783,879 acres had been leveled. There are, of course, other factors than Federal participation responsible for this increased leveling activity, such as the ready availability since World War II of heavy equipment, and a shift to irrigation farming in Eastern Arkansas, but there would seem to be little reason to question that there is an almost one to one correlation between Federal cost-sharing and this vastly accelerated land-leveling activity, with the concomitant vastly accelerated destruction of archeological data.

In the Mississippi Alluvial Valley, the most popular location for Indian sites were the natural levees and other small eminences. These are precisely the places that are first leveled for purposes of irrigation, for ice farming, or often simply "to get rid of that high spot." Leveling of a natural levee serves effectively to obliter-

ate the average Indian site located upon that levee. Even the larger sites are not immune; I stood by for a day and watched a team of three land planes almost completely destroy a Mississippian period village several acres in extent and dating from around A.D. 1400 and underlain by a Woodland site which was probably occupied around A.D. 1000. One pass of an earth mover was seen to completely cross section horizontally an extended burial; a few minutes later, the next pass obliterated the remainder. There were similar experiences with entire house patterns, and fire basins. With proper planning and funding the important information contained in this site could have been recovered without delaying or preventing the leveling.

Our experiences with land-leveling in Arkansas and Missouri caused Dr. Carl Chapman, Director of American Archeology at the University of Missouri, Hester Davis, Arkansas State Archeologist, and Dr. J. B. Griffin, Director of the University of Michigan Museum of Anthropology, and myself to inquire further. A series of conferences with the archeologist actively involved with research up and down the Mississippi Alluvial Valley, soon revealed that the problem was not associated solely with Missouri and Arkansas, nor was it one solely related to land-leveling. Strip mining, drainage ditches, many agricultural practices, urban sprawl, and other factors, all played their part, and nearly all were assisted in some manner by Federal programs.

From this our inquiry was extended nationwide and it rapidly became apparent that the problem was a national, not a state or regional one. For that reason it was felt that there was an urgent need to develop a solution on the national level. One element of this attempt was the development of a brochure which could be made available to the public to acquaint them with the problem, its urgency, and the fact that there was something that each person could do about it. To date 50,000 copies of this brochure, *Steward of the Past*, have been distributed nationwide.

The second approach was consultation with Congressmen and Senators, particularly Senator Moss and his staff, and Congressman Bennett and his staff, but with a great many others as well, on the design and development of a legislative approach to the solution of this problem. An amendment to the 1960 Reservoir Salvage Act was drafted. Archeologists then consulted with the Federal agencies who would be principally involved, and these agencies commented officially on the legislation introduced into the 91st Congress. A modified version of the legislation, one which took into account all of these comments was introduced into the 92nd and 93rd Congress and is what we are considering here today.

Provision must be made for Federal agencies directly involved in programs resulting in archeological destruction to be able to provide a level of funding adequate to recover or protect those resources, a level directly scaled to the nature of the program, and the extent of the destruction. This is precisely what the proposed amendment makes possible.

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Thomas F. King

Resolving a Conflict of Values in American Archaeology (1977)

The concurrent arrival of regulated environmental mitigation and the deductive, hypothesis-based theoretical framework of the "new archaeology" in the 1960s and 1970s led inevitably to a clash between perceived research requirements and the growing salvage archaeology industry. King's paper eloquently identifies the dilemma caused by the information needs of targeted research design and the inability of the growing field of salvage work to respond to these needs. This problem pitched the academy and its desire to address important research questions against both commercial archaeologists and governments whose primary objective was to collect archaeological data before it was destroyed. King's observations relate to the United States, but the problem is universal, as is the solution: a government-sponsored regional research plan that provides a deductive framework for salvage archaeology. King also usefully considers salvage from a conservation perspective, questioning how much salvage archaeology is required in order to provide a good conservation outcome.

The rescue of data from the jaws of destruction has been an archaeological preoccupation almost since the birth of the discipline. In North America, at least, a concern with what was to become "salvage" archaeology goes back to the late nineteenth century, with the explorations of the U.S. Geological Survey and the Bureau of American Ethnology. In the 1930s, with the deployment of WPA crews to dig sites in TVA reservoirs, salvage became a major archaeological activity. After World War II the River Basin Salvage Program of the Smithsonian Institution and National Park Service continued and elaborated the development of salvage

programs. Salvage as a federal responsibility was canonized in the law by the Reservoir Salvage Act of 1960, the Department of Transportation Act, and other statutes. By the late 1960s most of the archaeology funded in North America was salvage, most professional (i.e., employed) archaeologists did at least some salvage, and archaeology as a set of extractive techniques was very much colored by salvage methodology. At the same time, however, archaeology as a system of thought was increasing in sophistication, and the result was a distinct conflict between the needs and ethic of an explicitly scientific approach to archaeology and the operating assumptions of those governmental agencies that supported archaeological salvage. On the one hand, the "new archaeology" was rising, with its call for an explicitly scientific, problem-oriented approach to research. On the other hand, the salvage support agencies were essentially concerned with the simple recovery of data; the problems to which the data might apply were irrelevant.

In 1969–70, as chief archaeologist at the UCLA Archeological Survey, I was keenly aware of the pragmatic difficulties engendered by this conflict. The Survey was heavily involved in salvage, but the shadow of Louis Binford, who had left UCLA in 1968, lay long across the minds of graduate students, and the remaining faculty members who significantly influenced student thinking were James Hill, James Sackett, and Fred Plog. We at the Survey felt a need to make our operations scientifically relevant, and this need was often hard to square with our equally serious obligations to the agencies for whom we did free or contract salvage. I attempted to generalize and articulate the conflicts we experienced in an article entitled "A Conflict of Values in American Archaeology" (*American Antiquity* 36, no. 3 [1971]: 225–262), which is updated and republished in part here. I have left the central part of the article intact, with minor editorial changes and updates, but have dropped the rather heavy-handed and now very dated original introduction. More importantly, I have replaced the old concluding section with a new conclusion based on my last 6 years of experience in cultural resource management. The old conclusion presented a tangible example of the conflicts in action and posed a hypothetical solution. Now, because of developments in cultural resource management, I see a real solution developing, and it is on this relatively hopeful note that I am able to conclude the article.

The Basis of Conflict

The elements of conflict between an explicitly theoretical approach to archaeology and the organization of the salvage programs that support much of America's archaeological research can be characterized as follows: The central argument of the theory-oriented archaeology of the "new archaeologists" was the call for a deductive approach to research (Binford 1968:17; Fritz and Plog 1970:405). We were to pursue answers to questions generated out of anthropological (or other) theory via archaeological research, or we were to attempt the explanation of the differ-

ences and similarities we saw in the archaeological record through the utilization of general theory. Adherence to a deductive strategy requires generation and testing of hypotheses, a much more specific kind of "problem-orientation"—and one much more definitive of field technique—than most archaeologists had encountered since the days when the problem was where to find the prettiest pot.

The salvage support agency, on the other hand, distributed its funds with occasional recourse, when such justification was called for, to the assumption that archaeology was an inductive "science." It was assumed that the archaeologist worked along the lines suggested by Swartz (1967), through the mechanical (i.e., "objective") acquisition of data and the multilevel study of these data to a point at which complete historical understanding emerged.

In reality, of course, the salvage support agency was seldom under any pressure to justify itself with reference to epistemology, so the assumption of inductive primacy was not well enough articulated to serve as an explicit basis for policy. Presumably, there was nothing to stop the archaeologist from using salvage funds to support hypothetico-deductive research, but this was more easily said than done.

Defining the Conflict

Hypothetico-deductive research, ideally, brings archaeological data to bear on general problems relating to the nature, operation, and evolution of sociocultural systems. On a less general level such an approach can be used to seek explanations for specific regularities and discontinuities in the archaeological record through the application of general propositions. In either case the approach, again ideally, involves the formulation of hypotheses, the recognition of test implications, and the construction and implementation of crucial tests (Hempel 1966; Fritz and Plog 1970:410). These tests may directly reflect on the original hypotheses or, more commonly, comprise complexes of lower-level descriptive statements (e.g., "society X is matrilocal"), the testing of which provides data necessary to the direct test. [. . .]

Fieldwork in the context of this approach is a tool employed after the archaeologist has recognized and defined a problem, framed hypotheses relevant to the problem, and designed tests of the hypotheses to which fieldwork is found to relate. The kinds of field techniques employed are determined by the test requirements, within limits of feasibility.

An inductive method is based on the assumption that a valid and worthwhile body of fact will have been attained when enough data have been gathered to permit synthesis and inference. [. . .]

According to an inductive ethic, every bit of information can be used in synthesis: presumably, all information can be and should be gathered, though this effort is usually thwarted by time, funds, etc. However, as much information as possible should be obtained, and it is quite permissible, indeed preferable, that such data be gathered in a theoretical vacuum to insure objectivity.

There is a constant and fruitful interplay between induction and deduction in any research program. Objective data gathering is necessary to hypothesis testing and to initial exploration (Caws 1969), and there is no question that data gathered without specific problem orientation can be useful in explanatory research. The possibility of discovering new problems while investigating old ones must always affect one's approach to fieldwork. It can be argued, too, that an inductivist does implicitly deduce, that is, he cannot even decide where to dig without recourse to some kind of general assumption (Fritz and Plog 1970:408). Granting this interplay, however, does not justify the use of induction as an organizing principle in research. Deductive research does not rule out concurrent inductive discovery, but an inductive approach assures that deduction will exist only as uncontrolled bias. Given that it is really impossible to get all the information about an archaeological site, this bias will impair the usefulness of data even for inductive synthesis.

This lesson was not lost on many academic archaeologists during the 1960s. An increasing number adhered to a deductive ethic and demanded of themselves, their students, and their research units some kind of hypothetico-deductive approach at the core of research planning.

Meanwhile, the potential for conducting funded research with the support of public agencies increased rapidly during the 1960s. The destruction of archaeological sites was repugnant to the public, and the demand for federal responsibility in preservation and salvage grew steadily. As more and more public and private works came to require federal licensing or assistance, and as the emphasis in land use shifted gradually from piecemeal exploitation toward integrated growth based on regional planning concepts, land-modifying agencies became increasingly receptive to proposals for scientific research stressing the holistic study of regions and systems toward the elucidation of general principles, rather than the particularistic collection of isolated phenomena justified by the satisfaction of public dilettantism. The agencies that distributed salvage funds, however, had developed contract policies and administrative structures based on a vision of archaeology as particularistic and inductive. In the retrospective words of the U.S. National Park Service's Interagency Archeological Services Division (1976):

> Meeting National Park Service report standards had often come to mean an exceptionally low threshold of adequacy. [T]here was little consistent effort to promote professional adequacy in the identification of research needs in development of contract proposals, in generating research designs, and in evaluation of results [p. 15].

Salvage dollars were rarely spent on the development of planned regional programs but were doled out piecemeal for the rescue of individual bits of data that were supposed to contribute, on some final judgment day, to the grand synthesis.

The archaeologist and his research institution dedicated to the strategies of induction could easily handle, and intuitively justify, piecemeal salvage. Such work was justified on the basis of the familiar jigsaw analogy: When we have enough pieces, the picture will become clear. It was not necessary to wonder on what basis we perceived the shape of the pieces, and there was no need to worry about what phenomena we would like to see most clearly pictured when we got through. The central definitive focus of the archaeologist's life, and the measure of one's adequacy in relation to one's professional peers, was fieldwork; the more of it one did, the further one would advance the discipline. Given this bias, a command of excavation technique, and an adequate public-relations capacity, salvage was easy to handle. Further, it was entirely proper for students to spend vast amounts of time in the field doing salvage and in the laboratory doing analyses and writing, toward no other goal than the preparation of "descriptive site reports" that proceeded through standard stages to present the collected data for future reference (Swartz 1967)—another piece added to the puzzle!

The archaeologist and his institution were faced with a dilemma, however, if they opted for deductive research and were faced with salvage exigencies. The sites, or areas, were preselected on the basis of such external factors as danger of destruction and availability of funds, but a deductive strategy calls for field investigation to take place only when it is required to test an hypothesis. The site should be selected on the basis of the problem, not vice versa. Further, the kind of problem such an archaeologist might be investigating and the hypotheses he might use to investigate it would probably require some specific kinds of excavation, or perhaps very little excavation at all. The problem might require extensive and expensive interdisciplinary or technical studies and relatively little collection of artifacts. It might be necessary to sacrifice artifacts to get at architecture or cemeteries, or vice versa. Descriptive site reports are not always the natural outcome of such research. The necessity to spend money on operations other than the recording and removal of threatened artifacts, the unconcern the archaeologist was likely to feel for the ratio between person-days spent and cubic yards of earth moved, and the likelihood that a standard presentation of observed fact would not constitute an end product of the work were poorly understood by salvage support agencies. Finally, it was logically inconsistent for the hypothetico-deductive archaeologist to encourage or facilitate the conduct of salvage for its own sake by students or research associates. If such work taught only the digging of holes and resulted in the accumulation of nothing but artifacts and notes whose relevance to theory could not be demonstrated—that is, if the work created pedants rather than scientists—what good was it? The student could thus be caught in an excruciating bind. Salvage work tempted him or her with its flavor of conservationist urgency and its monetary rewards, but his or her institution offered no academic rewards for participation in such work and often branded the student as a mere technician

unsuitable to the cloisters of academia. The student might starve while getting grades, meanwhile obtaining little practical experience; or he or she could eat, gain experience, feel good about saving something for posterity, and flunk.

Simple Solutions

The conflict between deductive-based archaeology and the structure of contract salvage programs was thus simple to define: The suppositions, expectations, and values of deductive archaeologists and salvage support organizations were mutually irrelevant and contradictory. The simple and obvious solution to the conflict was to disengage, and this is precisely what frequently happened in the late 1960s and early 1970s, with sad results.

The salvage support agency's simplest option was to deal only with amenable research bodies: inductively oriented institutions or teams drawn from the agency's own staff. Such a policy, by limiting input from theory-oriented scholars and students, inevitably resulted in increased irrelevance to larger academic and scientific concerns and a diminution of support from the academic community. Lacking these measures of relevance, some salvage support agencies and their dependent bureaucracies began to find it difficult to justify their existence. The following quote, from an environmental planner (E. Barnes 1967) who sought to evaluate archaeological resources from salvage data for integration into regional land-use programs, was typical of the judgment rendered of laissez-faire salvage by thoughtful designers of public policy:

> The scientist has been contracted by the agency on a fee-for-service basis to do limited pieces of work . . . at separated locations and at different times. The resulting research data has then been entombed in jealously guarded files of rival Departments of Anthropology . . . or lost somewhere in the vaults of the Smithsonian. . . . Among the authors of the thirteen reports resulting from this piecemeal "program" since 1935, only one has made any extensive comparisons with the work or findings of another. That communication between scholars which is essential to scientific progress has been miniscule; the result is scholarly chaos [p. 3].

The deductive scholar and institution had available to them a similarly short-sighted option: to withdraw from, or not cooperate with, salvage programs. While I think it is true that as organized during the 1960s, most salvage programs were more trouble than they were worth to the theory-oriented archaeologist, eschewal of salvage programs by theoretically sophisticated archaeologists was damaging to the interests of the archaeologists themselves, as well as to the data base. Today one might decline to salvage a site because its investigation would be irrelevant to any problem one was concerned with pursuing. Tomorrow one might find a site

one needed in relation to a real problem destroyed—by construction one did not know about, by a "'salvage archaeologist" digging for his supper who did not collect the data one needed because he did not know it was there, or by local citizens who justified their looting with the argument that "the university doesn't care." The last was a justified argument; if the archaeologist felt no responsibility to his data base, who should?

Moreover, the problems of salvage were not all exclusive to salvage; some were expressions of a larger malady. Struever (1968) wrote of archaeology in general:

> If a major purpose of archaeology is to elucidate cultural process by *explaining* prehistoric episodes of change or stability, then the strategy of archaeology must shift to long-term programs of field work and analysis. . . . Execution of this design is not feasible within the organizational limitations of archaeology today [p. 133].

> As organized today, archaeology lacks the institutional framework within which archeologists, natural scientists, and technicians can work together in a continuing program with the facilities and funding necessary to employ the full range of available methods in attacking an explanatory problem. A sharp increase in our capacity to explain culture change will occur if and when we find a way to increase the complexity of archeological research institutions [p. 150].

In short, the problem was not that salvage was intrinsically bad, unscientific, or useless for explanatory research but that the salvage support agencies' orientation toward the reactive redemption of uncoordinated data, and the organizational structure appropriate to this orientation, operated counter to the needs of explanation.

In the early 1970s an effort was initiated under the leadership of C. R. McGimsey III that eventually reached fruition in the passage of the Archeological and Historic Preservation Act of 1974 (Public Law 93-291). This act makes possible an increase in and regularization of salvage programs. Coming at a time of significant cutbacks in financial support for academic institutions, this act has resulted in a reversal of the trend toward disengagement. At the same time, however, it has resulted in crass mercantilism, struggles for regional hegemony over salvage monies, and practices verging on the piratical by contract archaeologists, while the movement of salvage support agencies toward more responsible management has not always been impressive, despite protestations of vigorous concern for improvement (cf. U.S. National Park Service, Interagency Archeological Services Division, 1976). In the contracts game, except to the extent that support agencies are able and willing to exercise intellectually valid quality control, the inductive

archaeologist continues to have a selective advantage, and the wages of involvement in salvage (now called by various less odious names) may still be brain death. Although some agencies are attempting to provide for reasonable research designs and attention to scientific problems in their contract programs, this effort is haphazard at best, in the absence of a reasonable effort by the archaeological discipline to get beyond exploitative contracting into responsible planning.

A Complex Solution

Another solution—or complex of solutions—does exist, however. The 1930s public works programs that spawned reservoir salvage also helped bring architects and historians together in various reconstruction and restoration projects, resulting in a consolidated historic preservation movement. During the 1960s, while archaeologists were salvaging, the historic preservationists promoted a package of planning concepts that became the National Historic Preservation Act of 1966 (Public Law 89-665). Now coming of age, the programs provided by this act offer some real solutions to archaeology's conflict of values.

The Historic Preservation Act is best known for its expansion of the National Register of Historic Places, its creation of the Advisory Council on Historic Preservation, and its provision for state historic preservation officers in all states and territories. A less well-known feature of the act is its requirement that each state develop a historic preservation plan to guide the preservation and use of the state's cultural resources. Most state plans thus far developed have been fluff, but ten years of experience have brought some wisdom, and the secretary of the interior's new regulations for state historic preservation plans call for much more sophisticated efforts. States are now required to undertake systematic statewide surveys for all kinds of cultural resources. These surveys are to be professionally supervised and organized, and the methods and rationale underlying them are to be reported regularly to the secretary. The survey is to result not only in nominations to the National Register but in other inventories of cultural properties and in predictions about where various kinds of such properties may exist. The survey should provide the basis for the state plan, which is to integrate all cultural resource management programs in the state and provide for environmental review and assistance to federal agencies in compliance with historic preservation statutes (U.S. Department of Interior 1976). Federal agencies have been given broad new responsibilities for managing cultural resources not only by the familiar National Environmental Policy Act and Executive Order 11593 but by the implementation of such planning and land-use statutes as the Housing and Community Development Act of 1974, the Water Pollution Control Act of 1973, and the Coastal Zone Management Act of 1973. Procedures now in effect or in circulation call upon the responsible agencies to make their programs of archaeological survey, testing, protection, and salvage consistent with the state historic preservation plans. Taken together, these regula-

tions offer archaeologists a very important opportunity both to preserve a useful sample of the archaeological record and to conduct meaningful deductive research using contract money. This is how it can work.

First, the archaeologists of each state (or region) need to organize into credible groups to work with the state historic preservation officer(s). Such groups should be representative of the theoretical, experiential, and professional diversity within the state's or region's archaeological community and should include, if possible, archaeologists interested in all relevant types of archaeology—contemporary, historical, prehistoric, industrial, terrestrial, underwater, etc. Representativeness in the state plan is important; the Department of the Interior reviews these plans and will reject those that ignore real research needs and preservation possibilities.

Second, this group should work with the state historic preservation officer in developing and implementing the state plan, including such elements as:

1. Research design formulation: The group should attempt to define legitimate research questions to which the various kinds of archaeological resources in the state may be expected to relate, and to consider what approaches may fruitfully be taken to their study.
2. State survey development: The group should help define strategies and methods for a long-range survey designed to identify ultimately all the state's cultural resources. Presumably, in most cases a sampling approach will be most fruitful, gradually gaining in predictive power as more data are obtained in a systematic fashion.
3. Research prioritization: The group can define research and preservation priorities. Which kinds of sites should be preserved at all costs for future research? Which kinds should be excavated or otherwise studied to answer immediately important questions? What methods should be employed in different kinds of research?
4. Updating: The group can participate in updating the survey and plan on a regular basis as data accumulate and the state of the art changes.

Third, the archaeologists of the state or region should plan their own contract research to fit the plan and encourage agencies with which they work to be consistent.

The upshot of all this would be an end to piecemeal salvage and the use of regional research and preservation planning and execution. Agencies involved in project funding would benefit because they would have some idea of what to expect when faced with the need to deal with archaeology, but archaeology itself would be the big winner. The conflict would be resolved: salvage (under whatever name) would be placed in the service of research, and the discipline's best thinkers could participate in the preservation and salvage activities of the government. The necessary statutes, policies, and regulations are now in place to bring this resolution to pass, and the logic of the environmental and historic preservation statutes demands

it. It only remains for archaeologists to undertake the organizational work that will be necessary for the conflict to be finally resolved.

References

Barnes, E. 1967. Kaweah River archeology: Thoughts toward a public policy. Manuscript on deposit, U.S. National Park Service, San Francisco.

Binford, L. R. 1968. Archeological perspectives. In *New perspectives in archaeology*, edited by S. L. Binford and L. R. Binford. Chicago: Aldine. Pp. 5–32.

Caws, P. 1969. The structure of discovery. *Science* 166:1375–1380.

Fritz, J. M., and F. T. Plog. 1970. The nature of archaeological explanation. *American Antiquity* 35:405–412.

Hempel, C. 1966. Philosophy of natural science. Englewood Cliffs, N.J.: Prentice-Hall.

Struever, S. 1968. Problems, methods, and organization: A disparity in the growth of archeology. In *Anthropological archeology in the Americas*, edited by B. J. Meggers. Washington, D.C.: Anthropological Society of Washington. Pp. 131–151.

Swartz, B. K., Jr. 1967. A logistical sequence of archaeological objectives. *American Antiquity* 32:487–497.

U.S. Department of Interior. 1976. National Register of Historic Places: Criteria for statewide surveys and plans. Draft regulation circulated for comment by the Office of Archeology and Historic Preservation, National Park Service, Washington, D.C.

U.S. National Park Service, Interagency Archeological Services Division. 1976. *A status report to the archeological community*, by R. L. Wilson, Washington, D.C.

A. La Regina and M. Querrien

How Can We Live in a Historic City? What Should We Do with Its Archaeological Heritage? (1985)

The nexus between archaeology and development may be at its most vexatious in urban areas. La Regina and Querrien comment on an exhibition on the integration of archaeological heritage and contemporary urban planning. Their short paper highlights the unfortunate but misguided perception that archaeological relics must be either preserved in a manner that alienates the precinct from new uses or destroyed to allow new development to proceed. It postulates a better way: integration of archaeological heritage fostered through dialogue among archaeologists, architects, and planners.

Since the nineteenth century cities and states have been searching for answers to the eternal and supposedly insoluble questions of how we can live in a historic city and what we should do with its archaeological heritage. Two solutions have commonly been proposed.

Sometimes the ruins have been sanctified, enclosed in "reserves," cut off from town and social life, used at best for "walks"; sometimes the ruins have just been destroyed, commonly without any preliminary study. Attitudes to remains of the past have thus been either to sterilise entire districts or to eliminate the remains, however exceptional they might have been.

The results are depressing. Proponents of preservation did not hesitate to destroy significant heritage items in certain city areas, and they generally failed efficiently to conserve the items they did retain.

Defenders of the living city were right to worry, for the dead city did not always deserve the suffocating attentions it received.

We can thus ask ourselves, as is often done, whether it would not be better to eliminate the past and to say, like Marinetti in 1909, "We want to free Italy from its gangrenous plague of teachers, archaeologists, tour guides and antiquarians . . . Take up your picks and hammers! Destroy the very foundations of venerable cities."[1]

This suggests that we cannot save the dead city but that we can at least create a decent and dynamic framework for today's city.

But is it either/or? Can we not find a middle way to resolve our dilemma?

There is a middle way. Instead of preventing all contact between archaeological heritage and the real city, by isolating or destroying it, it is possible to study traces and remnants, to determine what is still "viable" and to apply properly researched survival measures—artificial within museums or organic within modern urbanization. Better still, if the remains are extensive, the future city plan can be based upon the urban past and its social fabric. This simple idea seems both reasonable and exciting, though it requires an urban planning consensus among politicians, managers, architects, and archaeologists.

[. . .] Between Rome, Nimes, and Paris, [. . .] at the start of the nineteenth century, urban planners and archaeologists worked together to create urban structures around ruins and based upon ruins. Despite controversies, difficulties, and some failures, both sides achieved undeniably successful results, which justified their synergy. However, in the later nineteenth century, when European towns first started to expand, collaboration slowed down, and soon archaeologists and urban planners went their separate ways: archaeologists conserved and sterilized, while planners destroyed and built, with disastrous results [. . .].

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At a time in Europe when city centers are pretty well established, when the city does not need to be planned but to be replanned, rediscovering the ancient city is essential, not because space is limited, but because in dealing with the present we always encounter the past.

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[. . .] Archaeological heritage is central to this challenge, but visitors need only look around them to see that all heritage is challenged.

What shall we do about archaeological remains?

What shall we do about historical heritage?

The answer has to be that yesterday's city is the crucible of tomorrow's town.

Notes

1 F. T. Marinetti, "Manifeste du futurisme" [Futurism Manifesto], *Le Figaro*, 20.2.1909 (reprinted in *Poesia*, Milan 1909).

Kate Clark

The Bigger Picture: Archaeology and Values in Long-Term Cultural Resource Management (2005)

Realization of the necessity to conserve the whole archaeological resource, not just specifically identified important sites, was paralleled by the gradual articulation of the idea that archaeological sites have a wider range of cultural values than the informational and historic ones that were traditionally ascribed to them and reflected in the definitions of early legislative regimes. In particular, social value came to be seen as an important element of a site's significance. Clark traces the development of the concept of values-based management and its implications for archaeologists and argues that placing the assessment of all the cultural heritage values of a site at the center of the conservation process through conservation planning methodology delivers better and more-community-oriented conservation outcomes.

Introduction

In this article, I want to show how an analysis of value or significance underpins not just designation but every aspect of cultural heritage management. In Canada, Australia, New Zealand, and the United Kingdom, there are now well-established methodologies for incorporating value into different stages of cultural resource management (CRM), and it is important to be aware of these.

In the second part of the article, I want to make a case for the importance of understanding fabric or physical evidence—in other words, good old-fashioned archaeology—in establishing significance. An understanding of what is there is

often neglected in value-based decision-making methods, with two consequences. The first is that judgments about significance may be flawed, but the second is that as a result, the "values" can come to be more important that the fabric itself, thus ensuring that there is nothing there for future generations to understand and to value in their own way.

Most of the discussion relating to significance that takes place within the archaeological community emphasizes the role of value in protection, that is, in whether or not a site is included in a register, list, or schedule, or whichever national mechanism exists to identify archaeological sites of importance. In other words, attention focuses on defining what is or is not to some degree "outstanding" or worthy of special attention or preservation: What should be set apart for special treatment, funding, or legislation? Where archaeologists have discussed the role of values in cultural resource management, it is in the context of managing archaeologists and archaeological projects. For example, the papers in *Managing Archaeology* (Cooper et al. 1995) do look at values and management, but also focus on designation (see papers by Carman, Darvill, and Startin in that volume) or managing archaeology (see those by Cooper, Brooke, Darvill, Andrews and Thomas, Locock, and Nixon in that volume), only touching on the management of places. Most of the papers cited in the very useful literature survey done by Briuer and Mathers (1996) are ultimately concerned with initial protection or site selection, with a few touching on mitigation strategies and impact assessment.

There are two problems with this emphasis on using value only to establish what to protect: First, the separation of cultural resources into what is worth protecting and what is not is based on an assumption that what is not designated is not of interest. If we only protect what is designated, then future generations will inherit a heritage consisting of significant dots separated by acres of nonsignificant wasteland where the malls or new housing estates can be built. Drawing hard lines around heritage is equivalent to protecting species but not their habitats. A narrow focus on designation precludes discussion of the wider historic environment.

More importantly, confining the discussion of value to protection assumes that once significance has been identified, then that is the end of the role of discussions about it. Yet Pomeroy has shown in her study of Avebury (this volume [not included here]) that our understanding of a place and its value continues to be a critical factor in how it is managed well after it has been designated. In an example similar to Avebury, Stonehenge was scheduled as an ancient monument in 1882, and nobody questions its designation today, but controversy over its value rages in the context of a need to decide which type of construction is most appropriate for a new tunnel and where best to locate new visitor facilities. Such decisions will depend upon our understanding of the values of the site as a whole and in its parts, but will hardly be satisfied by reference to the protection document.

The Use of Values in Cultural Resource Management

In 1979, a group of members of Australia ICOMOS came together in a small town in South Australia to discuss conservation practice. In particular, they were concerned that the European cultural heritage charters, which governed so much heritage practice, were not necessarily useful in a country where the significance of places was neither obvious nor universally accepted, either because the places were relatively recent or because white practitioners had had their assumptions about significance challenged by Indigenous communities.

The result of their deliberations was the Burra Charter, a set of Australia ICOMOS principles for conservation, based largely on the Venice Charter, which, unlike the original, talks about the idea of place rather than buildings or sites, puts cultural significance at the heart of decision making, and sets out a logical sequence of investigations and decisions which use significance to establish policy and set management frameworks.

Since then, the Burra Charter has been much debated. It was revised in 2000 in order to broaden the definition of significance, and clarify the sequence of decisions, to include social values and multiple values (Truscott and Young 2000: 104–5; ICOMOS Australia 2000). It has now become the basis for much Australian cultural heritage practice (Pearson and Sullivan 1995: 44), and similar principles have been adopted in New Zealand, Scotland, and China (ICOMOS New Zealand 1992; Historic Scotland 2000). The promotion and use of the Burra Charter has stimulated interest in the role of significance in the conservation of buildings and landscapes, and even where a version has not been formally adopted, it has influenced thinking about cultural heritage practice, mainly through the use of conservation plans.

In 1982, the first edition of *The Conservation Plan*, by James Semple Kerr (2000), was published. Jim Kerr was a historian who had been involved in drafting the first version of the Burra Charter. His guidance on conservation planning showed how the understanding of the physical nature of a site could be used to establish its significance, and from there how it could inform policies for retaining significance. Although this original publication was largely based on the analysis of buildings and industrial sites, and did not then include consideration of the wide range of values which we might now look at in a site (particularly social ones), his achievement in creating that link between understanding and management should not be underestimated.

The process of conservation planning is touched on in the first Burra Charter, but is given far greater emphasis in the revision of 2000. Called here the "Burra Charter Process," it stresses the need to make decisions about places in a logical fashion, starting from the understanding of significance.

In Canada, too, the Cultural Resource Management Policy for Parks Canada (Parks Canada no date) includes value as one of the principles for CRM, and

stresses the consideration of historic value in actions affecting cultural resources. The obligation created by the National Historic Sites policy is, "to ensure the commemorative integrity of national historic sites . . . by protecting and presenting them for the benefit, education and enjoyment of this and future generations, in a manner that respects the significant and irreplaceable legacy represented by these places and their associated resources" (quoted in Bennett 1995: 1).

The mandate of Parks Canada as an agency is not just to protect sites, but to "ensure their commemorative integrity for present and future generations" (Parks Canada 2000: 5). The service has therefore established a formal mechanism for ensuring commemorative integrity, called commemorative integrity assessments or statements (Bennett 1995: 1–8). The principle is based on the idea of "ecological integrity," which has always underpinned the management of parks, emphasizing not just condition, but a wider idea of health and wholeness. A national site possesses commemorative integrity when

- the resources that symbolize or represent its importance are not impaired or under threat;
- the reasons for the site's national historic significance are effectively communicated to the public; and
- when the site's heritage values are respected by all whose decisions or actions affect the site.

Commemorative integrity is therefore a way by which significance is explicitly used in monitoring the effectiveness of cultural resource management. The emphasis on recognizing value in both interpretation and decision making takes the process of monitoring one step beyond physical condition. Of course it is essential that historic resources are in good physical condition, but this approach recognizes that physical condition is not the only measure of successful cultural resource management. If the values of the site are not effectively communicated or taken into account in decision making, then it is possible that the site can be put at risk or damaged.

England provides a case study of how the Burra Charter principles of significance have spread. In 1997, the Heritage Lottery Fund (HLF) was set up in the United Kingdom to dispense money from a new national lottery. The remit of the HLF to cover a very broad definition of heritage (including archaeology, buildings, landscapes, ecology, museums, libraries, archives, and a range of other types of heritage), combined with the need to "not disturb the quiet equilibrium of our national heritage treasures" (Johnson 1999: 25), meant that HLF needed a mechanism for ensuring that their money would benefit heritage assets. General approaches to managing sites had been developed for World Heritage Sites (Feilden and Jokilehto 1993). However, for other sites, no single existing evaluation technique, whether archaeological assessments, museum collections policies, landscape restoration plans, or feasibility studies (to name but a few of the techniques

Table 1

The Stages Involved in Conservation Planning

A conservation plan is a document which sets out the significance of a site, and how that significance will be retained in any future use, alteration, management, or repair.

The process includes the following stages:

1) Identify stakeholders;
2) Understand the site—an understanding of the development of the site through time and its survival today, which includes current uses;
3) Assess significance—identifies the multiple values associated with the site, including the cultural values—archaeological, historical, social, community, aesthetic, as well as any ecological or environmental values;
4) Identify how significance is vulnerable—an analysis of what factors have affected the values of the site now, in the past, and may do so in the future;
5) Set aims and objectives for retaining significance—policies for how significance will be retained, including repair or maintenance, to the conduct of archaeology, to appropriate uses, or to the management of the organization; and
6) Implement the plan and use it in decision making.

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in use), was appropriate, as many cases involved grant-aiding and it made no sense to have separate approaches from separate professionals (Clark 1999: 27–28). The model of the Australian conservation plan (see table 1 for stages involved in conservation planning) was adopted, but modified for U.K. circumstances to reflect the variety of different types of heritage asset being considered, and also the complexity which sites of a greater time depth generated (HLF 1998).

The guidance was introduced at a conference held in Oxford in 1998, which Kerr attended and which brought together practitioners from many different disciplines and professions, ranging from the Dean of Hereford Cathedral to a professional forester. Many people expressed disquiet about conservation planning, arguing that it did not differ from existing practice, or that it introduced an additional bureaucratic requirement into resource management (Clark 1999: 153).

Despite the many initial misgivings expressed at the Oxford conference, conservation planning spread rapidly; initially, it was applied to sites for which money was being sought from the HLF, but other organizations, for example, English Heritage, adopted conservation plans as part of the strategy for caring for their own sites. The National Trust had been independently developing statements of significance for its sites (Russell 1999: 7), but was also adapting its traditional site management techniques to take better account of significance.

Stakeholder Values

One of the biggest boosts to the adoption of value-led management has been the dawning realization that you need to involve stakeholders in decision making about cultural heritage resource management. As McManamon and Hatton note (2000: 10), communities residing near or among the locations of cultural resources

have important, sometimes critical, influences on the protection and preservation of these resources. For many heritage practitioners, involving stakeholders means telling local people about what matters. Phrases such as "must be told," "must be aware," or "must be educated" imply that stakeholders are there to be told about what matters and why. Yet as Pearson and Sullivan note, "It must always be borne in mind that ultimately there can only be one valid reason for conserving heritage places: They are valued by elements of a community, by a whole community or by society as a whole" (Pearson and Sullivan 1995: 17). The articulation of the values of stakeholders, and involving them in site management, is increasingly being recognized as an essential rather than an optional part of heritage management (Clark 2001a).

Site management planning itself is, of course, nothing new; it has been in existence since at least 1910, when there was a call for complete and comprehensive plans for U.S. National Parks (Sellars 1997: 21). In the United States, the National Park Service has long been committed to management planning as a means of creating a documented, logical, trackable rationale for decisions, which should "follow an analysis of how proposals might affect the values that make resources significant, and the consideration of alternatives that might avoid or mitigate potential adverse effects" (NPS 2001: 50). The need to consult people on site management was recognized in the 1970 Environment Act, which introduced it as a legal requirement of planning, and the NPS is committed to "open and meaningful exchange of knowledge and ideas to enhance the public's understanding of park resources and values and the policies and plans that affect them, and the service's ability to plan and manage the parks by learning from others. Open exchange requires that the Service seek and employ ways to reach out to and consult with all those who have an interest in parks" (NPS 2001: 51).

Methodologies such as REAP (Rapid Ethnographic Assessment Project) have emerged as ways of exploring the complex relationship between people and park resources, and to feed that information into management planning (Low 2002).

One reason why it is necessary to engage stakeholders in site management is that the basic documents, which set out why the site is protected (for example, entry into a register or schedule), often do not (and by definition probably can not) contain all the information needed to make decisions about a site. For example, at Chaco Canyon, a variety of different stakeholder values have to be taken into consideration: those of the Navajo groups associated with the site; the different values of the Pueblo groups, who retain strong affiliations; and the New Age spiritualists, who have their own perception of what matters. Any management strategy has to be sensitive to these values, whatever is set out in the initial park mandate. Even if written planning documents do not reflect these issues, such values do have to be taken into account in practice (GCI 2003).

This distinction between the relatively narrow range of values which justify inscription or designation (for example, as a park) and the wider penumbra of

values which successful site management must address is commonplace. Those wider values include the value of other types of heritage asset (for example, ecology, geology, and buildings) or the values of the huge variety of stakeholders. The various different value-led approaches recognize this need for multiple values by ensuring that the management process includes an exploration of the wider values needed to manage a site in addition to the core values for which it is designated. The distinction between the two is precisely why the management process often requires a greater and more explicit exploration of significance than is defined at the point of protection.

Not only do site managers need to deal with a wider range of values than those for which the site has been protected, they also have to face up to the fact that much of site management is about managing conflicting values. In the example of Chaco Canyon, there is a desire by New Agers to have their ashes scattered at the site, which in turn can offend the sensibilities of traditional groups. The site manager has to find a way of reconciling values, which in this case has meant closing areas of the site. Almost every decision a heritage site manager faces involves some element of conflicting or at least different values.

Access for wheel-chair users is a particularly good example of this; it is entirely reasonable that heritage sites protected through public subsidy are accessible to as many people as possible, and yet the provision of some forms of access can be detrimental to those values for which the site was originally protected. No heritage manager wants to prevent access, but their job is to provide it in a way which ideally respects both the need for access and the other qualities of the site.

The value-led planning process can be used to anticipate this type of conflict and to begin to help resolve it. By articulating the full range of values for the site, potential conflicts can be identified, and the assessment of vulnerability is a useful opportunity to explore how, for example, respecting one value can make another vulnerable. The policies can be used to find ways of reconciling different values.

Value-led planning which takes into account multiple values (including those of stakeholders and the value of noncultural assets) is now becoming an acceptable part of CRM in several countries and has been the subject of an important project by the Getty Conservation Institute (GCI 2000). It is forcing cultural heritage practitioners to work more closely on other types of cultural heritage (such as buildings, objects, and landscapes) and *with* other conservation practitioners (for example, in ecology). More importantly, practitioners are having to learn to work more closely with stakeholders who have an interest in sites if sites are to be managed sustainably.

There is some controversy within professional CRM practice over whether value-led management planning approaches such as the Burra Charter process, conservation management plans, or the commemorative integrity assessment offer anything different to long-established traditional management plans. A reading of older style plans suggests that many take the significance of the site at face value

or assume that it is too well known to need more than a brief reiteration. They usually proceed from a restatement of the organizational objectives into a series of management actions, again on the assumption that significance is known. It is my own view that this is not value-led planning in the sense that there is an explicit articulation of significance within (and driving) the planning process.

The Role of Archaeology in Value-Based Management

The question for archaeologists is, what, if any, role should they be playing in this whole process of conservation planning or value-led management. Value-led planning methods are used on all sorts of sites, including urban areas, buildings, and collections. Is there any reason why archaeologists should be involved in conservation management planning on sites which do not involve buried remains?

While I was writing this article, debate was raging over the future of Mount Orgueil Castle in Jersey. The significance of the castle as a whole was not in question; the site dates back to prehistoric times and was the location of a thirteenth century castle, which was occupied and rebuilt in various phases from then until the present day. The question was one of whether it is appropriate to roof a central area of the castle. Archaeological analysis suggested that the hall and associated buildings were constructed during a campaign of building between ca. 1540 and the 1560s, and that they became dilapidated during the eighteenth century (Dixon and Kennedy 2001: 22). One view was, therefore, that there had been an earlier hall, and it was appropriate to reroof the space. Another archaeological view held that there had not been an earlier hall and that reroofing was not appropriate. The example is used simply to demonstrate how views of what happened in the past can affect assessment of significance and, in turn, decisions about the future of a site.

The Mount Orgueil plan was relatively unusual in that it was written jointly by an archaeologist and an architect, and, therefore, archaeological issues were identified as part of the planning process. Experience in England suggests that the majority of conservation plans for buildings or landscapes are written by firms of conservation architects or planners with little or no access to archaeological expertise, and when such is called upon, it is usually in order to interpret prehistoric aspects of the site.

Yet the whole process of conserving or caring for objects or places should be founded upon an understanding of what is there, in other words the archaeology of the site. Most conservation texts begin with a basic injunction to understand what is to be conserved. For example, "the first operation in any conservation process is to assess accurately the substance of the object to be safeguarded. This may seem obvious, but alas it is not, and by ignoring this operation by considering it to be obvious may result in irreparable mistakes." The author goes on to explain what is involved in that understanding: "What is to be considered the whole of the object

to which all operations must be referred? What is the context of the object? What is the history of the object?" (Philippot 1996: 271).

Philippot is not a practicing archaeologist, but an art historian, university administrator, and teacher, and his writings are largely addressed to conservators of art and of historical objects. And yet the questions he asks summarize very neatly the process by which a good field archaeologist might set about understanding a landscape, a building, or a buried site. In other words, the principles of field archaeology, which involve the understanding of time and space and of stratigraphic and contextual analysis, are those which can and should underpin any conservation undertaking.

In the conservation of buildings, at least, a strong link between the role of archaeology and that of architecture had been established by the middle of the nineteenth century. The work of John Britton, Thomas Rickman, and Robert Willis, who pioneered the understanding of buildings and structures (Pearson 2001: 3), was instrumental in the establishment of organizations such as the French Commission des Monuments Historiques, whose task of classifying historic buildings as well as supervising and funding their restoration was in part generated by the outrage at the damage done to ancient buildings after the French Revolution (Watkin 1986: 386).

Richard Morris, in an important article entitled "Buildings Archaeology" asks how and why it was that "somewhere between the Wars archaeology and architecture diverged. Like snooker balls clustered and then struck into separate pockets, archaeology, architectural history, art history and associated legislation parted company" (Morris 1994: 16). The mid-Victorian tradition of understanding buildings as a basis for conserving them was rejected, perhaps as a result of the reaction against restoration (with which archaeology is often associated). At the same time, the growing understanding of the performance and behavior of historical materials meant that conservation moved from a humanist to what was seen as largely a techno-scientific pursuit.

Today, an understanding of the archaeology and evolution of a site has become something which, while useful, plays a fairly passive role in management. Caple (2000: 75), for example, notes (emphasis added), "For the purposes of conservation there is a need to focus on the information which can be obtained from studying the object directly, both as a historic document and as an aesthetic entity. *This is particularly important in order that no information is lost or destroyed without record during the conservation process.*"

Archaeologists themselves may be complicit in relegating understanding to a minor role in conservation. Too many practice in a sort of "mitigation ghetto," where often the only role for archaeology in site management or decision making lies in "preservation by record" (DoE 1991: PPG 16 para 13), and the understanding of a site is something to be undertaken as a consequence of threat or loss,

"mitigated by data recovery excavation" (Little, this volume [not included here]). Thus, sites are understood only because they are about to be destroyed. Archaeologists themselves may therefore be responsible for the passive rather than the active view of what archaeology can contribute to conservation.

Another barrier to the better use of understanding in conservation is the lack of genuine interdisciplinary working or communication. In most countries, archaeologists, architects, landscape professionals, ecologists, and planners generally adopt different terminology, methods, and areas of concern, often in caring for the same place. The idea that archaeological approaches to understanding places might form a basis for a common understanding of what matters and why, would be, to many professionals, anathema. Yet where archaeological approaches have informed conservation projects, the results have been beneficial to the quality of the work (Clark 2001b: 4).

Yet there remains a significant problem with the quality and nature of the information basis on which most conservation decisions are taken. For example, in England, local authority conservation officers deal with applications to alter listed buildings. In a survey of such officers (Oxford Brookes 1999), it was established that over 50 percent of applications did not contain sufficient information to determine the merit of the application, and that searching for further information was a significant cause of delay. It has become normal practice in England to undertake archaeological evaluations prior to making decisions about new developments, but not to undertake such work before changing buildings. The relevance of archaeological approaches to the work of other professions is not apparent.

As a result of this survey, a more positive blueprint for the role of archaeological understanding in the conservation of buildings and landscapes was set out in "Informed Conservation" (Clark 2001a). This publication was designed to address the lack of explicit guidance on the role of understanding in conservation and the continuing poor quality of information on the basis of which conservation professionals were expected to make decisions. It shows how an archaeological understanding of a building or landscape can be used to inform different aspects of cultural resource management, from site management to impact assessment.

Is Fabric a Dirty Word?

The lack of involvement by archaeologists in the wider process of heritage management has another, more sinister implication. This is the spread of the idea that a record provides an accessible alternative to retaining the object or site itself. As Price notes, "some go so far as to argue that it is more responsible to create a permanent record of vulnerable sculpture than to waste resources in a fruitless attempt to make the sculpture last forever" (Price 2000: 228). Some of this emerges in the now fashionable discussions of intangible values.

Archaeologists see the physical fabric of a site as the document. Buildings, sites, landscapes, and objects contain stories embodied in their physical evidence which are not to be found in written documents or elsewhere. Those narratives encompass past social processes, events, individuals, and technologies. They tell us of power relations, aspirations and disasters. A quick glance at the recent history of archaeology shows how our interpretations of those remains will change through time, as our own perceptions and techniques change. This does not invalidate past work; it simply reminds us that there is always more to learn about the past.

If physical evidence or sites are lost, then so is the potential for us to learn more about the past. Of course, archaeology in the form of excavation is itself destructive (although there are now so many more ways of doing archaeology), in the same way as keeping a great painting on display or using a historic locomotive is ultimately destructive. It is part of the price society pays for learning and enjoyment. But the loss of a significant site or object on the grounds that the value can be retained through a record is a poor substitute for keeping the original. This does not mean that sites and places cannot and do not change, or that everything should be preserved for all time. It simply means that in making conservation decisions, we should respect not just the values, but the fabric to which they are attached, and that if we decide to demolish a building, or excavate a site, or not conserve a landscape for other reasons, we do not use specious arguments about keeping the value as a sop to our conscience.

Conclusions

Consideration of the role of value in conservation or cultural resource management is not new, nor is it confined to archaeology. Indeed, the discussion of values is as old as the protection of heritage itself, because the concept of value must underpin or justify the interference with rights or property that heritage protection involves. In A.D. 648, for example, the emperors Leo and Marjorian the August wrote to the prefect of the city of Rome urging them to protect public buildings from destruction as they "form part of the city's splendor and one should therefore preserve them out of civic conscience" (quoted in Moatti 1993: 148), and because in many cases they were part of the public property. Moatti's overview of the tussles over the remains and treasures of ancient Rome shows how in each new generation, regimes, whether the Christian church, Napoleon, or a Fascist regime, have sought to appropriate or reinstate the remains of the past to justify or legitimize their power. Then, as now, each regime sought a contemporary value for the remains of the past.

The literature review by Briuer and Mathers on significance might also have included the work of Alois Riegl, who, writing in 1903 of the modern cult of monuments, asked, "What is artistic and what is historical value?" (quoted in Stanley Price et al. 1996: 70–72), noting that it is essential to clarify what we mean by

different types of value since that influences the direction of all historic preservation in a decisive way. Riegl is well aware of the subjective nature of values: "It is modern viewers, rather than the works themselves by their original purpose that assign meaning and significance to a monument" (1996: 72).

Yet William Morris, one of the most influential figures in British conservation thought, was less interested in the significance of historic buildings than in what was happening to them in the present and their long-term management. He saw that the biggest threat to historic buildings lay in the very enthusiasm for them, and argued that "those last fifty years of knowledge and attention have done more for their destruction than all the foregoing centuries of revolution, violence and contempt" (Miele 1996: 53).

The debate about significance and value in archaeology in this volume is an important one. It is not a new debate, and some archaeologists feel that perhaps now is the time to move on. Meanwhile, other heritage disciplines are just warming up to the subject. The Getty Conservation Institute has challenged buildings and landscape conservators to think about the role of value in conservation through the publication of a number of papers (GCI 2000) and through an international project comparing different approaches to the management of stakeholder values in conservation. A recent paper by Byrne et al. (2001), emerging from their experience of working with Indigenous communities, is a refreshing and challenging piece of work that analyzes the attitudes of experts and consultants to significance and poses new and more fluid models for managing and assessing significance. Conservation discourse is moving away from its traditional fixation on the morality of restoration into wider questions about ethical, social, and economic responsibilities.

In this paper, I hope to have shown that rather than moving on, archaeologists need to develop their thinking about value further, and in new directions. It is vital that archaeologists become more aware of value-led planning as a powerful tool for sustaining cultural heritage in the long term. If we are to pass sites on to future generations, we need to recognize that management involves multiple values, different perspectives to our own, and genuine engagement with stakeholders and their concerns.

In coming to terms with the wider debate on value, I also hope that archaeologists will begin to assert their role in sustaining cultural heritage resources of all types. The achievement, particularly of Kerr (1982, 2000) and conservation planning, has been to rebuild the bridge between understanding and management that was shattered in the last century. All cultural resource management must begin with an understanding of what is there, and that in turn, depends upon good archaeology. Archaeologists themselves have to press harder for an active role for understanding and archaeology in all decision making, whether at the time of designation or at other points in the heritage management process. We should not allow ourselves to be relegated to the role of the hyenas of cultural resource management, picking over the bones after the decisions have been made.

The future of cultural heritage management lies in the lessons that ecologists have learned about sustainability: bottom-up as well as top-down approaches, a more constructive dialogue between development and conservation, and a more proactive engagement with wider social and economic concerns. All of this will require a clear understanding of value.

But if archaeologists do not engage with the theory and process of cultural resource management, decisions will continue to be based on what is often a limited understanding of what is there, and as a result will damage the resource needlessly. We will hand on to future generations a historic environment which is the poorer if, despite talking about value, we fail to understand "what" it was that we were valuing.

Bibliography

Bennett, G. 1995. *Commemorative integrity and National historic sites*. Canadian Heritage/Parks Canada.

Briuer, F. L., and C. Mathers. 1996. *Trends and patterns in cultural resource significance: An historical perspective and annotated bibliography*. IWR Report 96-EL-1. Springfield, VA: Institute of Water Resources.

Byrne, D., H. Brayshaw, and T. Ireland. 2001. *Social significance: A discussion paper*. Sydney: N.S.W. National Parks and Wildlife Service.

Caple, C. 2000. *Conservation skills: Judgment, method and decision making*. London: Routledge.

Clark, K., ed. 1999. Conservation plans in action. London: English Heritage.

———. 2001a. *Informed conservation: Understanding historic buildings and their landscapes for conservation*. London: English Heritage.

———. 2001b. The use of archaeology in building conservation at Down House, Kent. In G. Malm, ed., *Archaeology and buildings*. British Archaeological Reports. Oxford: Archaeopress. 1–5.

Cooper, M. A., A. Firth, J. Carman, and D. Wheatley, eds. 1995. *Managing archaeology*. London: Routledge.

DoE [Department of the Environment]. 1991. *PPG 16 Planning Policy Guidance: Archaeology and planning*. London: HMSO.

Dixon, P., and J. Kennedy. 2001. Mount Orgueil Castle Conservation Plan (volume 1, draft) <http://www.montorgueil.org/pages/download.html>, accessed October 2003.

Feilden, B. M., and J. Jokilehto. 1993. *Management guidelines for World Cultural Heritage Sites*. Rome: ICCROM.

GCI [Getty Conservation Institute]. 2000. Values and heritage conservation. Los Angeles: Getty Conservation Institute. <http://www.getty.edu/conservation/publications/pdf_publications /valuesrpt.pdf>, accessed July 22, 2004.

———. 2003. *Chaco Culture National Historic Park*. Los Angeles: Getty Conservation Institute. <http://www.getty.edu/conservation/publications/pdf_publications/chaco.pdf>, accessed June 6, 2004.

HLF [Heritage Lottery Fund]. 1998. *Conservation plans for historic places*. London: Heritage Lottery Fund.

Historic Scotland. 2000. *The Stirling Charter*. Edinburgh: Historic Scotland.

ICOMOS Australia (International Council on Monuments and Sites). 2000. The Australia ICOMOS charter for the conservation of place of cultural significance. <http://www .icomos.org/australia/burra.html>, accessed Oct. 5, 2004.

ICOMOS New Zealand (International Council on Monuments and Sites). 1992. Charter for the conservation of place of cultural heritage value. <http://www.icomos.org/docs /nz_92chartcr.html>, accessed Oct. 5, 2004.

Johnson, S. 1999. Conservation plans and the Heritage Lottery Fund. In K. Clark, ed., *Conservation plans in action*. London: English Heritage. 21–25.

Kerr, J. S. 2000. *The conservation plan*. A guide to the preparation of conservation plans for places of European cultural significance. 5th ed. Sydney: National Trust of N.S.W.

Low, S. 2002. Anthropological-ethnographic methods for the assessment of cultural values in heritage conservation planning and practice. In Marta de la Torre, ed., *Assessing the values of cultural heritage*. Los Angeles: The Getty Conservation Institute.

McManamon, F. P., and A. Hatton. 2000. *Cultural resource management in contemporary society*. One World Archaeology. London: Routledge.

Miele, C. 1996. *William Morris on architecture*. Sheffield: Sheffield Academic Press.

Moatti, C. 1993. *The search for ancient Rome*. London: Thames & Hudson.

Morris, R. 1994. Buildings archaeology. In J. Wood, ed., *Buildings archaeology: Applications in practice*. Oxford: Oxbow Books. 13–22.

NPS [National Park Service]. 2001. *Management policies*. U.S. Department of the Interior, National Park Service.

Oxford Brookes. 1999. *Local authority practice and PPG 15: Information and effectiveness*. Unpublished report, School of Planning, Environmental Design and Conservation Research Group.

Parks Canada. 2000. *National historic sites of Canada system plan*. http://www.parkscanada.pch .gc.ca/>, accessed June 2002.

Parks Canada. no date. Cultural resource management policy. http://www.parkscanada.pch .gc.ca/, accessed June 2002.

Pearson, M., and S. Sullivan. 1995. *Looking after heritage places*. Melbourne: Melbourne University Press.

Pearson, S. 2001. Exploring the issues: Changing attitudes to understanding and recording. In S. Pearson and B. Meeson, eds., *Vernacular buildings in a changing world: Understanding, recording and conservation*. CBA Research Report 126. York: Council for British Archaeology. 3–10.

Philippot, P. 1996. Historic preservation: Philosophy, criteria, guidelines, I. [Originally printed in 1976 in *Preservation and Conservation: Principles and Practices*, National Trust for Historic Preservation in the United States: Washington D.C.]. In N. Stanley Price; M. Kirby Talley Jr., A. M. Vaccaro, eds., *Readings in Conservation: Historical and Philosophical Issues in the Conservation of Cultural Heritage*. Los Angeles: The Getty Conservation Institute. 268–74.

Price, C. A. 2000. Following fashion: The ethics of archaeological conservation. In F. P. McManamon and A. Hatton, eds., *Cultural resource management in contemporary society*. One World Archaeology. London: Routledge. 211–30.

Riegl, A. 1996. [Originally printed in 1903.] The modern cult of monuments: Its essence and its development. In N. Stanley Price, M. Kirby Talley Jr., and A. M. Vaccaro, eds., *Readings in conservation: Historical and philosophical issues in the conservation of cultural heritage*. Los Angeles: The Getty Conservation Institute.

Russell, D. 1999. A radical view from the countryside. In K. Clark, ed., *Conservation plans in action*. London: English Heritage. 133–35.

Sellars, R. W. 1997. *Preserving nature in the National Parks: A history*. New Haven: Yale University Press.

Stanley Price, N., M. Kirby Talley Jr., and A. M. Vaccaro. 1996. *Readings in conservation: Historical and philosophical issues in the conservation of cultural heritage*. Los Angeles: The Getty Conservation Institute.

Sullivan, S. 1995. A planning model for the management of archaeological sites. In M. de la Torre, ed., *The conservation of archaeological sites in the Mediterranean region*. Los Angeles: The Getty Conservation Institute. 15–26.

Truscott, M., and D. Young. 2000. Revising the Burra Charter. Australia ICOMOS updates its guidelines for conservation practice. *Conservation and management of archaeological sites* 4: 104–16.

Watkin, D. 1986. *A history of western architecture*. London: Thames and Hudson.

Frank G. Matero

Making Archaeological Sites: Conservation as Interpretation of an Excavated Past (2006)

Contemporary conservation of archaeological sites should be considered and understood in a broader physical and societal context. In this thoughtful and perspicacious paper from the Fifth World Archaeological Congress, Matero summarizes the key principles of the physical conservation of archaeological sites that have evolved into contemporary best practice and discusses issues associated with their implementation. Too often conservation is asked to address the dual requirements of an archaeological site as document and place without explicit definition and identification of what is actually to be preserved. On the other hand, it is clear that sites possessing monumental masonry remains have tended to establish an idealized approach for the conservation and interpretation of archaeological sites in general that is not always appropriate. How legibility and authenticity of archaeological sites are realized and ensured must be carefully considered and understood. The application of a variety of specialized technical knowledge must be combined with the cultural context so that the archaeology and the conservation project become synonymous.

Heritage, Conservation, and Archaeology

Heritage and conservation have become important themes in recent discourse on place, cultural identity, and presentation of the past, yet few archaeological projects have included site conservation as a viable strategy in addressing these issues

either before or during excavation (Berducou 1996: 250). This has been due in part
to archaeology's neglect of the long history and tradition of conservation theory and
practice and the general misperception of conservation as an exclusively offsite,
postexcavation activity associated with technical issues and remedial solutions. On
the other hand, specialists in conservation and heritage management have been
largely absent in the recent and rapidly expanding discourse on the meaning, use,
and ownership of heritage for political and economic purposes. Both professions
have avoided a critical examination of their own historical and cultural narratives
pertaining to the construction of sites through excavation, analysis, conservation,
and display.

The primary objective of conservation is to protect cultural heritage from loss
and depletion. Conservators accomplish this through both preventive and remedial
types of intervention (fig. 1). In so doing, conservation embraces the technical
means by which heritage may be studied, displayed, and made accessible to the
public and scholar alike (Sivan 1997: 51). In this way, the conservation of archaeo-
logical sites is like other heritage conservation. Implicit in conservation's objec-
tives is the basic requirement to remove or mitigate the causes of deterioration.
For archaeological sites, this has a direct and immediate effect on visual legibility
and indirectly conditions our perceptions and notions of authenticity. Among the
repertoire of conservation techniques applied to archaeological sites are structural
stabilization, reconstruction, reburial, protective shelters, and myriad fabric-based
conservation methods. Each solution affects the way archaeological information is
preserved and the site is experienced and understood, resulting in a push and pull
of competing scientific, associative, and aesthetic values.

Conservation as an intellectual pursuit is predicated on the belief that knowledge, memory, and experience are tied to material culture. Conservation—whether of a landscape, building, or archaeological site—helps extend these past places and things into the present and establishes a form of mediation critical to the interpretive process that reinforces these aspects of human existence. Recently such intervention has expanded beyond the immediate material requirements of the object and site to a more open values-based approach that attempts to place them into contemporary sociocultural contexts (see, e.g., Demas 2000; Matero 2000).

The practices of archaeology and conservation appear by their very nature to be oppositional. Excavation, as one common method by which archaeologists study a site, is a subtractive process that is both destructive and irreversible. In the revealing of a site, structure, or object, excavation is not a benign reversal of site formational processes but rather a traumatic invasion of a site's physicochemical equilibrium, resulting in the unavoidable deterioration of associated materials (fig. 2). Conservation, on the other hand, is predicated on the safeguarding of physical fabric from loss and depletion, based on the belief that material culture possesses important scientific and aesthetic information as well as the power to inspire memory and emotional responses. In the first case, the informational value embodied in the materiality of objects and sites has been expressed in conservation rhetoric through the concept of *integrity*. Integrity can manifest in many states as purity (i.e., free from corruption or adulteration) or completeness of form, physicochemical composition, or context. It has come to be an expression of authenticity in that it conveys some truthfulness of the original in time and space, a quality constructed partly in response to the unnatural interventions perpetrated by us in our effort to preserve.[1] Whereas archaeology decontextualizes the site by representing it *ex situ*, in site reports and museum exhibits, historic preservation represents and interprets the site *in situ*.

But archaeological sites are also places. If we are to identify and understand the nature and implications of certain physical relationships with locales established through past human thought and experience, we must do it through the study of *place*. Places are contexts for human experience, constructed in movement, memory, encounter, and association (Tilley 1994: 15). While the act of remembering is acutely human, the associations specific places have at any given time will change. In this last respect, conservation itself can become a way of retrying cultural identities and historical narratives over time through valorization and interpretation. In the end, all conservation is a critical act in that the decisions regarding what is conserved, and who and how it is presented, are a product of contemporary values and beliefs about the past's relationship (and use) to the present. Nevertheless, technical intervention—that is, what is removed, what is added, what is modified—is the concrete expression or a critical judgment thus formed in the course of this process. What, then, does it mean to conserve and display an

Figure 2
Çatalhöyük, Turkey.
Structural collapse
and plaster surface
delamination occur almost
immediately on exposure
and require both large- and
small-scale temporary
treatments during
and after excavation.
Photo: Frank Matero

archaeological site, especially when what is seen was never meant to be displayed as such, or at least in the fragmented manner viewed?

Archaeological sites are what they are by virtue of the disciplines that study them. They are made, not found. Archaeological sites are constructed through time, often by abandonment, discovery, and amnesia (figs. 3–6). As heritage they are a mode of cultural production constructed in the present that has recourse to the past (Kirshenblatt-Gimblett 1998: 7). Display as intervention is an interface that mediates and therefore transforms what is shown into heritage, and conservation's approaches and techniques have always been a part of that process.[2] Beginning with the Sixth International Congress of Architects in Madrid in 1904 and later with the creation of the Charter of Athens following the International Congress of Restoration of Monuments (1931), numerous attempts have been made to identify

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Figure 3–6
Coronado State Monument
(Kuaua), New Mexico. The
discovery and excavation
(fig. 3), reconstruction
as a ruin (figs. 4 and 5),
and subsequent neglect
and erosion (fig. 6) of an
earthen ancestral puebloan
village, ca. 1934–2000.
Figures 3, 4, and 5 courtesy
of the Palace of the
Governors Photo Archives
(NMHM/DCA), 45374,
H.P.2007.20.467, and 80238.
Figure 6 photo: Frank
Matero

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and codify a set of universal principles to guide the conservation and interpretation of structures and places of historic and cultural significance.

Despite their various emphases and differences, all these documents identify the conservation process as one governed by absolute respect for the aesthetic, historic, and physical integrity of the structure or place and requiring a high sense of moral responsibility. Implicit in these principles is the notion of cultural heritage as a physical resource that is at once valuable and irreplaceable and an inheritance that promotes cultural continuity in a dynamic way.

Summarized from the more recent documents, these principles can be outlined as follows:

- The obligation to perform research and documentation, that is, to record physical, archival, and other evidence before and after any intervention to generate and safeguard knowledge of structures and sites and their associated human behavior;
- The obligation to respect cumulative age-value, that is, the acknowledgment of the site or work as a cumulative physical record of human activity embodying cultural beliefs, values, materials, and techniques and displaying the passage of time through weathering;
- The obligation to safeguard authenticity, an elusive quality associated with the genuine materiality of a thing or place as a way of validating and ensuring authorship or witness of a time and place;
- The obligation to perform minimal reintegration, that is, to reestablish structural and visual legibility and meaning with the least physical interference; and
- The obligation to perform interventions that will allow other options and further treatment in the future. This principle recently has been redefined more accurately as "retreatibility," a concept of considerable significance for architecture, monuments, and archaeological sites given their need for long-term high-performance solutions, often structural in nature.

Every conservation measure is a dialectic that engages in the definition, treatment, interpretation, and uses of the past today. Often historical arguments for or against the designation and retention of cultural property are based on an epistemology of scholarship and facts. Facts and scholarship, however, are explanations that serve the goals of conservation and are a product of their time and place.

Out of this dilemma, our current definition of conservation has emerged as a field of specialization concerned primarily with the material well-being of cultural property and the conditions of aging and survival, focusing on the qualitative and quantitative processes of change and deterioration. Conservation advocates minimal but opportune interventions conducted with traditional skills as well as experimentally advanced techniques. In contemporary practice, it has tended to avoid the renewal of form and materials; however, the level of physical intervention possible

can vary considerably even under the current doctrinal guidelines. This includes even the most invasive methods such as the reassembly of original elements (i.e., anastylosis) and the installation or replication of missing or damaged components. Such interventions, common on archaeological sites, are often based on the desire or need for greater visual legibility and structural reintegration. These interventions become even more critical if they sustain or improve the future performance or life of the site or structure in its environment.

Obviously, for archaeological sites, changing or controlling the environment by reburial, building a protective enclosure or shelter on site, or relocating selected components such as murals or sculpture, often indoors, are options that allow maximum physical protection and thus privilege the scientific value inherent in the physical fabric. However, such interventions significantly affect the contextual meaning and associative and aesthetic values, an aspect already discussed as significant for many such sites. Conversely, interventions developed to address only the material condition of objects, structures, and places of cultural significance without consideration of associated cultural beliefs and rituals can sometimes denature or compromise their power, "spirit," or social values. In this regard, cultural and community context and dialogue between professionals and stakeholders are crucial.

If we accept the premise that the practice of conservation began with the relational study of the underlying causes of deterioration and the refining of an etiological approach, then it was in 1898, with the publication of Freidrich Rathgen's handbook of conservation for antiquities and the earlier founding of his conservation laboratory at the Berlin Museum, that the field was born (Rathgen 1898). Yet within the understood limitations of the scientific method to generate certain kinds of data, conservation still begins and ends as an interpretation of the work. One is not only dealing with physical artifacts and structures, but with complex cultural questions of beliefs, convictions, and emotions, as well as with aesthetic, material, and functional significance. Science helps to interpret, but it cannot and should not create meanings or singularly represent one truth.

Archaeological Sites

The conservation and management of archaeological sites is a field of increasing interest, as evidenced by a growing number of professional conferences, published proceedings, and international projects (Matero et al. 1998: 129–42). Archaeological sites have long been a part of heritage and its display, certainly before the use of the term "heritage" and the formal study of tourism. However, current concern can be attributed to the perception among the public and professionals that archaeological sites, like the natural environment, represent finite nonrenewable resources deteriorating at an increasing rate. This deterioration is due to a wide array of causes, ranging from neglect and poor management to increased visitation

and vandalism, from inappropriate past treatments to deferred maintenance and treatment renewal. No doubt the recent pressures of economic benefit from tourist activities in conjunction with increasing communication and mobility have caused accelerated damage to many sites unprepared for development and visitation.

Despite the global increase in the scale of these problems, issues of recovery, documentation, stabilization, interpretation, and display have been associated with many important sites since the late nineteenth century.[3] [. . .]

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In addition to [. . .] various international attempts to address the issues of archaeological site conservation through the creation of charters and other doctrinal guidelines, a conference to discuss the realities of such standards was held in Cyprus in 1983 under the auspices of lCCROM and UNESCO. In the context of the conference subject, that is, archaeological sites and finds, conservation was defined as traditionally concerned with the preservation of the physical fabric in a way that allows maximum information to be retrieved by further study and analysis (fig. 7), whereas restoration involves the representation of objects, structures, or sites so that they can be more visually "accessible" and therefore readily understood by both scholars and the public (Foley 1995: 11–12) (fig. 8).

From the scholar's position, the maximum scientific and historical information will be obtained through recording, sampling, and analysis immediately on exposure or excavation. With each passing year, except under unique circumstances, sensitive physical information will be lost through exposure and weathering. It is true that when archaeologists return to existing previously excavated sites, they may collect new information not previously identified, but this is often the result of new research inquiries on existing finds and archived field notes. Exposed sites, depending on the nature of the materials, the environment, and the state of closure of the site, will yield limited, certainly diminished archaeometric information, especially for fragile materials or features such as macro- and microstratigraphy, surface finishes, impressions, and residue analysis. Comprehensive sampling programs, instrumental recording, and reburial maximize the preservation of the physical record both indirectly and directly. Sites with architectural remains and landscape features deemed important to present for public viewing require quite different strategies for conservation and display. Here the record of approaches is far older and more varied, both in method and in result (e.g., Knossos, Casa Grande [Arizona], Pompeii, and the Stoa of Attalos).

Not to distinguish between the specificity of what is to be conserved on site, or retrieved for that matter, given the impossibility of doing so, makes for a confused and often compromised archaeological program and interpreted site. Too often conservation is asked to address the dual requirements of an archaeological site as *document* and *place* without explicit definition and identification of what is actually to be preserved. The results have often been compromised physical evi-

Figure 7
Convent of Mission
San Jose, Texas. Stone
consolidation and mortar
repairs were identified
as the most minimal
interventions necessary
to stabilize and reinstate
the form but preserve
the original fabric of this
unique column on site.
Photo: Frank Matero

dence through natural deterioration—or worse, through failed treatments meant to do the impossible. On the other end, the need to display has sometimes resulted in confused and discordant landscapes that deny the entire story of the site and the natural and sublime state of fragmentation all ruin sites possess.

This last point is especially important on the subject of interpretation and display. In an effort to address the economic benefits from tourist development, many archaeological sites have been directly and heavily manipulated to respond to didactic and re-creational programs deemed necessary for visual understanding by the public. In many cases this has resulted in a loss of place, accompanied sometimes by accelerated damage to those sites unprepared for development and visitation. To balance this growing trend of seeing archaeological sites as predominantly outdoor museums, shaped by current museological attitudes and methods of display, it would be useful to approach such sites instead as cultural landscapes with phenomenological and ecological concerns. A more balanced combination of
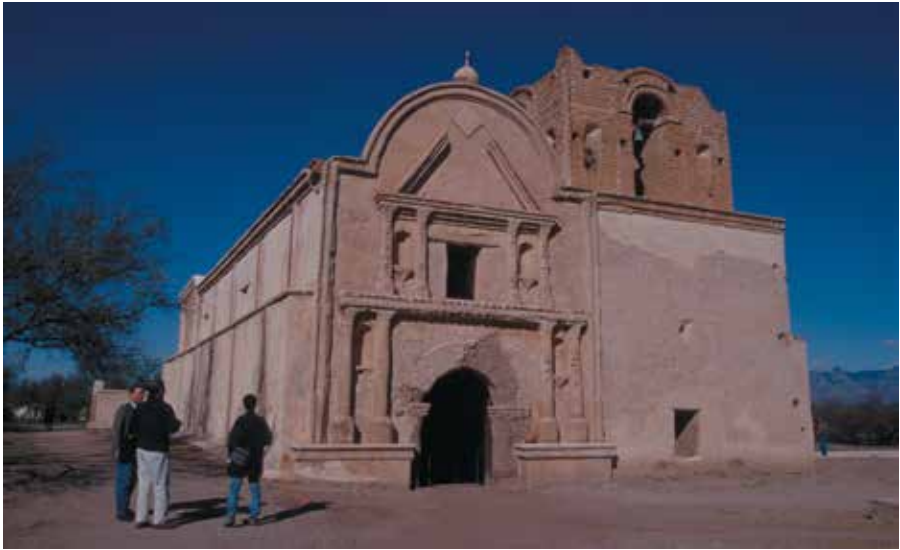
Figure 8
Tumacacori, Arizona.
Stabilization and early
partial reconstruction of
the church facade.
Photo: Frank Matero

approaches could also mediate the often difficult but powerful overlay of subsequent histories visible on archaeological sites, including destruction, reuse, abandonment, rediscovery, and even past interpretations.

Conclusion

Like all disciplines and fields, archaeological conservation has been shaped by its historical habit and by contemporary concerns. Important in its development has been the shifting, even expanding notion of site conservation to include the stabilization and protection of the whole site rather than simply in situ artifact conservation or the removal of site (architectural) features. The public interpretation of archaeological sites has long been associated with the stabilization and display of ruins. Implicit in site stabilization and display is the aesthetic value many ruin sites possess based on a long-lived European tradition of cultivating a taste for the picturesque. With the scientific investigation and study of many archaeological sites beginning in the late nineteenth century, both the aesthetic and the informational value of these sites was promoted during excavation-stabilization. In contemporary practice, options for archaeological site conservation have included reconstruction, reassembly (anastylosis), in situ preservation and protection including shelters and/or fabric consolidation, ex situ preservation through removal, and excavation or reburial with or without site interpretation.

Despite the level of intervention, that is, whether interpretation as a ruin is achieved through anastylosis or reconstruction, specific sites, namely, those possessing monumental masonry remains, have tended to establish an idealized

approach for the interpretation of archaeological sites in general. However, earthen tell sites such as Çatalhöyük in central Turkey at once challenge these ingrained notions of ordered chaos and arranged masonry by virtue of their fragile materials, temporal and spatial disposition, and sometimes conflicting relationships among foreign and local professionals and traditional communities. Moreover, changing notions of "site" have expanded the realm of what is to be interpreted and preserved, resulting in both archaeological inquiry and legal protection at the regional level. These aspects of site conservation and interpretation become all the more difficult when considered in conjunction with the demands of tourism and site and regional development for the larger physical and political contexts.

Archaeological sites, like all places of human activity, are constructed. Despite their fragmentation, they are complex creations that depend on the legibility and authenticity of their components for public meaning and appreciation. How legibility and authenticity of such structures and places are realized and ensured must be carefully considered and understood for effective conservation. Certainly conservators, archaeologists, and cultural resource managers need to know well the theoretical concepts and the history of those concepts pertaining to conservation; they need to know something of the historical and cultural context of structures and sites, archaic or past building technologies, and current technical solutions. They need to familiarize themselves with the political, economic, and cultural issues of resource management and the implications of their work for local communities, including issues of appropriate technology, tradition, and sustainability.

The basic tenets of conservation are not the sole responsibility of any one professional group. They apply instead to all those involved in the conservation of cultural property and represent general standards of approach and methodology. From the broadest perspective, archaeology and conservation should be seen as a conjoined enterprise. For both, physical evidence has to be studied and interpreted. Such interpretations are founded on a profound and exact knowledge of the various histories of the thing or place and its context, on the materiality of its physical fabric, on its cultural meanings and values over time, and its role and effect on current affiliates and the public in general. This implies the application of a variety of specialized technical knowledge, but ideally the process must be brought back into a cultural context so that the archaeology and conservation project become synonymous.

Notes

1   Integrity is a common requirement for heritage found in many conservation charters and codes of ethics. Sec AIC Code of Ethics and Guidelines for Practice, in *AIC Directory* (Washington, D.C.: American Institute for Conservation of Historic and Artistic Works, 1995), 22–29; Australia ICOMOS (1999), 38–47; IIC-CG and CAPC, Code of ethics and guidance for practice for those involved in the conservation

of cultural property in Canada, in *US/ICOMOS Charters and Other International Doctrinal Documents, US/ICOMOS Scientific Journal* 1, no. 1 (1999): 55–59. UKIC, *Guidance for Conservation Practice* (London: Institute for Conservation of Historic and Artistic Works, 1981), 1; The Venice Charter, International Charter for the Conservation and Restoration of Monuments and Sites, *US/ICOMOS Charters and Other International Doctrinal Documents, US/ICOMOS Scientific Journal* 1, no. 1 (1999): 7–8.

2 One of the earliest publications on display is M. W. Thompson's *Ruins—Their Preservation and Display*.

3 For a general summary, see Schmidt 1997; Stubbs 1995.

References

Berducou, M. 1996. Introduction to archaeological conservation. In *Historical and Philosophical Issues in the Conservation of Cultural Heritage*, ed. N. P. Stanley-Price, M. K. Talley Jr., and A. M. Vaccaro, 248–59. Los Angeles: Getty Conservation Institute.

Demas, M. 2000. Planning for conservation and management of archaeological sites: A values-based approach. In *Management Planning for Archaeological Sites*, ed. J. M. Teutonico and G. Palumbo, 27–54. Los Angeles: Getty Conservation Institute.

Foley, L. 1995. The role of the objects conservator in field archaeology. In *Conservation on Archaeological Excavations*, ed. N. P. Stanley-Price, 11–19. Rome: ICCROM.

Kirshenblatt-Gimblett, B. 1998. *Destination Culture*. Berkeley: University of California Press.

Mason R., and E. Avrami. 2000. Heritage values and challenges of conservation planning. In *Management Planning for Archaeological Sites*, ed. J. M. Teutonico and G. Palumbo, 13–26. Los Angeles: Getty Conservation Institute.

Matero, F., et al. 1998. Archaeological site conservation and management: An appraisal of recent trends. *Conservation and Management of Archaeological Sites* 2 (3): 129–42.

Rathgen, F. 1898. Die Konservirung von Alterthumsfunden. Berlin: W. Spemann. [First English translation: Auden, G., and H. Auden, trans. *The Preservation of Antiquities: A Handbook for Curators*. Cambridge: Cambridge University Press, 1905.]

Schmidt, H. 1997. Reconstruction of ancient buildings. In *The Conservation of Archaeological Sites in the Mediterranean Region*, ed. M. de la Torre, 41–50. Los Angeles: Getty Conservation Institute.

Sivan, R. 1997. The presentation of archaeological sites. In *The Conservation of Archaeological Sites in the Mediterranean Region*, ed. M. de la Torre, 51–59. Los Angeles: Getty Conservation Institute.

Stubbs, J. 1995. Protection and presentation of excavated structures. In *Conservation on Archaeological Excavations*, ed. N. P. Stanley-Price, 73–89. Rome: ICCROM.

Thompson, M. W. 1981. *Ruins—Their Preservation and Display*. London: British Museum Publications.

Tilley, C. 1994. *A Phenomenology of Landscape*. Oxford: Berg.

Laurajane Smith

Towards a Theoretical Framework for Archaeological Heritage Management (1993)

The process and strategies employed by archaeologists and/or government organizations to conserve, regulate, and control archaeological resources—known as archaeological heritage management—have been accepted and recognized to the extent that they have become part of state laws and bureaucratic processes. Smith uses the Australian experience to argue that archaeological heritage management in its current form is more than a set of accepted conservation practices. Rather, it has multiple roles in addressing Western cultural, political, and ethical concerns about physical conservation but also in institutionalizing and privileging archaeological knowledge and ideology within state agencies and discourses. Smith characterizes archaeological heritage management as a process that is implicitly concerned with the definition of, and debates about, cultural, historical, social, and national identities. A principal question to be addressed is, How and why and under what hegemony are institutionalized decisions about the archaeological heritage made?

The need to theorise and 'make sense' of the competing values attributed to heritage, and the processes and strategies employed to control such values, has become increasingly important. As conflict over access to heritage objects increases, and as debates about contested pasts and cultural identity become more heated and broader in scope, it has become necessary for archaeologists to define not only their position, but their role in such debates. The processes and strategies employed by archaeologists and/or government organisations to regulate and control the use of heritage sites, or what are sometimes referred to as archaeological resources,

are often identified by the term 'archaeological heritage management' (or 'cultural resource management', or simply 'heritage management').

As part of the process of theorising it is necessary to define what is meant by the term 'archaeological heritage management' (AHM). [. . .]

Previous definitions of AHM tend to define AHM as a process or set of practices aimed at the management of cultural heritage. While such definitions are valid, AHM is much more than this and fulfills other roles and functions. Most definitions of AHM tend to focus on the technical aspects of AHM and ignore the socio-political context of AHM practice. Even when the political aspects of AHM are acknowledged little analysis is often made of the role of archaeological practice and theory in political and cultural debates and conflicts.

I will argue that AHM can more usefully be conceived as:

a a process which fulfills part of a Western cultural, political and ethical concern with the conservation and curation of material items;

b a process which institutionalises archaeological knowledge and ideology within State institutions and discourses;

c a process which is implicitly concerned with the definition of, and debates about cultural, historical, social and national identities.

Archaeological heritage management, especially in post-colonial societies, embodies a process of cultural domination and imperialism in which archaeological knowledge is privileged and institutionalised within the State. Through this process archaeology is used within State discourse to arbitrate on cultural, social and historical identities, and archaeology itself gains some disciplinary authority and 'identity' within this process. In Australia this process is most apparent in debates and conflict over Aboriginal cultural identity, but is no less relevant to the management of non-Aboriginal heritage. This term refers to heritage objects, sites and places relating to the European and non-European history of Australia. Although this chapter will develop a definition of AHM that has particular resonance in an Australian context, it will be argued that the conceptualisation of AHM that is advanced is of relevance also to AHM as practiced in Britain.

A History of the Development of Archaeological Heritage Management

Australian archaeological heritage management, or cultural resource management as it was then called, first developed as an organised and governmental process in the 1960s. The first government act which aimed to protect heritage objects was the New South Wales *National Parks and Wildlife Act, 1967* (since replaced by a 1974 act).

Many of the concepts and ethos of AHM were imported to Australia from the USA (Bowdler 1981, 1984; Smith 1996). The importation and development of conservation concepts, practices and policies coincided with increasing govern-

ment and public concerns over environmental degradation and uncontrolled land development (Davison 1991a and this volume [not included here]). It was also correlated to an increasing recognition of the importance of Australian archaeology.

In the history of Australian archaeology the 1960s is often portrayed as a period in which the discipline underwent rapid re-evaluations of the significance and value of the Australian archaeological resource (see Murray and White 1981; McBryde 1986; Mulvaney 1990). At the beginning of this decade the Aboriginal past was considered to be very recent, no more than a few thousand years old. By the middle of the decade the occupation of Australia was found to date into the Pleistocene. By the end of the decade dates in the order of 35,000 years old had been established (White and O'Connor 1983). Australian archaeology had, by the 1970s, 'come of age'. The establishment of these dates meant that Australian archaeology was finally considered to have the ability to contribute to world archaeology. This ability was reinforced by the 1960s immigration from Cambridge University of some of the first professionally trained archaeologists to work in Australia.

Archaeologists in the 1960s and early 1970s agitated and lobbied for the protection of archaeological resources and the development of government legislation to protect both Aboriginal and non-Aboriginal cultural heritage (Edwards 1975: 112–14; Mulvaney 1990; Davison 1991b). This call was reinforced and strengthened by public concerns about the environment, and by Australian building unions which placed work bans, or 'green bans', on the 'development' of historic buildings and bushland (Davison 1991b).

A further event which, I will argue later, influenced the development of AHM in Australia, was the Aboriginal Land Rights Movement. This movement obtained citizenship for Aboriginal people in 1967. Prior to this date Aborigines were not legally recognised as Australian citizens nor were they counted in government censuses. Aboriginal activism gained increasing momentum in the early 1970s, as witnessed by the establishment of the Aboriginal tent embassy on the lawns of Parliament House.

Public concern over the preservation of heritage, Aboriginal concerns over cultural sovereignty, coupled with increasing archaeological concerns to prevent the loss of what was an obviously archaeologically important resource, all worked to establish the character of AHM as practiced in the 1990s. But before I examine how these have influenced AHM, it is important to note that a further event had significant impact on the development of AHM not only in Australia, but in Britain and the USA as well.

The 1960s and 1970s also mark the development and maturation of the New Archaeology. Archaeology was firmly established in this period as a Science with rigorous and systematic methodology modeled on the physical sciences. This development had tremendous influence on the development of AHM which incorporated not only the 'scientific rigour' and methodology of the New Archaeology, but also the authority given to archaeology by its new identity as a Science. It is this

development which has helped the institutionalisation of AHM and of archaeology as a whole. It is also the institutionalisation of the New Archaeology through AHM in policy discourses that had significant ramifications for the development of archaeological theory in the 1990s.

Previous Definitions of Archaeological Heritage Management

Previous definitions of AHM have often been descriptive and, with few exceptions (e.g., Carman 1991; Byrne 1991), have tended to avoid placing AHM in either a disciplinary or theoretical context. Such descriptions have relied on technical and scientistic language which have tended to constrain critical analysis of AHM. Previous definitions tend to formularise its practice and underlying conservation principles and ethics (e.g., Kerr 1990; Hall and McArthur 1993a). They have also focused on describing AHM's legislative and government policy base (e.g., McGimsey and Davis 1977; D. Fowler 1982; Ross 1986; Darvill 1987; Cleere 1984a, 1984b; Flood 1987). Other definitions or debates about AHM have been focused on particular issues, such as 'who owns the past', reburial issues, repatriation, tourism issues, or rights of access to Stonehenge, to name but a few (e.g., McKinlay and Jones 1979; Green 1984; Cleere 1989; Shanks and Tilley 1987a, 1987b; Davison and McConville 1991). While such issues are of paramount importance to AHM and archaeology as a whole, to simply perceive AHM as an arena where such issues are debated has two major consequences.

Firstly, such issues are seen primarily as being AHM issues, and not necessarily issues in which the whole of archaeology must engage. AHM is often used or conceptualised as an intellectual 'buffer' or barrier between political and cultural issues, and a pristine conceptualisation of archaeology as an intellectual and 'scientific' discipline. By identifying AHM with political issues archaeology as a discipline is one step removed from cultural and heritage politics.

Secondly, AHM as an arena for particular issues is very neatly divorced from the rest of archaeology. AHM simply becomes an area of practice which intersects with other interests in heritage. Such a conceptualisation of AHM has meant that little intellectual space has been made for conceiving of heritage as a process which is influenced by, and which in turn influences, archaeological theory and practice.

Descriptions which concentrate on AHM practice, legislation and policy or AHM issues have helped to create the opinion that AHM is separate from archaeology. Such a separation has often led to the marginalisation of AHM, and AHM is often devalued as an area that contributes little to archaeological research (Renfrew 1983; Carman 1991). As a protector and manager of archaeological data the dismissal of AHM as irrelevant to archaeological research is insupportable. How we manage archaeological sites and what we choose to conserve or destroy has obvious and irrevocable influences on archaeological research. As an embodiment of archaeological practice which is influenced by archaeological theory and ideology,

the separation of AHM from archaeology in general has only confused attempts to define AHM.

Archaeological Heritage Management and the 'Conservation Ethic'

A growing body of literature exists which aims to account for why many Western countries have been concerned to save and conserve material culture. In particular debate has focused on why concerns to systematically save and preserve material culture took on more force and momentum in many countries, including Australia and Britain, in the 1960s and 1970s. These decades saw increasing urban and rural development and increasing public awareness of conservation issues. These concerns are often seen as the impetus for the escalation of conservation issues and management policy (Lowenthal 1990). However, debate continues over why Western industrial countries organise to systematically preserve material culture.

Some authors consider that as modern Western public life grows more abstract and impersonal people have turned with increasing nostalgia back to the past (Chase and Shaw 1989). Associated with this is the need to provide ourselves with material 'anchors' to a past that becomes more distant as the present becomes more complex (Lowenthal 1979; Hall and McArthur 1993b). Some warn that this phenomena is often linked with, or actively utilised by, conservative political parties, and can certainly work to retard present cultural innovations and change (Wright 1985; Hewison 1987). Others see our concern with the past as being tied to an increase in leisure, which has allowed time in which to contemplate the past (Hunter 1981). The need to conserve material from the past has also been given more urgency by the development of an economically powerful cultural tourism industry (P. Fowler 1987, 1992; Smith et al. 1992; Hall and McArthur 1993b).

Whatever the reason for our concern with the past, the development of a conservation ethic during the 1960s and 1970s was not simply a response to rapid development and threats to heritage. Western concerns for material culture from the past have a long history, and the development of AHM can be seen to reflect a more basic social and cultural function than the simple appeasement of a 'conservation ethic'. Western societies have, through museums, long been concerned with the acquisition and preservation of material culture from our own and other countries' pasts.

Museums play an important social and cultural role in helping to educate the public about history and the nature of other cultures. As a growing critical literature has argued, museums present items selected by curators as important or significant in expressing and symbolising a past that provides the basis from which we in the present construct notions of self and cultural identity (Clarke 1988; Pearce 1990; Merriman 1991; Hooper-Greenhill 1992; Moser 1996). Indeed the procurement of antiquities from colonised countries or peoples by museums occurred

in association with, and as part of the processes of, imperialism, colonisation and economic domination (Gidiri 1974; Marrie 1989). The collection of such antiquities often added an element of symbolism that helped to reinforce more concrete political and economic domination.

AHM developed out of an already existing ethos or concern in Western society with the documentation and preservation of objects from the past, and simply expanded such concerns to immovable objects and places.

As part of the development of AHM in Australia there has been the continual redefining of Australian history. From the 1960s there have been an increasing number of counter and alternative histories written which criticise traditional Australian history for failing to consider the histories of the working class, women, migrants and Aborigines in accounts of the Australian past. In the build up to the Australian bicentennial and our move to become a republic, debate has increased over the definition of Australian cultural identity (e.g., Reynolds 1982; Sykes 1989; Pilger 1989; Pettman 1992; Burgmann and Lee 1988; see also the journals *Aboriginal History*, *Labour History*, *Refractory Girl*).

Such debates are often reflected in what is saved and preserved by AHM in Australia. The things that are considered important enough to conserve often reflects those things which are identified as symbolising Australian cultural identity. As the debates shift, so too do those things which are conserved.

The preservation of objects in museums or the preservation of sites and places fulfills an important social, cultural and political role in Western societies. The conservation of such things is important in the process of providing and/or controlling individual, cultural, social and historical identity. The conservation of material from the past is important in providing a sense of community, a sense of a shared past that helps bond community and social identity (Lowenthal 1990; P. Fowler 1992). The provision of such perceptions is political, particularly when such perceptions obscure, as they often do, inequality and divisions within communities. The political aspects of this process were intensified when heritage management was given structure and coherence by government policy and legislation.

The Institutionalisation of Archaeological Heritage Management and Archaeological Ideology

In fulfilling the cultural and political roles described above AHM has become a vehicle through which archaeology has, or is at least publicly seen to have, direct cultural impact and relevance. Through this process archaeology is often given *social* authority as it is seen to impact upon and give meaning to the past and, by association, aspects of the present. In addition AHM also provides archaeology with *institutional* authority. Such authority reinforces archaeology's social authority, and ensures archaeology a role in the processes and strategies employed to conserve a nation's heritage. It must be noted, however, that such authority is

not absolute, and although archaeology often obtains authority over non-Scientific heritage interest groups, archaeological concerns are often marginalised in relation to, for example, economic interests and concerns.

Davison (1991a: 11) notes that, despite the wide range of competing interests in, and the degree of public concern with, heritage it is inevitably professionals, such as archaeologists, historians and architects, who have come to dominate the management of material culture. In understanding why it is that professionals like archaeologists dominate heritage management it is necessary to understand the role and authority of intellectuals in Western societies.

Bauman (1987, 1989) offers some useful insights into the role of intellectuals in Western societies. Bauman (1987, 1989) identifies and defines two roles fulfilled by intellectuals which he labels 'legislator' and 'interpreter'. Legislators speak as authoritative experts from powerful institutions, and are identified with the traditional Enlightenment view of intellectuals and knowledge. The legislator makes authoritative statements which, due to the legislator's superior knowledge, arbitrate over procedural rules which ensure the attainment of 'truth' (Bauman 1987).

Interpreters aim to facilitate communication between autonomous participants in the social order, rather than choosing 'rational' paths towards an 'improved' social order (Bauman 1987). Bauman argues that the interpreter represents intellectual practice in a post-modern sense—translating statements made in one communally based tradition so that they can be understood within a system of knowledge based on another tradition (1987). This is the intellectual practice that the post-processualists Shanks and Tilley (1987a, 1987b), Hodder (1989, 1991) and Leone et al. (1987; Leone and Potter 1992) aim to fulfill or imply that this is the role to which the discipline of archaeology should aspire. However, it is not easy for the 'interpreter' to escape the authority of the 'legislator'.

Bauman argues that these two forms of intellectual practice often operate simultaneously (1987). Individuals, disciplines and institutions *may* operate as both legislators and interpreters. Although the role of the interpreter may, on the face of it, be seen as more 'progressive' than the legislator, the interpreter none-the-less utilises the claims of intellectuals to meta-professional authority. The interpreter still speaks from the privileged position of the intellectual in making binding statements on procedural rules (Bauman 1987).

Bauman's (1987, 1989) definition of the roles of intellectuals provides a useful conceptual framework in which to illustrate the link between archaeology (via AHM) and the State. Archaeologists within heritage management act as both legislators and interpreters. Archaeologists act as legislators in AHM in the sense that their knowledge is often used to arbitrate on conflicts over the use of heritage sites. At the same time archaeological knowledge is used as an interpretive bridge between different conceptualisations or understandings of the past. This is particularly the case in post-colonial societies where obviously distinct cultural groups exist with differential political power and resources.

In any definition or discussion of heritage management the existence of conflict is always emphasised. Conflict often arises over the different values attributed to heritage by interest groups; over the use of heritage sites; over different conceptualisations and meanings attributed to heritage objects, sites and places; and over the various different expressions of cultural and historical identity. AHM is directly concerned with the management, regulation and mitigation of conflict over the use of cultural heritage.

The interaction of the various groups who have an interest in cultural heritage is controlled and regulated by the strategies and management processes embodied in AHM. AHM does not only manage physical objects, sites and places, but also regulates and structures the conflicts which arise between competing values and conceptualisations of the past. Such conflicts are structured by the various pieces of heritage legislation enacted in each country where some form of heritage management exists. The legislation establishes a hierarchy which almost inevitably reinforces the authority of intellectuals to arbitrate on procedure and knowledge. Heritage legislation, in effect, embodies and reinforces Western hegemonic structures that privilege intellectual practices and knowledge. In Australia, Britain and the USA it is archaeologists who are either explicitly recognised under heritage legislation as arbitrators over heritage conflicts or who are employed by the government institutions responsible for the legislation to interpret and implement that legislation (see D. Fowler 1982; Saunders 1983; Ross 1986; Darvill 1987; Geering and Roberts 1992; Leone and Preucel 1992). In short, archaeological knowledge is ensured a role in heritage discourse and policy, but this does not mean that this position is not itself compromised by bureaucratic rationality and political compromises.

Historically archaeologists themselves have been concerned to ensure their primacy in conflicts over the use of cultural heritage. In the 1960s and 1970s, when the public and governments in Australia, Britain and the USA became increasingly concerned with the conservation of both cultural and natural heritage, archaeologists also became increasingly vocal in their calls for the conservation of cultural heritage. At the same time archaeologists also became increasingly concerned with delineating who should control conservation processes. The discourse used in debates dating to this period, and in current debates on heritage management, provides insight into the intellectual role of archaeology in heritage management and State discourses on cultural heritage.

Since the 1960s archaeologists in the USA, Australia and the UK have argued in the academic and popular archaeological literature and in the media about the need for archaeology to prevent the looting and destruction of sites by non-archaeologists and developers. These concerns by archaeologists can not be assumed to be totally altruistic. Such debates and concerns have often been expressed in terms of the rights of archaeological science as universal knowledge to unrestricted access to the 'archaeological resource'. The debate was often framed

with references to rationality and the need for archaeology to obtain information about an objectified past. In such debates archaeologists were presented as stewards for, and protectors of, an objective past (McGuire 1992: 817). Ideas of archaeological *stewardship* abound in these debates (see for example P. Fowler 1981: 68; 1987: 411; Cleere 1988: 39; Merriman 1991: 18; Shanks 1992). So too do the concepts of archaeological resources or archaeological sites. The constant use of terminology that identified an archaeological resource is not simply an accident of expression. Rather the discourse is mapping out the intellectual rights of the archaeological discipline to access and control cultural heritage. The use of such language is firmly defining archaeology as an intellectual interpreter on the past. Further, the use of concepts of stewardship and arguments based on notions of rationality and archaeological 'science' is firmly denoting the legislative intellectual authority of archaeology.

It is not accidental that in Australia, at least, public expressions of archaeological concerns with conservation increased at a time when Aboriginal political movements were concerned to question the role of the State in controlling their cultural and political expression. During the 1960s and 1970s in both Australian and US archaeological debates on conservation there was an explicit concern to distance archaeology from concepts of 'treasure hunters' and 'grave robbers'—criticisms that indigenous people had made about archaeology. As indigenous criticism increases so too do archaeological attacks on antiquities markets, black market sales of 'archaeological' artefacts, and looting of sites by souvenir hunters and antiquities collectors (see for example Clewlow et al. 1971; McGimsey 1972; McGimsey and Davis 1977; Deetz 1977; P. Fowler 1977; Arnold 1978; Cockrell 1980; Gregory 1986). Such debates help, however unconsciously, to proclaim and reinforce archaeology as a legitimate intellectual discipline and practice. These debates almost inevitably employed arguments based on the rights of archaeology as a science to data, and on the concept of science as universal knowledge. The use of such concepts again reinforces archaeological intellectual authority.

The development of the New Archaeology or processual archaeology had a significant impact on these debates. The New Archaeology firmly aligned archaeology with the physical sciences, and by doing so archaeology obtained a disciplinary identity which conformed to Western and bureaucratic notions of intellectuals based on traditional Enlightenment rationality. The emphasis which was placed on objective hypothesis testing, and the idea that through such processes general principles or 'laws' could be obtained, meant that archaeology could easily be taken up and incorporated into State and bureaucratic structures. Commentators on the development of the New Archaeology have noted that one of the significant outcomes of this period was that the old order of power in the archaeological discipline was challenged. It has been noted that acceptance of the logical positivism of the New Archaeology meant that progression through the archaeological ranks was no longer based on your social status or that of your patron, but on the results of

your research (Redman 1991). In short, the 'truth' of your archaeological research would ensure your success within the discipline. This of course was, and is, a simplistic view of how power is regulated within archaeology—but the important point is that such assumptions illustrate the faith that many archaeologists had in the power of intellectual authority based on rationalist philosophy. Such perceptions of the power of rationality have proved useful as such perceptions coincide with the role of intellectuals as structured by bureaucracies.

The use of discourse based on or influenced by the philosophical tenets of the New Archaeology in debates over cultural heritage meant that archaeology was identified as an intellectual authority. The lobbying of archaeologists for the development of heritage legislation and policy could be recognised by, and subsequently incorporated within, the sphere of State concern. Archaeology, and its conceptualisation of cultural heritage, was included within the ambit of State discourse in a way that Aboriginal and other heritage interest groups could never be. Archaeology as a 'rational' intellectual discipline could be understood by the State apparatus simply because both share common assumptions about 'rationality'. Claims to cultural heritage based on non-rationalist or non-Western knowledge were and are effectively locked out of or excluded from effective participation in the discourse.

The alignment of the discipline of archaeology with the Science of the New Archaeology came at a time when the State was increasingly concerned with cultural heritage. How much the development of each phenomenon influenced the other could be speculated upon. However, one of the major consequences of these developments was the institutionalisation of archaeological science in State discourse and State apparatus as embodied by AHM.

In short AHM and the institutionalisation of archaeological philosophy and practice has provided the discipline of archaeology with institutional authority. Importantly this authority is tied to the discipline's intellectual identity. Subsequently not only does AHM provide institutional authority, it has also institutionalised the philosophy and ideology of the New Archaeology.

Contested Pasts and Identity: Archaeological Ideology and State Discourse

Through AHM and the institutionalisation of archaeology, archaeologists have become intellectual arbitrators on issues surrounding contested pasts and identity. Through AHM archaeological discourse can be taken up by the State, or other participants in debates over identity, with or without the intent of the archaeological community. Archaeological pronouncements may be and often are used as legislative statements. Through AHM archaeologists and archaeological pronouncements are also used as interpretive bridges between conflicting conceptualisations of the past. For example, archaeologists and archaeological knowledge are often employed to translate Aboriginal knowledge about the past into a format that may

be incorporated into the bureaucratic structures of heritage management. Further, in debates over the use of Stonehenge archaeological knowledge is often used as a 'yard stick' by management authorities to assess the validity of claims made by alternative groups.

The use of cultural heritage in defining and maintaining a sense of place, identity and/or community has been well documented in the heritage literature (e.g., Lowenthal 1990; Davison 1991a; P. Fowler 1992; Johnston 1992; Hall and McArthur 1993a). Cultural heritage and the way it is managed can play a role in controlling cultural expression as Hewison (1987) points out, or it may form the basis from which cultural and political challenges to normative perceptions are launched (as witnessed by Aboriginal agitation to control their heritage: Geering and Roberts 1992; Fourmile 1989a, 1989b; see also Reekie 1992; Bickford 1993).

The contestation of identity and interpretations of the past can have important political and cultural implications as I argued at the beginning of this chapter. It was argued that AHM fulfills a cultural and political role in Western societies, and through AHM archaeology becomes directly engaged, and often unwittingly aligned, [with] State arbitration and control of cultural identities.

The institutionalisation of archaeology and the use of archaeology in arbitrating on conflicts over cultural heritage and the past helps, in part, to explain why many of the issues traditionally identified with AHM are often so emotive and so intensely political. Such issues are not merely issues of conflict between competing interest groups and a politically disinterested archaeological discipline. In any conflict the use of archaeological knowledge must be seen in the context of power relations. This does not mean to say that archaeological authority is absolute; indeed archaeological interests often lose out to more powerful economic and bureaucratic interests in debates over the use of heritage. The point is that the institutionalisation of archaeological knowledge through AHM makes any debate on the use of cultural heritage intensely political. Further, the outcomes of such debates have very real consequences for all players in the debate.

The institutionalisation of archaeological knowledge also helps to explain why Aboriginal communities and other indigenous peoples have reacted with such political intensity to archaeologists and archaeology. Archaeologists are not simply perceived as disinterested intellectuals undertaking 'objective' research which may or may not support Aboriginal perceptions of their past. Rather archaeology as part of State discourses, institutions and practices impacts upon Aboriginal intellectual and cultural expression and has direct and powerful implications for Aborigines.

Discussion

I have argued that AHM may be defined as a process which has grown out of and embodies cultural and political processes in Western societies. Most importantly

AHM has institutionalised archaeological knowledge, and the philosophies of the New Archaeology in particular. AHM further provides institutional authority and identity for the discipline of archaeology.

Several implications arise from such a definition of AHM. I wish to briefly pursue two in the remainder of this chapter. The first is that this definition provides an opportunity to explore the link between archaeology and State institutions, discourses and practices. Such a definition extends the conceptualisation of the political context and consequences of archaeological practice and knowledge. This is done by explicitly recognising that archaeological knowledge may be used *outside* of the discipline of archaeology and by nonarchaeological interests. The second implication is that we are forced to consider the degree to which archaeology is itself controlled by external forces and interests. Archaeology is not and cannot be self-referential; what we do not only has consequences outside of the discipline, but State and institutional interests also influence the development and dissemination of archaeological knowledge.

In recent years theoretical debate in archaeology has focused on the political and subjective nature of archaeological knowledge. Post-processual and feminist archaeology have identified and discussed the theory-ladenness of archaeological research, and both approaches have realigned archaeology with the social sciences. However, these theoretical developments, and post-processual theory in particular, have tended to ignore the role of AHM in influencing archaeological practice and theory.

Post-processual theory, for example, tends to be overly self-referential, or simply fails to identify the institutional power relations within which archaeology must operate (see Smith 1994 for further discussion). AHM which explicitly places archaeology within institutional, social and cultural hierarchies offers post-processual archaeology an arena in which to explore the power relations within which the discipline sits. Any study of AHM should provide post-processual theory with the links it so desperately lacks between the political realities of archaeological practice and the post-processual call for, what is so far, highly abstract political action.

Both feminist and post-processual archaeology, in criticising the scientistic basis of mainstream archaeology, are also faced with the realisation that such a critique must challenge the institutional power base of archaeology. Such a challenge is important if feminists and post-processualists are to change the way archaeology is practiced and the way archaeological knowledge is propagated. However, any critique which challenges those aspects of archaeology which have been institutionalised within AHM runs the risk of increasingly marginalising archaeology. Critiques of the 'rationalist' bases of archaeology have no currency within bureaucratic structures that demand absolute answers in solving conflicts over the use of cultural heritage. This is not to say that we must not make such critiques, but that we need to do so in the context of a wider understanding of how archaeology

is conceptualised and used outside of the discipline. We also need to provide a workable and equitable alternative to archaeology's role as intellectual 'legislator' and 'interpreter'.

If we do not engage with and analyse the institutionalisation of archaeology then the development of archaeological theory will remain self-referential. Further, AHM will, as many already argue, become isolated from archaeological theoretical developments. Such an isolation will not reflect the inherent lack of links between archaeological theory and AHM, but rather will result from a rejection by heritage bureaucracies of 'irrelevant and confusing' theoretical developments.

Conclusion

The definition of AHM offered in this chapter presents three levels of analysis, each increasing in complexity, through which to theorise AHM. AHM is conceived as fulfilling a cultural role in Western societies; this, together with the development of a Science-based New Archaeology, and the application of scientific principles within archaeology, enabled archaeology to be used as a technical/bureaucratic discourse within State institutions. The use of cultural heritage in establishing and maintaining cultural and other identities adds a further complexity to an analysis of AHM. With the institutionalisation of archaeology, archaeological knowledge plays a role, however limited, in State discourses to arbitrate on debates over cultural identities. Through AHM archaeology as a discipline has become directly engaged with cultural and political debate and conflict.

This definition goes well beyond dealing with AHM as a technical process, where scientific archaeology intersects with law, conservation, planning policies and so forth. My analysis allows for a fuller understanding of AHM than does post-processual theory, which tends to idealise culture, underplays the institutional role of archaeology, and ignores AHM as anything but a reactionary force. A definition of AHM which examines how archaeology is used, and the role archaeology plays, outside of the discipline offers the potential for theorising practical, policy and political aspects of archaeology. Such a theorisation can lead to a more concrete and effective political position than post-processual theory, which creates a false choice between maintaining a positivist position or adopting a post-processual position. In addition the above definition of AHM can allow nations like the United Kingdom to examine how heritage managers play a complex cultural and political role.

References

Arnold, J. B. 1978. Underwater cultural resources and the Antiquities Market. *Journal of Field Archaeology* 5: 232.

Bauman, Z. 1987. *Legislators and Interpreters*. Cambridge, Polity Press.

Bauman, Z. 1992. *Intimations of Postmodernity*. London, Routledge.

Bickford, A. 1993. Women's historic sites. In H. duCros and L. Smith (eds), *Women in Archaeology: A Feminist Critique*. Canberra, Department of Prehistory, RSPacS, Australian National University.

Bowdler, S. 1981. Unconsidered trifles? Cultural resource management, environmental impact statements and archaeological research in NSW. *Australian Archaeology* 12: 123–133.

Bowdler, S. 1984. Archaeological significance as a mutable quality. In S. Sullivan and S. Bowdler (eds), *Site Survey and Significance Assessments in Australian Archaeology*. Canberra, Department of Prehistory, RSPacS, Australian National University.

Burgmann, V. and J. Lee (eds) 1988. *Constructing a Culture: A People's History of Australia Since 1788*. Melbourne, Penguin Books.

Byrne, D. 1991. Western hegemony in archaeological heritage management. *History and Anthropology* 5: 269–276.

Carman, J. 1991. Beating the bounds: archaeological heritage management as archaeology, archaeology as social science. *Archaeological Review from Cambridge* 10:2: 175–184.

Chase, M. and C. Shaw 1989. The dimensions of nostalgia. In C. Shaw and M. Chase (eds), *The Imagined Past: History and Nostalgia*. Manchester, Manchester University Press.

Clarke, D. 1988. Poor museums, rich men's media: an archaeological perspective. In J. Bintliff (ed.), *Extracting Meaning from the Past*. Oxford, Oxbow Books.

Cleere, H. (ed.) 1984a. *Approaches to the Archaeological Heritage*. Cambridge, University Press.

Cleere, H. 1984b. World cultural resource management: problems and perspectives. In H. Cleere (ed.), *Approaches to the Archaeological Heritage*. Cambridge, University Press.

Cleere, H. 1988. Whose archaeology is it anyway? In J. Bintliff (ed.), *Extracting Meaning from the Past*. Oxford, Oxbow Books.

Cleere, H. (ed.) 1989. *Archaeological Heritage Management in the Modern World*. London, Unwin Hyman.

Clewlow, C. W., P. S. Hallinan and R. D. Ambro 1971. A crisis in archaeology. *American Antiquity* 36:4: 472–473.

Cockrell, W. A. 1980. The trouble with treasure—a preservationist view of the controversy. *American Antiquity* 45:2: 333–344.

Darvill, T. 1987. *Ancient Monuments in the Countryside: An Archaeological Management Review*. London, English Heritage.

Davison, G. 1991a. The meanings of 'heritage'. In G. Davison and C. McConville (eds.), *A Heritage Handbook*. Sydney, Allen and Unwin.

Davison, G. 1991b. A brief history of the Australian Heritage Movement. In G. Davison and C. McConville (eds), *A Heritage Handbook*. Sydney, Allen and Unwin.

Davison, G. and C. McConville (eds) 1991. *A Heritage Handbook*. Sydney, Allen and Unwin.

Deetz, J. 1977. *In Small Things Forgotten*. New York: Anchor.

Edwards, R. (ed.) 1975. *The Preservation of Australia's Aboriginal Heritage*. Canberra, Institute of Aboriginal Studies.

Flood, J. 1987. The Australian experience: rescue archaeology Down Under. In R. L. Wilson (ed.), *Rescue Archaeology: Proceedings of the Second New World Conference on Rescue Archaeology*. Southern Methodist University Press.

Fourmile, H. 1989a. Aboriginal heritage legislation and self-determination. *Australian-Canadian Studies* 7:1–2: 45–61.

Fourmile, H. 1989b. Who owns the past?—Aborigines as captives of the archives. *Aboriginal History* 1:3: 1–8.

Fowler, D. D. 1982. Cultural resource management. In M. B. Schiffer (ed.), *Advances in Archaeological Method and Theory*, volume 5: 1–50. New York, Academic Press.

Fowler, P. J. 1977. *Approaches to Archaeology*. London, Adam and Charles Black.

Fowler, P. J. 1981. Archaeology, the public and the sense of the past. In D. Lowenthal and M. Binney (eds), *Our Past Before Us: Why Do We Save It?* London, Temple Smith.

Fowler, P. J. 1987. What price the man-made heritage? *Antiquity* 61: 409–423.

Fowler, P. J. 1992. *The Past in Contemporary Society*. London, Routledge.

Geering, K. and C. Roberts 1992. Current limitations on Aboriginal involvement in Aboriginal site management in central west and northwest New South Wales. In J. Birckhead, T. DeLacy and L. Smith (eds), *Aboriginal Involvement in Parks and Protected Areas*. Canberra, Aboriginal Studies Press.

Gidiri, A. 1974. Imperialism and archaeology. *Race* 15:4: 431–459.

Green, E. L. (ed.) 1984. *Ethics and Values in Archaeology*. New York, The Free Press.

Gregory, T. 1986. Whose fault is treasure-hunting? In C. Dobinson and R. Gilchrist (eds), *Archaeology, Politics and the Public*. York, University Publications, No 5.

Hall, C. M. and S. McArthur (eds). 1993a. *Heritage Management in New Zealand and Australia*. Auckland, Oxford University Press.

Hall, C. M. and S. McArthur. 1993b. Heritage management: an introductory framework. In C. M. Hall and S. McArthur (eds), *Heritage Management in New Zealand and Australia*. Auckland, Oxford University Press.

Hewison, R. 1987. *The Heritage Industry*. London, Methuen.

Hodder, I. 1989. Writing archaeology: site reports in context. *Antiquity* 63: 268–274.

Hodder, I. 1991. Interpretive archaeology and its role. *American Antiquity* 56: 7–18.

Hooper-Greenhill, E. 1992. *Museums and the Shaping of Knowledge*. London, Routledge.

Hunter, M. 1981. The preconditions of preservation: a historical perspective. In D. Lowenthal and M. Binney (eds), *Our Past Before Us: Why Do We Save It?* London, Temple Smith.

Johnston, C. 1992. *What Is Social Value?* Canberra, Australian Government Publishing Service.

Kerr, J. S. 1990. *The Conservation Plan* (third edition). Sydney, NSW National Trust.

Leone, M. P. and P. B. Potter Jr 1992. Legitimation and the classification of archaeological sites. *American Antiquity* 57: 137–145.

Leone, M. P., P. B. Potter Jr and P. A. Shackel 1987. Toward a critical archaeology. *Current Anthropology* 28:3: 283–302.

Leone, M. P. and R. W. Preucel 1992. Archaeology in a democratic society: A Critical Theory perspective. In L. Wandsnider (ed.), *Quandaries and Quests: Visions of Archaeology Future*, pp. 115–135. Carbondale, Southern Illinois University.

Lowenthal, D. 1979. Environmental perception: preserving the past. *Progress in Human Geography* 3:4: 549–559.

Lowenthal, D. 1990. *The Past Is a Foreign Country*. Cambridge, University Press.

McBryde, I. 1986. Australia's once and future archaeology. *Archaeology in Oceania* 21:1: 13–38.

McGimsey, C. R. 1972. *Public Archaeology*. New York, Seminar Press.

McGimsey, C. R. and H. A. Davis 1977. *The Management of Archaeological Resources: The Airlie House Report*. Special publication of the Society for American Archaeology.

McGuire, R. H. 1992. Archaeology and the first Americans. *American Antiquity* 94:4: 816–832.

McKinley, J. R. and K. L. Jones (eds) 1979. *Archaeological Resource Management in Australia and Oceania*. Wellington, New Zealand Historic Places Trust.

Marrie, A. 1989. Museums and Aborigines: a case study in internal colonialism. *Australian-Canadian Studies* 7:1–2: 63–77.

Merriman, N. 1991. *Beyond the Glass Case*. Leicester, University Press.

Moser, S. 1996. Science and social values: presenting archaeological findings in museum displays. In L. Smith and A. Clarke (eds), *Issues in Management Archaeology*. St. Lucia, Tempus, Anthropology Museum, University of Queensland, 32–42.

Mulvaney, D. J. 1990. *Prehistory and Heritage*. Canberra, Department of Prehistory, RSPacS, Australian National University.

Murray, T. and J. P. White 1981. Cambridge in the bush? Archaeology in Australia and New Guinea. *World Archaeology* 13:2: 255–263.

Pearce, S. 1990. *Archaeological Curatorship*. Leicester, University Press.

Pettman, J. 1992. *Living in the Margins: Racism, Sexism and Feminism in Australia*. Sydney, Allen and Unwin.

Pilger, J. 1989. *A Secret Country*. London, Vintage.

Redman, C. 1991. Distinguished Lecture in Archaeology: In defence of the seventies—the adolescence of the New Archaeology. *American Anthropologist* 93:2: 295–307.

Reekie, G. 1992. Women and heritage policy. *Culture and Policy* 4: 91–96.

Renfrew, A. C. 1983. Divided we stand: aspects of archaeology and information. *American Antiquity* 48:1: 3–16.

Reynolds, H. 1982. *The Other Side of the Frontier: Aboriginal Resistance to European Invasion of Australia*. Ringwood, Penguin.

Ross, A. (ed.) 1986. *Planning for Aboriginal Site Management: A Handbook for Local Government Planners*. Sydney, NSW National Parks and Wildlife Service.

Saunders, A. D. 1983. A century of Ancient Monuments Legislation 1882–1982. *The Antiquaries Journal* 63:1: 11–29.

Shanks, M. 1992. *Experiencing the Past*. London, Routledge.

Shanks, M. and C. Tilley 1987a *Social Theory and Archaeology*. Cambridge, Polity Press.

Shanks, M. and C. Tilley 1987b *Re-Constructing Archaeology: Theory and Practice*. Cambridge, University Press.

Smith, L. 1994. Heritage management as postprocessual archaeology? *Antiquity* 68: 300–309.

Smith, L. 1996. Significance concepts in Australian management archaeology. In L. Smith and A. Clarke (eds), *Issues in Management Archaeology*. St. Lucia, Tempus, Anthropology Museum, University of Queensland, 67–78.

Smith, L., A. Clarke and A. Alcock 1992. Teaching cultural tourism—some comments from the classroom. *Australian Archaeology* 34: 43–47.

Sykes, R. B. 1989. *Black Majority*. Melbourne, Hudson Publishing.

White, J. P. and J. O'Conner 1983. *A Prehistory of Australia, New Guinea and Sahul*. Sydney, Academic Press.

Wright, P. 1985. *On Living in an Old Country*. London, Verso.

BRIAN EGLOFF AND DOUGLAS C. COMER

Conserving the Archaeological Soul of Places: Drafting Guidelines for the ICAHM Charter (2009)

Despite the potentially destructive nature of their practice, archaeological conservation is still not a mainstream concern for many archaeologists. This makes instruments such as the International Charter on Archaeological Heritage Management (ICAHM) especially important and brings into sharp focus efforts over the years to develop and refine a code of practice. Egloff and Comer review the history of archaeological conservation endeavors through international charters and instruments leading up to ICAHM and conclude with a forthright assessment of the key challenges in the discipline and directions for the future.

1. Introduction

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[. . .] Regardless of whether they are of the scientific or the arts/humanities persuasion, it must be admitted for the most part that archaeologists seem to be more concerned with the discovery of the past than with the sustainability of the resource. For instance, there is no session at World Archaeology Congress 6 dealing with archaeological conservation while at World Archaeology Congress 5 it was entirely the effort of the Getty Conservation Institute that realized the inclusion of conservation in the program and provided for the publication of the more than

50 papers presented at the sessions (Agnew and Bridgland 2006). The same apparent lack of interest in archaeological heritage management at the international level is demonstrated in regional conferences such as the Indo Pacific Prehistory Association with 600 to 800 members. [. . .]

A survey of the membership of the International Committee for Archaeological Heritage Management (ICAHM) indicates that there is a need for an up-to-date international instrument. With this mandate in mind successive presidents of ICAHM have sought to review the ICAHM charter and draft a set of comprehensive guidelines. [. . .] This paper is a report of the current status of the ICAHM charter guidelines project. Archaeologists often work within a heritage-hostile environment and the maintenance of professional standards may require international support from an instrument that is current and timely; is future orientated; is aimed at an international, rather than a local, professional or national specific audience; has some degree of external authority that predates the particular issues at hand; and does not conflict with the common basis of national heritage legislation but serves to buttress weak points in policy and its implementation.

It has been pointed out that the internationalization of archaeology occurred well before there were any national associations. The first international congress *"pour les études préhistoriques"* met at Neuchâtel in 1866. In 1931, the Eighteenth International Conference of Orientalists met at Leiden (Daniel 1975, 202, 313–314) and a new congress, the International Congress of Prehistoric and Protohistoric Sciences, met for the first time in London in 1932. Following a formal recommendation in 1932, in 1937 the League of Nations drafted the *Cairo Act* during an International Conference convened by the Egyptian Government at the request of the International Museums Office (International Museums Office 1940). At that time, it was believed by some, and most definitely not by all, that "an appeal" for direct co-operation would be more effective than would be "regulations binding on governments" (UNESCO 1955/CUA/68/: 5; refer also to Manual on the Technique of Archaeological Excavations, International Museums Office 1940). After the Second World War, the *Cairo Act* 1937 was followed by its direct successor the *Recommendation on International Principles Applicable to Archaeological Excavations* (UNESCO 1956). It is the UNESCO document that details the consideration of the *Cairo Act* 1937 with respect to the forthcoming drafting of a New Delhi Recommendation that is particularly apropos to understanding the state of international academic archaeology in the 1950s (UNESCO 1955/CUA/68/). Perhaps one of the most telling contributions is that of Australia through the eminent classical archaeologist and Master of the University House of The Australian National University in the late 1960s, when this author was in residence, Professor A. D. Trendale. Trendale expressed particular concern for those countries without an archaeological past such as Australia and urged that those regions rich in archaeological collections, particularly the Mediterranean countries, assist museums in the New World to acquire collections. Trendale writes:

> I think it is most important that Australia should stress particularly the prin-
> ciple that excavators should receive a fair share of the material found. In this
> country, where we lack any archaeological sites in the strict sense of the word,
> it is absolutely impossible to build up an archaeological collection from material
> locally available. (UNESCO 1955/CUA/68 Addendum 1: 2)

An exceptionally narrow and relic driven approach seems to bedevil inter-
national charters as each national representation for the most part evidences a
narrow perspective based upon current issues, at times seemingly highly per-
sonal, rather than a broad approach that focuses upon sustaining the resource
and enhancing the study of the archaeological past. It is apparent that this narrow
reaction of archaeologists to a postcolonial world where they no longer had free
and unfettered access to archaeological resources is strongly expressed in the New
Delhi Recommendation of 1956.

The ICOMOS *International Charter for the Conservation and Restoration of
Monuments and Sites* (ICOMOS 1966), dating to 1964 following the IInd Inter-
national Congress of Architects and Specialists in Historic Buildings that met
in Venice touches only briefly on archaeology and set a disturbing trend. Being
drafted for the most part by architectural restoration specialists it took the empha-
sis away from societies as the caretakers of their heritage and diminished the stress
on research and publication found in the *Cairo Act* 1937.

It was not until the 1990s with the drafting of both the ICAHM charter and
the revised European convention that a more holistic perspective was offered to
the international community. The Council of Europe (1969) prepared the *European
Convention on the Protection of Archaeological Heritage* that was redrafted in 1992
as the *European Convention for the Protection of the Archaeological Heritage of
Europe* (Council of Europe 1992). Emerging in 1990 just prior to the revised Euro-
pean convention was the ICOMOS *International Charter for Archaeological Heri-
tage Management* (ICOMOS 1990). The charter was inspired by some of the same
European heritage specialists that were involved in drafting the revised European
convention with an injection of Australian heritage management expertise.

[. . .] A review of the commentary on the application of the European Conven-
tion provides a fascinating account of the shift in archaeology from an international-
nationalistic pursuit of academics to a popular and more broadly based activity of
international concern with the management and conservation of the resource.

2. Towards International Guidelines

The review of the international literature dealing with archaeological heritage
management has proven to be both time consuming and exhausting. The rate of
publication of new material is indeed prodigious, perhaps marking the interest that
archaeological heritage management is gaining outside of academic circles. The

preliminary report of the ICAHM guidelines project "Archaeological Heritage Management: Towards International Guidelines" now numbers more than 400 pages, fifty of those pages comprising a bibliography of roughly 350 references. There are perhaps as many as 50 more journal articles and edited chapters to be considered for incorporation into the narrative.

Archaeological heritage management has many faces particularly as it is strongly influenced by at least two kinds of legislation—archaeological and antiquities—if not three or four, if one includes environmental conservation and planning instruments, as well as being loosely tied to national and international instruments such as the *Convention Concerning the Protection of the World Cultural and Natural Heritage* (UNESCO 1972). Some national and state/provincial jurisdictions divide archaeological legislation into that dealing with the material culture of indigenous peoples as distinct from that of the settler societies. The issue of who owns archaeological resources varies greatly. Archaeological resources may be owned by the nation or state/province while in other countries the prehistoric materials belong to the property owner. This duality is manifested in the European Council where archaeological heritage managers are to adhere to the *European Convention for the Protection of the Archaeological Heritage of Europe (Revised)*, Valetta 1992 with archaeological resources in the United Kingdom belonging to the landholders, with some exceptions such as treasure trove, while in the Netherlands the resource belongs to the nation.

At the World Archaeology Congress in Dublin, 29 June to 4 July 2008, one of the most contentious issues to engulf the membership was the fate of archaeological resources whose significances are allegedly threatened by the construction of a highway system near the "Hill of Tara", the ancient seat of the kings of Ireland. The role of consultants and academics was questioned within the context of allegations of unseen profits being garnered by private developers. In a highly emotive article titled "The State We're in on the Eve of World Archaeology Congress (WAC 6): Archaeology in Ireland vs. Corporate 'Takeover'", Maggie Ronayne (2008: 115) expresses the view that the professionalization of archaeology "has happened in tandem with increasing corporate control of universities and bureaucratic pressure on academics to orient teaching to meet the needs of industry". This could be true, but on the other hand it has to be acknowledged that the National Roads Authority of the Government of Ireland has developed a code of practise that on the surface appears to be second to none in the world (National Roads Authority n.d.).

3. Mainstreams of Archaeological Inquiry

Each of the [three] geographical regions discussed in the guidelines review, Australia, Europe (in particular the Netherlands, Ireland and the United Kingdom) and the United States of America evidence different trajectories with lag times of

perhaps one to two decades for the timing of when key issues emerge. For example consultant archaeologists were employed in the United States in the 1970s but not in the Netherlands until the 1990s. Settler societies in North America and Oceania are involved with indigenous issues while countries that have experienced prolonged and bitter endemic warfare are concerned with the impact of conflicts on their heritages which are seemingly out of all proportion to the reasonable conduct of war. Each region and nation-state evidences different priorities with commonalities in terms of ethical standards, interpretation of archaeological places and the challenges of World Heritage conservation.

A review of the salient indicators for the future directions of archaeological heritage management was undertaken through the identification of zones of discomfort as evidenced in *Heritage at Risk* (ICOMOS 2001/2, etc.). The analysis of *Heritage at Risk* is supplemented with a review of the sessions at the 2008 World Archaeology Congress. A brief summary follows of some of the salient interrelated challenges.

Generating and using knowledge is a broad category of activity that is based upon objectivity and an ethical approach.

The power of heritage discourse has been known for many years, with its most publicized application being that of the national socialist government of Germany in the 1930s and early 1940s. The power of archaeological discourse continues today with places being destroyed to remove traces of the past of peoples and heritage being selectively conserved to meet with local and national agendas. Regrettably this is evident at World Heritage places where the diverse communities in a nation-state strive for recognition and ownership of the present through glorification of their particular past at the expense of other people's pasts. Heritage as a force in political agendas at times is overwhelming and archaeologists need to seek a balance in how communities and nations relate their heritage to that of others. At the immediate operational level archaeologists must effectively interface with stakeholder groups and ensure that positive benefits return to the individuals that have vested interests in archaeological heritage.

Education, training and qualifications are of major importance to archaeological heritage managers throughout the world.

Standards and guidelines for fieldwork have been codified by many agencies, and consultation guidelines have been developed in various countries including Australia with some agencies like road and transport authorities developing their own standards. As research undertaken by consultants now constitutes perhaps as much as 90% of the archaeology in some jurisdictions, it is important that it be

undertaken to the highest possible standard. This has brought about a review by European nations of quality control in archaeological projects that are mandated by the state/nation usually in circumstances where the client does not care what the quality of the work is, as long as it meets the government's requirements. In many instances the work is of high quality, but the only independent audit to be undertaken, in the Netherlands, suggests that the majority of projects do not meet established standards (van den Dries and Willems 2007, 61). The Government of France under pressure from the European Union has been able to argue effectively that it should preserve its system of a strict state monopoly of archaeological projects as in its opinion it is effective in delivering quality outputs (Demoule 2007).

There is cause to question how effective is the work of consulting firms, or academic consortiums, when it is linked to developmental and governmental projects—"compliance-driven archaeology"—that may require commercial or institutional confidentiality. As publication has long been held to be the standard requirement of archaeologists and a formal international requirement since the *Cairo Act* 1937, how should the profession relate to participants in cultural heritage management projects where the products are not available to academia or the public[?]. Here the concern lies not necessarily only with consultants but also with academics that might undertake such projects and are seen by other archaeologists to be specialists in "developmental clearances". These enterprises might be termed "agencies of last resort" as they frequently "re-work" existing conservation plans such that the client can do whatever they wish regardless of the impacts on the conservation of the archaeological resource.

Standards should be reviewed for archaeologists working abroad who choose to undertake certain kinds of research projects not readily condoned in their homeland. A wide variation in legislation and policies governing archaeological processes means that it is highly likely that what one can do in overseas countries is substantially different from that which an archaeologist can do in their own country. This is particularly true with respect to the excavation of human remains. Should the archaeological community continue to undertake the wholesale excavation of burials in foreign countries knowing that this practise is banned or considered to be highly suspect in their home country and has led in the past to highly acrimonious disputes between archaeologists and local communities?

Continuing professional development needs to be a required component for participation in professional archaeological employment. Educational standards vary substantially between countries. For instance an undergraduate degree is required in Australia while postgraduate qualifications are required to undertake Federal government consultancies in the United States of America. Should the archaeological profession press for a common set of standards or a minimum level of educational attainment followed by a sustained period of professional experience evaluated through a workplace competency process for professional archaeologists?

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Sustainability of resources has never been more important as the world's economies reach such a state of over-development that they have the wherewithal to impact on even the remotest heritage place in the world.

Governance of archaeological heritage resources is a matter that has seldom been addressed in the literature but one that should be of particular interest with respect to collecting institutions. The term governance refers to the organizational level at which policies are formulated that set the agenda for the managers and administrators of an institution (Cuervo-Cazurra and Aguilera 2003). Institutions with specific objectives control heritage resources. In many instances the dominant agenda is not necessarily the conservation of the resource or the reaching of an understanding of its importance to archaeological studies, but the physical possession of it. This focus on the possession of items from the archaeological past often leads to a downplaying of the knowledge base of the artifact as a collecting institution either consciously or through purposeful inactivity hides any telltale signs of a tainted past (Egloff 2008). With this in mind, archaeologists need to press for more open governance policies by national and state collecting institutions as well as by councils that determine the fate of heritage listed places.

The nexus of archaeology and indigenous people has been on the agenda in the international heritage management area since at least the 1970s. The position of indigenous communities in the archaeological process has changed from one of minor involvement to a position where they are the employers of archaeologists and the community sets the agenda. Nevertheless there are very real differences in capacity between indigenous communities and mainstream societies with regard to the wherewithal to manage their respective cultural heritages. This imbalance needs to be addressed at the coal-face with respect to real capacity building through archaeological projects as well as enhancing educational opportunities for the members of indigenous and minority groups. It seems as if only a very few academic archaeologists have made a real difference in the education of indigenous and third world archaeologists while many others have done very little to further the archaeological careers of the peoples that they work with.

Economics of the archaeological heritage are nothing short of remarkable with the returns from heritage tourism sustaining a considerable proportion of the world's population.

Rebuilding of archaeological sites has been held by some practitioners to be an uncomfortable exercise and the examples of over-rebuilding of heritage places are legion. The most recent issue of international concern is the UNESCO report on the World Heritage listed Skellig Michael, the 8th century island monastery off the southwest coast of Ireland where over-reconstruction of some of the ruined stone structures is raised (*Irish Times* 2008). Pressure is growing from management

and the tourist industry to provide neat and clean facilities (including ruins) and consumable and readily understandable heritage packages through the radical transformation of rather disorderly archaeological sites such that all manner of hypothetical alterations are being undertaken. One cannot help but be uncomfortable when visiting a heritage place and noting that its current appearance could not in any way resemble its form during its "real life" when it was populated by "real people". Authenticity of fabric and the limits of acceptable change need to be brought to the fore when interpreting places to the public. No excuses should be given for not detailing in the site interpretation the changes that have taken place during the hypothetical reconstruction.

Development and economics, as discussed above, are almost impossible to disentangle and very much drive the heritage agenda.

Archaeology as a tool of development is known to be both a positive and a negative force, as is discussed above with respect to the "Hill of Tara". Although the value of archaeology in local capacity building is assumed, one of the few articles dealing specifically with archaeology and development is by G. Trotzig, "The cultural dimension of development—an archaeological approach", in *Archaeological Heritage Management in the Modern World*, edited by H. F. Cleere (1989). There are publications presenting vague anecdotal accounts of what archaeology can add to the quality of life in third world countries but nothing that provides hard-core economic data. Oddly enough one of the more detailed economic considerations of the value of cultural heritage is in a collection of papers prepared by the IUCN titled *The Protected Landscape Approach: Linking Nature, Culture and Community* (Brown et al. 2005). "The Protected Landscape Approach in the Czech Republic" (Kundrata and Husková 2005, 137–141) documents in micro-detail an interesting case study of rural sustainability at the small village of Hostetín in eastern Moravia. Reed bed sewerage treatment, energy production by forest waste wood, use of traditional fruit varieties for commercial juice production and sale have contributed to sustainability within which landscape heritage features prominently. It is the detail of the analysis by Kundrata and Husková that offers an alternative to the impressionistic assertions that litter the literature on archaeology, heritage and sustainability. Archaeology needs to construct well-documented and persuasive arguments for the inclusion of archaeology as a component of development and as a tool for capacity building.

Threats to the archaeological heritage seem to be endless when one takes into account both natural and cultural forces.

In the last two meetings of the World Archaeology Congress, the impact of the American invasion of Iraq on cultural heritage resources, in particular

archaeological sites and museum collections, has been discussed and deplored. The considerable damage inflicted on archaeological resources has been well documented but the appropriate relationship of academic and professional archaeologists in terms of cooperating with military powers leading up to and during the invasion of a country is less well defined. Here reference is to the "Archaeology in the Context of War" session at WAC 6 where the wisdom and ethics of archaeologists participating in invasion pre-planning was debated (WAC-6 Ireland 2008). There seems to be scope for a broader and thoughtful discussion of the ethics of archaeologists, be they situation specific or not, when as individuals they are embedded in military operations.

Transfer of tainted or illicit artifacts is of considerable concern to archaeologists with the looting of heritage places continuing unabated in spite of considerable effort by heritage managers. The Society for American Archaeology (1996) has within its code of ethics a statement that "Wherever possible, they should discourage, and should themselves avoid, activities that enhance the commercial value of archaeological objects, especially objects that are not curated in public institutions, or readily available for scientific study, public interpretation, and display". Why include the clause "not curated in public institutions", as upon extensive first-hand research (refer to Egloff 2008 for references and a more detailed discussion), public institutions and quasi-public galleries broadcast a highly visible elitist statement that they will do what they believe to be the best for both their institution and the wider cultural world and in doing so add to their collections whatsoever they wish to.

Natural forces and in particular changing climatic regimes, and the measures that human societies have taken to adapt to change have been the topic of archaeological inquiry. More recently the impact of climate change on the conservation of archaeological resources has begun to take centre stage. The most concentrated effort being undertaken by the University College London with the establishment of the Centre for Sustainable Heritage that specifically considers impacts of the changing climate on the historic environment (Cassar 2005).

Dissemination of archaeological information has grown apace with the 20th Century publication explosion and the creation of Internet Web sites that protest the destruction of archaeological places.

Advocacy of archaeological conservation issues is of considerable concern to the international community of conservation heritage managers. ICOMOS has made an enormous effort in its publication of *Heritage at Risk* to bring to the attention of the wider public key place and theme related heritage issues. Of considerable concern is the lack of a public profile for ICOMOS, its limited and often government dependent financial resources and its sparse following in non-developed nations. The activities of the World Archaeology Congress may have an impact but would

seem to have even less international leverage than does ICOMOS. The Archaeo-
logical Institute of America as North America's oldest and largest organization
devoted to the world of archaeology with nearly 250,000 members and subscribers
does speak out on major issues and has had an impact, as has Heritage Watch since
its foundation in 2003 and the World Monument Watch list of the 100 most endan-
gered heritage places prepared by the World Monuments Fund. There is an obvious
need for a peak heritage advocacy body that has popular appeal and is more broadly
funded, such as is found in the natural heritage regime with the World Wildlife
Foundation or the International Union for Conservation of Nature (IUCN).

4. Summary

Seemingly distinct issues merge when discussing topics of particular interest. For
instance when it comes to ascertaining the quality of values-oriented, commercially
driven archaeology there is considerable discussion of competence, qualifications
and ethics. Is the work competent, is it done by qualified people, is it honest—
doing what it says it does—and does the research add at all to our understand-
ing of the archaeological resource? It is the mandate of archaeologists that their
work should add to our understanding of the past and/or that it should be pointed
towards conserving the remains of past societies so that they can be explored and
reinterpreted by future generations of archaeologists. Academic archaeology was
never perfect, and until the 1960s it was a very small world in which the tens of
archaeologists dealing with a particular realm of the past were able to meet and
discuss their interests, agreements and disagreements.

The World Archaeology Congress at Dublin, 29 June to 4 July 2008, with
more than 1,500 attendees and up to 18 concurrent sessions at any one time leads
one to question the wherewithal of any single organization to respectably represent
archaeological thought and actions. Some 33 themes were discussed in the sessions
[. . .]. Some of the themes were of interest to narrow groups of archaeologists, for
example, archaeology and sexuality, while other subjects such as ethics and con-
flict were of considerable importance to the wider body of archaeologists. Perhaps
WAC 6 evidenced a shift away from archaeology as being based upon a reasoned
body of empirical data to a field more emotionally driven and less able to support its
arguments with anything less than impressionistic observations. What constitutes
archaeology has never been easy to define and certainly that task has not been
made any easier by the growing mandate to actively conserve the resource.

Acknowledgments

References

Agnew, Neville and Janet Bridgland (eds.). 2006. *Of the Past, for the Future: Integrating Archaeology and Conservation*. Proceedings of the Conservation Theme at the 5th World Archaeology Congress, Washington, D.C. Los Angeles: The Getty Conservation Institute.

Australia ICOMOS. 1999. *Charter for the Conservation of Places of Cultural Significance* (Burra, South Australia).

Brown, Jessica, Nora Mitchell and Michael Beresford. 2005. *The Protected Landscape Approach: linking nature, culture and community*. Gland, Switzerland, and Cambridge, UK: IUCN the World Conservation Union.

Cassar, May. 2005. *Climate Change and the Historic Environment*. University College London, Centre for Sustainable Heritage.

Cleere, Henry. 1993. Managing the Archaeological Heritage. *Antiquity*, 67: 400–402.

Council for British Archaeology. n.d. Valetta Convention on the Protection of Archaeological Heritage: a summary of the CBA position, an abbreviated statement of the Council for British Archaeology's position on the key implications of the Valetta Convention, which came into force in the UK in March 2001.

Council of Europe. 1969. *European Convention on the Protection of Archaeological Heritage*.

Council of Europe. 1992. *European Convention on the Protection of the Archaeological Heritage (revised)*, Valetta, 16.1.1992.

Cuervo-Cazurra, Alvaro and Ruth V. Aguilera. 2003. The Worldwide Diffusion of Codes of Good Governance. In Anna Grandori (ed.), *Corporate Governance and Firm Organization: microfoundations and structural forms*. 318–348. Oxford: Oxford University Press.

Daniel, Glyn. 1950/1975. *A Hundred and Fifty Years of Archaeology*. Duckworth, Great Britain.

Demoule, Jean Paul. 2007. Scientific quality control and the general organization of French archaeology. In Willem J. H. Willems and Monique H. van den Dries (eds.), *Quality Management in Archaeology*. 135–147. Oxford: Oxbow Books.

van den Dries, Monique and Willem Willems. 2007. Quality assurance in archaeology, the Dutch perspective. In Willem J. H. Willems and Monique H. van den Dries (eds.), *Quality Management in Archaeology*. 50–65. Oxford: Oxbow Books.

Egloff, Brian. 2008. *Bones of the Ancestors: the Ambum Stone from the New Guinea Highlands, to the Antiquities Market, to Australia*. AltaMira Press, Lanham, Maryland.

Elia, Ricardo. 1993. US Cultural Resource Management and the ICAHM Charter. *Antiquity* 67: 426–438.

European Commission. 2006. *The APPEAR Method: A practical guide for the management of enhancement projects on urban archaeological sites*. Research Report n° 30/4.

Feilden, Bernard and Jukka Jokilehto. 1993/1998. (2nd edition) *Management Guidelines for World Cultural Heritage Sites*. International Centre for the Study of the Preservation and the Restoration of Cultural Property, Rome.

ICOMOS. 1966. International Charter for the Conservation and Restoration of Museum Sites (Venice 1964).

ICOMOS. 1990. *International Charter for Archaeological Heritage Management* (Lausanne 1990).

ICOMOS (ed.). 2000, 2002, 2003, 2005. *Heritage at Risk*, K. G. Saur, München.

Indo Pacific Prehistory Association. 2006. Abstracts. http://arts.anu.edu.au/ arcworld/ippa /Manila%20abstracts%20final.htm.

International Museums Office. 1940. *Manual on the Technique of Archaeological Excavations*, Paris.

Irish Times. 2008. Wednesday Unesco report criticises Skellig work, 9 July 2008. www.irishtimes .com/newspaper/ireland/2008/0709/1215537641571; accessed 25 August 2008.

Kundrata, Miroslav and Blazena Husková. 2005. Sustaining rural landscapes and building civil society: experience from Central Europe. In Jessica Brown, Nora Mitchell and Michael Beresford (eds.), *The Protected Landscape Approach: linking nature, culture and community*. 137–141. Gland, Switzerland, and Cambridge, UK: IUCN the World Conservation Union.

Lund, Carsten. 1989. A Charter for the Protection and Management of the Archaeological Heritage. *Icomos Information*, July/September no. 3, 15–24.

Marrewijk, Dre van and Roel Brandt. 1997. Dreaming of Malta. In W. J. H. Willems, H. Kars and D. P. Hallewas (eds.), *Archaeological Heritage Management in the Netherlands: Fifty Years State Service for Archaeological Investigations*. 58–75. Assen: Van Gorcum.

National Roads Authority. n.d. *Code of Practice between the National Roads Authority and the Minister for Arts, Heritage, Gaeltacht and the Islands*. National Roads Authority (Ireland).

O'Keefe, Patrick J. 1993. The European Convention on the Protection of the Archaeological Heritage. *Antiquity* 67: 406–413.

O'Keefe, Patrick J. and Lyndel V. Pratt. 1986/1994. Recommendation on International Principles Applicable to Archaeological Excavations, document prepared for UNESCO, manuscript re-circulated in 1994.

Petrie, W. N. F. 1904/1972. *Method and Aims in Archaeology*. New York: Benjamin Blom.

Ronayne, Maggie. 2008. The State We're in on the Eve of World Archaeology Congress (WAC) 6: Archaeology in Ireland vs Corporate Takeover. *Public Archaeology* 7 (2): 114–129.

Society for American Archaeology. 1996. Principles of Archaeological Ethics. http://www.saa.org /aboutsaa/committees/ethics/principles.html; accessed 20 August 2008.

Stanley Price, N. P. 1995. Conservation on Excavations and the 1956 UNESCO Recommendation. In N. Stanley Price (ed.), *Conservation on Archaeological Excavations: with particular reference to the Mediterranean area*. 135–142. ICCROM, Rome.

Trotzig, Gustaf. 1993. The new European Convention on the Protection of the Archaeological Heritage. *Antiquity* 67: 414–415.

Trotzig, Gustaf. 2001. On the (revised) European Convention on the Protection of the Archaeological Heritage presented in Malta 1992. *The European Archaeologist* 15: 1–4.

Truscott, Marilyn and David Young. 2000. Revising the Burra Charter: Australia ICOMOS updates its guidelines for conservation practice. *Conservation and Management of Archaeological Sites* 4/2: 101–116.

UNESCO. 1955. Preliminary Report Compiled in Accordance with the Provisions of Article 10, of the Rules of Procedure Concerning Recommendations to Member States and International Conventions Covered by the Terms of Article IV, Paragraph 4, of the Constitution, UNESCO/CUA/68, Dated Paris, 9 August 1955, translated from the French (note that the addendums incorporate correspondence post-dating that of the document).

UNESCO. 1956. *Recommendation on International Principles Applicable to Archaeological Excavations* (referred to as the 1956 Delhi Recommendation).

Willems, Willem J. H. 1997. Archaeological Heritage Management in the Netherlands: Past, Present and Future. In W. J. H. Willems, H. Kars and D. P. Hallewas (eds.), *Archaeological Heritage Management in the Netherlands: Fifty Years State Service for Archaeological Investigations*. 3–17. Assen: Van Gorcum.

Willems, Willem J. H. 1999. *The Future of European Archaeology*. Oxbow Lecture 3, Archaeology in Britain Conference 1997. Oxford: Oxbow Books.

Willems, Willem. n.d. "How Malta changed Archaeology in Europe: a perspective from the European Association of Archaeologists". http://www.coer.int/t/e/cultural_co-operation /heritage/archaeology/Statmentwillems.asp; accessed 5 January 2007.

Willems, W. J. H. and R. W. Brandt. 2004. *Dutch Archaeology Quality Standard*. RIA-report, Rijkinspectie voor de Archeology, Den Haag.

Willems, W. J. H., H. Kars, and D. P. Hallewas (eds.). 1997. *Archaeological Heritage Management in the Netherlands: Fifty Years State Service for Archaeological Investigations*. Assen: Van Gorcum.

Willems, Willem J. H. and Monique H. van den Dries (eds.). 2007. *Quality Management in Archaeology*. Oxford: Oxbow Books.

Young, Christopher. 2001. English Heritage Position Statement of the Valletta Convention, 18th July 2001. http://www.cix.co.uk/~archaeology/cia/valetta/EHPostionStatement.htm; accessed 25 June 2007.

Conserving the Archaeological Resource

The surface of the world is an archaeological landscape with extensive and widespread remains of previous human occupation. The realization of the extent and importance of this resource grew as the attention of archaeologists moved from the monumental remains of the classical world and the readily discovered monuments of Asia and the Americas to the investigation of prehistoric remains and societies. Much of this resource sits more subtly in the landscape than, for instance, the great monuments of Egypt or Latin America and requires archaeological field survey and test excavation to discover its extent and nature. It is therefore particularly threatened by large-scale land disturbance. Archaeological investigation of the landscapes of the New World (which had the benefit of being largely undisturbed by modern development) added to the archaeological community's realization of the scope of the resource and of the potential of archaeological sites to reveal important information about the history and development of humanity, as well as a range of environmental issues. The potential of these remains to contribute this information often depends on their context in the landscape and on the ability of researchers to conduct regional studies of an entire corpus of sites or to work with a representative sample.

The natural values of a site are not peripheral or inconsequential; they are integral, and they are intertwined with the cultural values. Apart from the importance of the setting and the landscape, well recognized at monumental sites, the ecology and species present at undisturbed sites are an important part of their overall scientific value and significance. Historically, archaeological conservation practitioners did not immediately see these values as being within the purview of the discipline, but the archaeological landscape of the New World brought them into sharper focus. Site conservation is therefore particularly well positioned to take the broad view and to include these values explicitly in management and implementation.

Gradually the scope of archaeology was extended to cover a range of sites whose ability to yield information through archaeological investigation was previously unrealized. Scatters of stone artifacts, early industrial landscapes, shipwrecks, colonial settlements, and even twentieth-century rubbish dumps are all now recognized for their archaeological potential. Growing understanding of the extent, value, and richness of the archaeological record was coupled with a concern for the future of the world's archaeological heritage. A vast array of threats have increasingly compromised this mostly uninvestigated global archaeological landscape. Natural processes, including weathering, age, and decay, had always been a recognized issue. But the twentieth century brought unprecedented human population growth, industrialization, development, and more intensive and intrusive farming. These factors in particular affected the archaeological resource of the New World where massive land disturbances, including damming of whole catchments, housing developments, and the occupation of previously undisturbed land for farming, for example, had an impact not only on the landscape but also on evidence of previous human settlement.

The looting of sites and illegal trafficking of artifacts, which began in the nineteenth century and continues into the twenty-first, is another serious threat to the archaeological resource. The damage and information loss caused by unlawful excavation is exacerbated by growing recognition of the value and beauty of archaeological finds—especially ancient works of art—and competition for them by museums and collectors. This problem is particularly intractable because the original "looters" are often members of impoverished local communities. And continuing warfare in different parts of the world is causing widespread destruction of archaeological sites, exacerbating the problems of looting and trafficking.

Archaeologists became conscious of the need to ensure that the research potential of the archaeological resource would be realized and that at least part of it would be conserved for the future. International charters and national legislation and policies to protect specific important sites came early. But more general and proactive protection was needed. With the broad recognition at both the international and national levels of the value of archaeological heritage, policy frameworks, charters, principles, and statutes were developed. And there was gradual acceptance that international conventions and integrated planning and management strategies at a national and regional level are as necessary as physical conservation and legislation to ensure the long-term protection of all the heritage values of archaeological sites. The second half of the twentieth century witnessed additional legislation, policy, and procedures, of a more general protective nature, that required the proactive survey of archaeological sites and an assessment of the values of threatened sites or areas prior to development or disturbance. This new legislative regime also sought to safeguard the resource by allowing excavation only under certain conditions and by mandating reports and dissemination of resultant information and the safeguarding of excavated finds.

As a result of the increased pace of development in the late twentieth century and the accompanying development of legislation to protect archaeological sites, both survey and excavation became increasingly common and were funded from a mixture of government and development sources. Salvage archaeology had arrived on a grand scale. Methodologies for effective site survey and salvage followed. A key issue was that extensive salvage work tended to result in widespread, comprehensive digging programs, aimed at gathering all the data from the site and somehow recording and storing it for "future use." This approach soon saw a host of new problems: salvage archaeology became a rote exercise, with little or no comparative analysis and with finds rarely completely analyzed but rather warehoused for some indefinite future research program. Salvage, rather than conservation of sites, became normal archaeological management practice in many places, in particular, in the U.S. Southwest. Ensuing vigorous discussion and debate led to the idea of "conservation archaeology" and an ethical obligation to retain part of the resource undisturbed.

As part of this debate, and arising from the theoretical framework of the "new archaeology" in the 1960s, emphasis shifted from mere data gathering to problem-oriented research using a deductive rather than an inductive methodology to test hypotheses. It was argued that the most effective and scientifically valid way to conduct archaeological excavation was to define a specific research problem prior to fieldwork and to use fieldwork and excavation to address that problem. The ethic underpinning this method was that archaeological resources are finite and that therefore their destruction can be justified only where there is a corresponding contribution to knowledge. Testing research questions would provide for maximum information to be gained from excavated sites, and excavation itself would therefore be limited to the resolution of specific problems.

Problem orientation in research methodology has become increasingly recognized as a prerequisite to using archaeological resources to answer important questions about human history and development and about the environment more widely, and as a means of limiting the destructive process of excavation. However, research design in archaeology has a range of problems itself, including the loss of potentially significant data that are not relevant to the specified research design and the lack of recognition of other site values, such as social values, to living communities.

Increasingly, archaeology itself came to be recognized as destruction, and the need for permanent conservation of the wider archaeological resource was acknowledged. This recognition led to additional legislation that more tightly controlled when and to what degree destruction of archaeological sites, for the purposes of development, would be allowed. Conservation obligations were also addressed by proposals for archaeological preserves that would be set aside for future research. This in turn raised issues relating to what constituted a representative sample to be conserved for future research, with many arguing that the

achievement of a representative sample was a logical impossibility. The ethics codes of archaeological societies and government policies relating to the practice of archaeology reflected a new consciousness about the importance and irreplace-ability of the archaeological resource. Policy doctrines enjoined archaeologists to take responsibility for limiting excavation to projects that would provide important information, to give preference to the excavation of threatened sites, to analyze and publish the resultant data, and to eschew any dealings with illegally or improperly acquired archaeological data. Increasing attention was also paid to the develop-ment of sophisticated and integrated mitigation techniques, aimed at conserving deposits and in some cases showcasing them within developments and as a valu-able enhancement of urban precincts.

The readings in Part II address the range of threats to the entire archaeologi-cal resource, as outlined above, and the legislative and methodological responses to these threats. Most of the issues canvassed here remain the subject of ongoing debate and continue to pose crucial problems for the conservation of the archaeo-logical record.

Perspectives

Archaeologists can be found all over the academic map. . . . They practice archaeology all over the globe, and, because their research focuses on widely different times and places it is not surprising that several professional societies have arisen. When it comes to ethical issues and professional standards, however, a fair degree of unanimity has emerged. While it is excavation and spectacular discoveries that attract attention and funding and confer status in both academia and society at large, it is the preservation of the archaeological record that every organisation highlights in its code and standards. All agree on seeing archaeologists as "stewards" of that record, with all the duties to protect and conserve that the term implies.

> —S. I. Rotroff, "Archaeologists on Conservation: How Codes of Archaeological Ethics and Professional Standards Treat Conservation" (2001)

The rescue metaphor assumes that the prehistoric evidence is already out there, drifting on the waves, waiting to be hauled up. In recent years sociologists of science in general, and ethnographers of archaeology in particular, have convincingly demonstrated how facts are not simply given but are actively construed in scientific practice.

> —V. Reybrouck and D. Jacobs, "The Mutual? Constitution of Natural and Social Identities during Archaeological Fieldwork" (2006)

The all too common tendency to excavate sites rather than avoid disturbing them has led some . . . to question if CRM archaeologists are really making serious efforts to preserve sites in situ. It is important to note that CRM excavations of significant sites consist of a sampling of the total site area; something in the order of 10–30% is probably typical. In New England to name one region approved research plans often result in excavation of less than 10% of prehistoric sites; such miniscule sampling tends to be the result of market forces, primarily competitive bidding, rather than the result of any explicitly justified sampling methodology.

Ironically, the CRM field has produced a whole generation of archaeologists who, while paying lip service to the conservation ethic, have grown accustomed to consenting to the destruction of substantial percentages of significant archaeological sites.

> —R. J. Elia, "United States Cultural Resource Management and the ICAHM Charter" (1993)

I think that we can look back upon the salvage period in American archaeology with some justifiable pride. Salvage archaeology has produced new techniques for survey and excavation, new administrative procedures, significant quantities of new information much of which is of very high quality, valuable collections for museums, employment for archaeologists, training for students, clear conscience for legal clearance for land managers and project developers, and a new awareness about archaeology on the part of the public. However, this laudable progress has been achieved largely at the expense of the resource base that is archaeological sites. I say this not because the archaeology done on salvage programs has been substandard, but because the decisions having to do with the use of the resource have not been made in most cases by archaeologists. . . .

Conservation archaeology began to receive widespread attention when the pace of industrial, urban, and agricultural expansion increased to the point that archaeological sites were being destroyed at an alarming rate. The first response was to develop more and better salvage programs. Soon, however, we realised that although salvage programs were "saving" sites, they were destroying the archaeological resource base at an alarming rate that almost seemed to be a form of archaeological conspicuous consumption. It became increasingly clear that if there was to be any kind of archaeological resource left for future generations, some form of rational decision-making about the entire resource rather than just threatened parts of the resource was needed.

—R. H. Thompson, "Institutional Responsibilities in Conservation Archaeology" (1974)

Our understanding of the human past is . . . acquired largely at the expense of the database.

—Sandra Bowdler, "Unconsidered Trifles? Cultural Resource Management, Environmental Impact Statements, and Archaeological Research in New South Wales" (1981)

Let's face it—modern archaeological research is one of the smallest current and future threats to the integrity of the archaeological resource.

—William D. Lipe, "In Defence of Digging: Archaeological Preservation as a Means, Not an End" (1996)

If only modern conservation methods could have been applied to the organic materials found in the first Egyptian pyramids opened by archaeologists. *If only* the infrared camera people could have been used in the Etruscan tombs. *If only* pollen analysis had been available at the time of the great Scythian finds. The list of archaeology's new tools— . . . , carbon 14 dating, tree-ring analysis—is a long and

even more importantly a lengthening [list]. Who knows what further advances may have been made in 10, 50, or 200 years?

> —Georgess McHargue and Michael Roberts, *A Field Guide to Conservation Archaeology in North America* (1977)

In 1998, a Bronze Age enclosure, formed by a circle of vertically-set timbers surrounding the inverted bole of an oak tree, was exposed by erosion at Holme-next-the-Sea on the Norfolk coast. Archaeologists immediately recognised it as an important discovery, and as a valuable potential source of information about the Bronze Age. Therefore, given the threats posed to the monument by further maritime erosion, and the environmentally sensitive landscape within which it lay, by increasing visitor numbers, archaeologists working on behalf of English Heritage decided to excavate the site and to 'rescue' the wooden structure. This decision was taken 'after careful consideration and consultation' with English Heritage's own scientists, marine specialists at Portsmouth and Newcastle Universities, English Nature, the Norfolk Wildlife Trust and Norfolk County Council's archaeologists. The decision invoked an angry reaction from a New Age alliance of Druids, neo-pagans and eco-warriors, who protested at the brutality and 'sacrilege' of damaging and digging up a sacred site, arguing that the monument should be left in situ and allowed a 'natural death'. One of the protestors claimed that, 'English Heritage are vandals, destroying our culture'. Local people joined the protest, expressing their bitterness and sense of violation at the thought of their new-found local heritage being taken away from them, and at not having been properly consulted by English Heritage. The archaeologists were clearly surprised by the passion that their decision had aroused, and English Heritage's chief archaeologist, David Miles, tried to reason with the protestors, arguing that, 'The protestors have got the wrong idea. We would dearly love to leave the circle where it is, but if we did it would be destroyed. . . . We have to take the timbers away and preserve them'. After having applied for, and won, court injunctions to ban the protestors from interfering with the work of the archaeologists, English Heritage used a mechanical digger to extract the timbers, which were then transported to Flag Fen, an archaeological heritage centre which specialises in preserving waterlogged prehistoric wood. In this case, it would appear that the archaeologists 'won' and the protestors 'lost', but the conflict between them certainly generated much public debate about the principle of archaeological preservation and about the right of archaeologists to invoke it.

> —R. Skeats, *Debating the Archaeological Heritage* (2000)

But suppose an archeologist were to say, 'I'm only interested in Anastasi myth and symbolism, and I'm not going to collect data on subsistence.' Off he goes to a

prehistoric cliff dwelling and begins to dig. He goes for the pictographs, and figurines, and ceremonial staffs, and wooden bird effigies. What, then, does he do with all the digging sticks, and the tumplines, and deer bones that he finds while he's digging for all the other stuff? Does he ignore them because they don't relate to his 'research problem'? Does he shovel them into the dump? Or does he pack them up and put them in dead storage, in the hope that he can farm them out to a student some day to ease his conscience? Because, unlike the situation in ethnology, no archeologists will be able to come along later and find that stuff in its original context. It's *gone*, son.

> —K. V. Flannery, "The Golden Marshalltown: A Parable for the Archeology of the 1980s" (1982)

The practical effectiveness of conservation can also be greatly enhanced . . . if new research is undertaken only when existing sources of data are inadequate. The problem every researcher faces today is that there is no way to find out what kind of data exist, what characteristics they have, and where they are. Until much more effective means are found of disseminating this information, we will find ourselves destroying more of the existing archaeological record than necessary and making poor use of data generated by CRM.

> —R. C. Dunnell, "The Ethics of Archaeological Significance Decisions" (1984)

The main point I wish to make . . . is that archaeological significance, however it is defined or assessed, can never be considered to be a static quality. In so far as archaeological research or other work continues in any given region, or indeed generally, relevant research questions continue to change, as is emphasised by the word 'timely'. Every time a survey is carried out, the representativeness of some kind of site is increased or decreased. The very act of carrying out research into relevant questions on specific significant sites changes the significance of that site; it may indeed alter the kind of significance which most appropriately invests the site.

> —Sandra Bowdler, "Archaeological Significance as a Mutable Quality" (1984)

Since the advent of the now middle-aged "new archaeology" in the 1960s and 1970s, urban archaeologists have been at pains to conduct hypothetico-deductive programs based on a healthy diet of research design. Research designs are now mandatory elements in the issue of permits to excavate in Sydney but to date there has been limited realisation of the "new archaeology" dream. Most urban archaeology occurs as part of new development projects, resulting in sites which are dug for political or economic reasons rather than for their research potential. Many

archaeological projects produced purely descriptive outcomes rather than analytical contributions to wider understanding of the past. The imbalance between expectation, assessment of potential and product can be addressed by better predictive planning, more rigorous selection of sites to be excavated and coordination of cohesive regional research frameworks by the state.

> —Richard Mackay, "Political, Pictorial, Physical and Philosophical Plans: Realising Archaeological Research Potential in Urban Sydney" (1996)

As I have shown in Japan much effort is directed towards rescue excavation—preservation by record. My view is that some of this effort should instead be converted into archaeological reconnaissance methods, such as field walking, geophysical survey, and aerial photography. This would enable the archaeological potential of identified sites to be evaluated. Such evaluation may, on occasion, require the excavation of trial trenches. . . . If we cannot then successfully engineer our buildings around archaeological remains *in situ* the only alternative is to preserve the deposits by raising the soil above them. It is suggested that a level of 2m would be sufficient to protect archaeological levels from disturbance from the foundation of the timber framed buildings which comprise most of Japan's new housing.

> —K. Maekawa, "Current Problems of Archaeological Heritage Management in Japan" (1996)

When we analyse the archaeological site list of Chile . . . we realise that most of the pre-Spanish settlements in the country are exposed sites that have no monumental remains, that is to say architectural structures of large size. On the contrary cultural evidence is mainly represented by artefacts and ecofacts of scarce perceptibility and thus lacking an immediate meaning for neophytes on the subject.

The situation influences the damage of the archaeological heritage. The very nature of the archaeological sites has transformed them into a reality extremely vulnerable to the different destruction and loss factors, and scarce interest shown by the professionals in order to assume this reality as an object of conservation study has meant an irretrievable loss for important pre-Spanish settlements that should have been preserved, not only for science, but also as an educative agent of our indigenous past.

> —R. Segual, "Diagnosis for the Conservation of Archaeological Sites" (1996)

One of the effects of the Archaeological Resources Protection Act of 1979 has been an increase in looting on private lands. . . . Professional looters buy looting rights or sometimes even sites themselves. One old trick used in the Southwest has been to buy a site at a high price, but with little or no down payment, then loot the site

and default on the mortgage. In the well-known Slack Farm (Kentucky) case, several men reportedly paid the owner $10,000 to dig up artefacts at this Mississippi period cemetery.

Whereas other countries have taken possession, or at least control of their antiquity, two factors make that unlikely in the US. First is a very powerful American impulse of the sanctity of private land. . . . [N]o other nation in the world gives such prominent protection of private property rights. Secondly there is the reality of the dominant group in our society, i.e., persons of European stock, being unrelated, either racially or culturally, to the nation's prehistoric archaeological remains. As one state senator told me when I explained we should protect our national heritage, "Son, it may be part of your heritage but it ain't part of mine."

—Mark Michel, "The Archaeological Conservancy and Site Protection" (1991)

What are the consequences of our research on the areas under investigation? Should we content ourselves with making a report, giving some presentations, depositing the collections recovered, and then retiring to Olympus to work on our serious publications? Shouldn't we realise that what we produce is digested and processed in very different ways by the different audiences that hear us? An almost pathetic example of this problem is the dramatic increase in the illegal trafficking in archaeological pieces that followed the founding of the MAQ [Museo Arqueológico de Quióbor]. What was seen 15 years ago as an action with a religious, magical character has now been converted into a lucrative economic activity. The search for *olicores* (bone, shell, stone, or ceramic beads from pre-Hispanic necklaces) was once an activity restricted to holy week, seeking objects used to ward off the 'evil eye'. They were effective only if they were obtained as a gift or found in situ and not purchased. Once archaeological research began, ancient relics gained prestige, and their commercial value increased considerably, making looting into a common way of making a living in the area. Our intention is not to accuse anyone—it is impossible to judge and punish the *campesinos* who see this activity only as a form of economic betterment—nor to discourage the teaching and outreach activities that began with good intentions in the archaeological museum in the 1960s. Although as archaeologists who had worked in the valley we are not involved in the theft of and traffic in archaeological pieces, it is essential that we reflect on how it is that our activities have generated, as a negative consequence, the expansion of the market for relics of the past.

—L. Arvelo and E. Gil, "An Experience with Rescue, Research and Communication in Venezuela" (2001)

This plunder in a remote region of Mali is not uncommon in Africa. Although archaeologists, art historians, and museum researchers are keenly aware of similar

degradation of African antiquities elsewhere in Africa, the extent and seriousness of the plunder remain concealed to most inside and outside of the academic world. The systematic dismantling of pre-Columbian monuments has a longer exposure, more visibility, and widespread condemnation, but the situation emerging in Africa is no less serious. In many ways it may be worse because of the poverty and civil strife that exacerbates and accelerates the destruction of the past. This story from Mali is not unique; every researcher has at one time witnessed or heard reliable testimony about the looting of ancient sites and the illegal removal of important cultural objects from Africa. Every researcher with such direct knowledge feels frustration and a sense of isolation. What legal recourse is available to combat these offenses against the past? Are there other colleagues and institutions that share our outrage, that have developed means to begin to cripple the networks organized to plunder and market Africa's past?

—Peter R. Schmidt and Roderick J. McIntosh, "The African Past Endangered" (1996)

ANGELA MARIA FERRONI

The Vulnerability of the Archaeological Sites: Final Report, P.I.S.A. Project (2002)

The archaeological resource may be subject to both natural and human threats. The PISA (Integrated Planning for Archaeological Sites) project of the Mediterranean Institute included a thematic laboratory on vulnerability. The extract from the resulting report offers a succinct consideration of risk management and analysis of natural factors that may threaten archaeological resources.

The P.I.S.A. Network

The P.I.S.A Euro-Mediterranean network (Integrated Planning in the Archaeological Sites), co-ordinated by IMED (The Mediterranean Institute, Rome) was set up in 1996 to carry out the P.I.S.A. project. This project formed part of the EUROMED HERITAGE programme, arranged by the Euro-Mediterranean Conference of the Ministries of Culture that was promoted by the Italian Presidency of the European Union (Bologna, 22–23 April 1996). [. . .]

Under the co-ordination of IMED (The Mediterranean Institute), the P.I.S.A. network gathers together institutions responsible for the conservation and development of cultural heritage, in particular of archaeological resources, of nine countries: four of the European Union and five of the southern bank of the Mediterranean.

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The Thematic Laboratories

Among the main activities developed by the P.I.S.A. Euro-Mediterranean network are the activities of: in-depth study, exchange of experiences, transfer of know-how, with regard to specific and significant themes of overall planning in archaeological sites, starting from experiences carried out in some of the countries involved in the Project. [. . .]

The Laboratories are used for tackling in depth some basic themes of the management and use of the archaeological heritage, placing them also in relation to the possible implications and effect on the territory and on local development.

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The Laboratory on the vulnerability of the archaeological sites analysed the concept of vulnerability and its application in the field of archaeology. It did this by starting from the notion of vulnerability as carried out by the disciplines developed in the sphere of Earth Sciences and taken up by the sciences applied to conservation. This conceptual route led to the notion of the vulnerability of archaeological sites and to the definition of common types of dangerousness and vulnerability factors that would be practical for implementing methods for monitoring and controlling the state of conservation and decay of archaeological heritage. [. . .]

The vulnerability of the archaeological sites was then declined in its various factors and aspects with regard to the overall approach of the P.I.S.A. project: hydro-geological, volcanic and seismic vulnerability; environmental vulnerability; the methodology and instruments for surveying the vulnerability, both as a precise archaeological asset and in a territorial context; vulnerability in relation to local development.

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[. . .] An analysis of the various aspects that together contribute to vulnerability is the necessary and essential premise for any action aimed at the enhancement and use of a site: any intervention needed to be implemented must in fact consider the various factors of natural and anthropic dangerousness existing on the site, as well as the actual fragility of the archaeological structures. Without this information, it is not possible to define a suitable and consistent maintenance plan, or to define the standards of conservation and safety to be adopted. In an integrated management plan of archaeological sites there must be a valid compromise solution between the dangerousness of the territorial context, the intrinsic vulnerability of the asset and its possible use. [. . .]

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The Concept of Vulnerability and Its Application in the Archaeological Field

The Vulnerability of Archaeological Resources

The origin of the concept of vulnerability as defined by the sciences of the earth and civil engineering and its relatively recent importation into the field of cultural heritage, and in particular into the sphere of the preservation strategies of the archaeological sites, cannot be understood immediately outside the circle of the experts; rather, under more careful examination, it reveals quite a strong repercussion on complex aspects, linked to the management of the site, and on the corresponding strategic choices.

Recent analyses by specialists in the culture economy have demonstrated the irreplaceable role of the cultural resources of the territory for the construction of a sustainable model, but also one that is effective as regards economic results. According to these analyses, the cultural, archaeological and, in particular, environmental heritage, densely distributed over the countries of the Mediterranean, is a resource that is able to assure identity, both under the profile of social cohesion, and as regards the field of production of goods and services: a planned increase of the support services for the cultural enjoyment at territorial level is, in fact, considered the most qualified area of expansion, even at employment level.

Particular attention was paid to the archaeological sites which, even if considered with increasing interest as resources by local communities and by international tourist operators, were not however ever analysed as the object of preservative investments rather than that of an increase of accessibility and of use; the ever more visible, and ever less controlled contrast between economic exploitation and protection of the cultural values and of the historical configuration of the places, the urgency to find a new equilibrium between preservation and use, are all themes of reflection common to the great ancient centres of the classical world, especially those that face onto the Mediterranean.

Up to now there was no overall view of the resources and means to be put out into the field of economic activities linked to the archaeological heritage. Similarly, there was no detailed and exhaustive analysis of the territorial resources, seen precisely, as in the line chosen by the P.I.S.A. project, as an integrated system and not as isolated phenomena or assets. This analysis has to have as its starting point the knowledge of the situation, of the physical-functional conditions of the asset being referred to. It is on these that the hypothesis of lasting development must be constructed. The risks of damaging and of irreversible "consumption" of an asset that cannot be reproduced are obvious, and it is here that the analysis of vulnerability intervenes.

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It is a question therefore of identifying vulnerability factors on the basis of a detailed survey of the state of consistency and of conservation of the heritage. As a

result, a basic component of the conservation of the cultural heritage, understood as a group of interventions aimed at assuring the physical survival of the materials that form the individual assets, regards precisely the importance of the preventive measures with respect to the interventions of traditional restoration which are undertaken in a limited way and only after the onset of the damage.

Vulnerability: General Terminology Definitions

Below are some general terminological definitions, useful for describing the notion of vulnerability even in the archaeological field.

Intensity indicates the geometric (volume, depth) and mechanical (speed) portrayal of the generating phenomenon of the risk.

Dangerousness expresses the probability of occurrence, that is the probability that a phenomenon, of a given intensity, happens in a certain time (temporal probability) and in a given area (spatial probability), understood statistically. The evolutionary scenarios of the phenomenon must therefore be foreseen on the basis of the knowledge acquired regarding the spatial (where the phenomenon happens) and temporal (when it happens) forecast and the parameters of recurrence, frequency and intensity.

Vulnerability expresses the degree of damage or loss, that is the percentage of the asset subjected to the phenomenon, which can be damaged or lost. It is measured in terms of percentages, from value 0 (no loss) to value 1 (maximum destruction).

Elements at risk The elements at risk can belong to the most varied typologies: population, buildings, environmental and archaeological heritage, economic activities, public services and infrastructures. An economic quantification of the assets is required, although in the case of cultural heritage the parameters to be adopted are not defined.

Total risk corresponds to the total loss expected as a result of the given phenomenon. Total risk is the result obtained from the dangerousness, vulnerability and [. . .] economic value of the elements at risk. It is expressed in the economic value or in the quantity of elements at risk over the period of time of a year. The difficulty of obtaining the value of the total risk is caused by the subjectivity of the calculation of the economic value, especially in the archaeological field.

Because of this, or due to the absence of sufficient information, it may be useful to stop at the assessment of the specific risk, given by the vulnerability of the asset and by the dangerousness of the phenomenon.

Specific risk corresponds to the degree of damage caused to the element by a given phenomenon. Specific risk is the result obtained from the dangerousness and the vulnerability of the element at risk.

Acceptable risk is that which is considered acceptable in the various contexts.

The Process of Risk Management

The overall process of risk management aimed at mitigating the effects is obtained from the whole of the individual assessments, which is from those relative to the occurring of the phenomena to those relative to the foreseeable impacts and consequences.
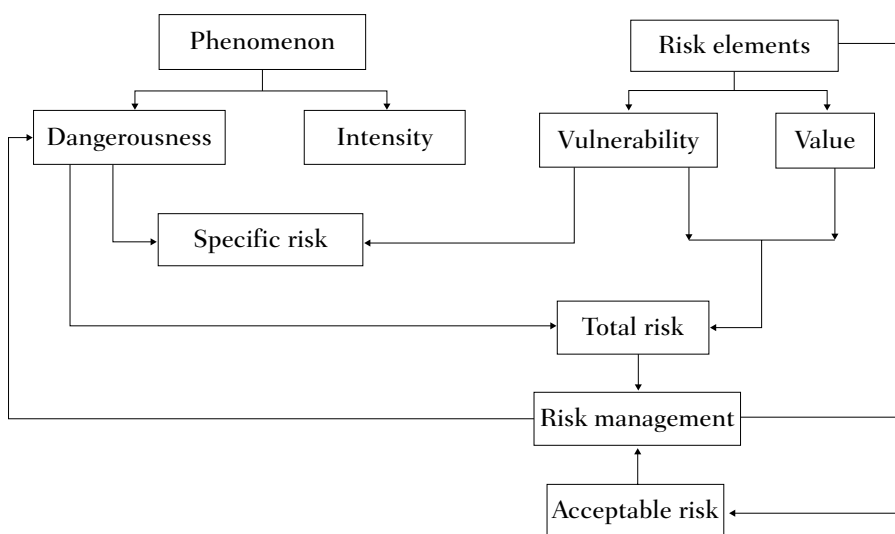
The process of evaluating the vulnerability of the element(s) at risk, and the resulting risk management, consists in the basic assessment of the phenomenon, of its intensity and of its dangerousness (temporal and spatial probability that this may take place). In this way a scale of priorities to be dealt with is obtained, based on the possibility that that phenomenon may occur, and on its greater or lesser action of damage or decay on the element at risk being considered (specific risk).

When the loss foreseen is total, the risk will be total, because it is given by the result of the vulnerability multiplied by the dangerousness and by the economic value of the element at risk.

The specific risk is easier to quantify and to manage. It is the result of the vulnerability multiplied by the dangerousness, in which no assessments of an economic type intervene.

The vulnerability is a basic element of the process; its expression in quantitative terms is an essential element of the assessment.

The management of the risk, both of total risk and of specific risk, can be obtained by reducing or eliminating one or more factors that intervene in the process:

a. Reduction of the dangerousness.
b. Reduction of the number of elements at risk.
c. Reduction of the vulnerability.

a. As regards archaeological heritage, in relation to dangerousness, an assessment with regard to where the phenomenon occurs (spatial assessment) is essential, whereas it is less important to wonder with what occurrence or periodicity the phenomenon may happen, because the archaeological asset is in any case attributed maximum value, or a value that cannot be calculated; it is necessary therefore to mitigate any phenomenon of risk.

b. As regards the quantitative reduction of the elements at risk, parameters to evaluate will be the characteristics of the asset (an archaeological asset may not be removable, or transportable, in the case of buildings, cities, excavations), and factors variably connected with the asset. The infrastructures linked to the site form part of the archaeological heritage. Around the asset there is a life, operators and visitors, which must be safeguarded; an income that can derive from this site is also a value of the asset itself, for example a tourist income. The majority of these elements do not lend themselves to an immediate assessment in economic terms.

c. The specificity of an archaeological asset consists in its intrinsic fragility: phenomena considered of little importance for other assets can seriously damage an archaeological asset. For example, the eroding action of rainfall has a much more significant impact on a group of ruins than on a building with its roof intact. It is moreover much more difficult to foretell the response of the asset to the phenomenon, because the materials are exposed, as they are frequently devoid of their original roofing, and the techniques used on the site, even if known from the point of view of history of technology, are not always placed in relation to the strategies and modalities of preservative and restorative intervention.

Because it is more difficult to reduce the elements at risk for fixed archaeological assets rather than for transportable ones, the best strategy seems to be that of reducing the dangerousness and then of acting on the vulnerability.

Reduction of the dangerousness is achieved by identifying the causes, with a detailed forecast of the response of the archaeological asset to the destructive process, in its different degrees of destructiveness.

The global assessment of vulnerability is the fruit of different tasks; the entire process of management of the acceptable risk must be constantly updated

over time, because it includes assessments of a cultural type subject to constant alteration.

The Risk Generating Factors for Cultural Heritage

A general division into two parts of the risk generating factors is possible. The division is into those of natural origin and those that can be considered of anthropic, be it direct or mediated, origin.

Natural Factors

- Earthquakes: phenomena of seismicity
- Volcanism: eruptive phenomena linked to volcanism
- Hydro-geological phenomena: landslides and soil movements, presence of water strata
- Coastal erosive phenomena, in sites close to the sea
- Dynamics of the seacoasts: phenomena of shifting of the coast-line
- Phenomena of water erosion, due to the flowing of surface, refluent, torrent-like, etc. water
- Climatic factors:
   - Rainfall
   - Daily and seasonal thermal and humidity cycles
   - Ice
   - Insulation
   - Wind, in particular associated with marine aerosol
   - Aerosols present in the air
- Biological factors connected with the presence of uncontrolled vegetation

Anthropic Factors

- Pollution: atmospheric and water pollution, acid rain
- Transformations of the territory due to strong anthropic impact
- Incompatible use of the land
- Uncontrolled tourist exploitation
- Vandalism and thefts
- Mistaken excavation, conservative and maintenance interventions
- Absence of conservative and maintenance interventions

For each of the phenomena of dangerousness described above, which can occur with a different intensity and dynamic, the individual artefacts or the complexes in their turn show a different degree of vulnerability. It must be remembered that these are assets of a cultural value that can be distorted and altered not only by

the substantial loss of portions or elements that can be easily calculated, but also by the alteration of other physical aspects that it is more difficult to subject to a quantitative estimate, but which are similarly significant for reasons of evaluating the vulnerability, such as the fact of the component materials becoming fragile due to the long exposure.

In particular, for monumental buildings, the phenomena that alter the original static-structural characteristics and the equilibriums that have been established over time are of absolute importance. Seismic and hydro-geological phenomena, as well as their intrinsic riskiness, do in fact exalt the situations of vulnerability already present due to conditions of instability or following even minor modifications of the original building (repairs, variations of the building techniques, opening or closing of gaps, etc.) carried out over the centuries of conservation, or also due to a lack of maintenance.

As regards architectural surfaces, the factors that have a greater impact are rather those regarding the climate and those relative to polluting elements in the atmosphere and in the rainfall.

The Risk Generating Factors for Archaeological Resources

Natural Factors

Seismic factors are usually less significant in the preservation of the archaeological heritage than in that of the constructed historical heritage, due precisely to the incompleteness and the fragmentationary nature that characterise ruins. A recent research study carried out on the Vulnerability of archaeological areas within the sphere of the Project promoted by the Cultural Heritage of the Italian CNR demonstrated that it is not possible to speak of seismic vulnerability for monumental archaeological ruins that are not at least 2.5/3 metres in height. In the majority of archaeological areas, however, the structures only reach a few tens of centimetres in height, also because usually, in the areas subject to recurring earthquakes, collapses have already occurred in the past.

Landslide phenomena generally and those of hydro-geological instability are however of greater impact. This is due to the close relationship that links archaeological remains to the natural environment. For the same reason the dangerousness of the uncontrolled growth of vegetation appears extremely significant. This is because it can cause serious problems of instability both to the structures and to the decorative elements as a result of the spread of the roots and the growth of creepers that damage the walls, detach frescoes, detach the tesserae of mosaics, etc. Microbiological species, such as fungus and alogal varieties can also cause alterations of the chromatic and aesthetic values which, even while having lesser importance from a quantitative viewpoint of the damage, do however significantly affect the interpretation and understanding of the ancient artefact.

Climatic factors are also of special importance for the archaeological heritage: in fact, if on the one hand ruins have little in common with the original typology and volumetry, in their current specific configuration they are the result of destructive events and losses of the past, which have left us with structures devoid of covering, continuity and coating. These are structures on which just rain, wind, ice are sufficient to produce irreparable damage.

Thus, in evaluating the vulnerability of a site, some specific parameters assume the greatest importance: the state of preservation of the constitutive materials and binders, the extension of the surfaces of contact of the stone materials present, the existence of systems of protection from rainwater and from the main thermo-hygrometric phenomena, the situation of the level of the site in relation to ground level.

A particular aspect of environmental dangerousness, which is connected with one of the factors of anthropic dangerousness, is that of *pollution*: polluting sources may be localised—as for example the existence of industrial complexes near the site, the location of the archaeological asset in an urban area that is strongly degenerated due to the level of gas burnt by vehicular traffic or by heating systems—, or also not directly present on the territory. The analysis of the potentially degenerating chemical agents should therefore be combined with that relative to the system of the winds, to thermo-hygrometric cycles, to the nature of the materials constituting the site.

Anthropic Factors

In the case of archaeological sites, anthropic phenomena assume an absolutely decisive importance, both as regards the professional activity (excavations, restorations and management of the assets) and as regards the public and, more generally, the density and distribution, as well as the activity, of the population resident in the area.

The archaeological structure often emerges and exists only following specific activities of research and excavation, some carried out in the past not always correctly and with different criteria to those of the present day. The destructive nature of current excavation activity, even of the modernly conceived stratigraphic type, is well known: not only are the soil, structures and materials therein contained removed and separated from each other, but the very fact that the finds, after centuries of burial, are suddenly exposed to new environmental conditions, forms a shock that requires specific measures of at least partial mitigation which, even today, are at the last position in the concerns of the archaeologist.

It is thus possible to understand the decisive importance of recovering those elements which form the essential basis for a correct assessment of the vulnerability: the complex history of the site, starting from the transformations regarding

its life, as far as the traumatic moment when it was excavated, the restoration and maintenance to which it was subjected. In particular:

- what parts of the asset were exposed and when in the various excavation campaigns;
- what interventions can be reconstructed that altered the structure of the asset during its life;
- what restorations, reinforcements, reinsertions of parts have been done;
- when and how the binding materials of the masonry structures have been reinserted;
- what interventions have been carried out on the surfaces and on the decorative coatings (stuccoes, mural paintings, plaster, mosaics);
- what temporary or permanent protections have been prepared, when did they cease to be kept efficient;
- with what continuity were weeds kept away with weed-killer;
- with what regularity were maintenance operations carried out.

The lack of preliminary research programmes which establish the effective requirements, the lack of constant monitoring of the conservation conditions of the site, the choices that excessively favour tourist exploitation, the lack of an independent budget for the management activities, the lack of suitable, or in any case too sectorial, specific responsibilities, institutional conflicts, can all be considered as factors of vulnerability of the heritage, which compete at the decision-making/ management level.

Some aspects of anthropic dangerousness are linked to the uncontrolled and unregulated exploitation of the site; even the modern way of conceiving restoration and maintenance tends to include the relationship with its use: which will be the routes of the visitors, what floors can/ cannot be walked on, what measures should be taken to minimise risks of theft, vandalism, etc.

Sustainable thresholds of exploitation and use tend today to be reconsidered and, from mere physical accessibility in conditions of safety, which itself is not an objective that should be taken for granted for many archaeological areas, it is now sought to achieve an overall offer of services and procedures of hospitality and cultural information. Render a site comprehensible in its stratifications, improve the subsidies and didactic services with respect to the indiscriminate extension of the visiting area, propose more extensive itineraries in the territory to lessen the anthropic impact on the large sites, are all shared strategic indications both at the level of the local actors and at general level. The analysis of vulnerability from tourist pressure should therefore be carried out on the absolute number and on the percentage distribution of tourist presences in a year (the possible increase of use on the occasion of special events, such as theatrical performances, concerts, fashion shows, etc. should also be recorded), on their distribution over the visiting

route, on their average time of stay. The impact, on the site or in its proximity, of hospitality and reception structures, such as hotels, camp sites, car parks and restaurants, must also be evaluated.

A specific aspect of anthropic dangerousness on archaeological heritage is that connected to the use of land, in relation also to still unexcavated archaeological assets. The effects of incompatible use of the territory can in fact be particularly serious, especially for those sites that have more or less large parts not yet investigated: for example the destructive impact on buried structures of some cultivations, which involve a particular treatment of the land, is well known; just as the general public is well aware of the results of the completion of large scale infrastructures such as the recent construction in Italy of the so-called "High-Speed" railway line. However, more generally speaking, all the transformations of the territory due to phenomena of strong demographic pressure form potential risk factors for the archaeological heritage, which is often "cancelled" by illegal and also poorly controlled urbanisation.

The movable assets present in unexcavated archaeological contexts, or in their original location, are subject to the same risk phenomena as the whole complex that contains them, while the movable assets preserved elsewhere (museums, store rooms, etc.) are subject to risk factors connected with the possible non-suitability of their container.

The following chart summarises the vulnerability analysis of an archaeological site, divided into the different factors of dangerousness identified, starting from the detailed and precise knowledge of the characteristics of the site, but also of the territory. For each vulnerability factor, the analysis must indicate the intensity and dangerousness, in such a way as to construct logical, efficacious and efficient plans of management of the risks, and part of the general plan of management of the site to be constructed in agreement with the actors involved and with the instruments of territorial planning.

THE ARCHAEOLOGICAL SITE AND THE TERRITORY WHERE IT IS LOCATED

- *History of the site*
- *Physical characteristics of the assets*
- *Conservative interventions of the assets*
- *Physical and geomorphological characteristics of the territory*
- *Institutional and exploitational characteristics of the site*
- *Socio-economical characteristics of the territory*

NATURAL FACTORS   ANTHROPIC FACTORS

What are they   What are they

How do they appear   How do they appear

- *Physical, chemical and mechanical characteristics*
- *Intensity of the phenomena*
- *Occurrence (periodicity and predictability)*

- *Modality of the conservative interventions*
- *Ordinary maintenance*
- *Modality of exploitation and of use*
- *Socio-economic analysis at territorial level*

Gaetano Palumbo

Threats and Challenges to the Archaeological Heritage in the Mediterranean (2000)

For many archaeological resources the greatest threat is from humans. Palumbo's over-view of Mediterranean sites outlines a range of threats and the related challenges they pose for archaeological conservation. Identified threats include external factors such as development, pollution, tourism, and social unrest, as well as activities and circum-stances that arise directly from the nature of the archaeological resource itself: looting, inappropriate interventions, and lack of effective administration and legislation.

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It is clear that threats to the survival of this heritage come from a vast array of sources, but most of them are linked to the way modern societies are develop-ing. Conservation efforts are still, in many cases, trying to address only one of these threats, the one that is most visible: material decay. This article will show that assessing the causes of the deterioration of our archaeological heritage and responding to these threats by including the archaeological heritage in develop-ment and management planning processes is the only way to minimize the effects of the many factors of decay. In other words, while threats cannot always be elimi-nated, they can certainly be managed.

Which Threats?

The International Council on Monuments and Sites (ICOMOS) recently published a document entitled *Heritage at Risk: ICOMOS World Report 2000 on Monuments*

and Sites in Danger (ICOMOS 2000). This document will be updated each year on the ICOMOS Web site. The threats identified by the report range from natural causes to those related to development, including pollution and mass tourism. In addition, the report specifies threats related to the loss of handicraft traditions and overzealous restorations, a point also made in this article. Although many would argue that "universal" concepts of heritage, conservation, and preservation of ancient monuments are not only a myth but a myth based on Western concepts, it is fair to say that with some variation in philosophy, the idea that archaeological sites should be conserved is common among all the Mediterranean countries. In some cases, this stance probably has a justification in the development of cultural tourism and its economic importance, while in others, it responds to a political agenda and more entrenched intellectual positions. In other words, there is no single justification for conserving a site, and people believe in conserving the past for very different reasons.

Threats can easily be identified just by observing the patterns of destruction affecting our archaeological and historic sites. The distinction made in Corinth between man-made and natural threats is only practical, as most natural phenomena, such as floods, are often made worse by the violent and irreversible changes caused by years of overexploitation of natural resources and the systematic destruction of our cultural landscapes. Only the natural decay of materials and some disastrous, although rare, natural phenomena such as earthquakes and tornadoes are independent of human intervention. This concept was discussed by Alessandra Melucco Vaccaro in 1989 when she referred to extreme natural phenomena as catastrophic for the survival of heritage sites when combined with a lack of risk mitigation in such events. There is widespread agreement among heritage managers about the general causes of decay of cultural resources. Less clear, however, is how to measure the level of threat. The concept of risk can provide this measuring stick and has been used in some recent assessments of cultural heritage conditions, such as *The Risk Map of Cultural Heritage* (ICR 1997) of the Italian Istituto Centrale per il Restauro; *MARS: The Monuments at Risk Survey of England, 1995: Main Report of English Heritage* (Darvill and Fulton 1998); and *Heritage at Risk: ICOMOS World Report 2000 on Monuments and Sites in Danger* (ICOMOS 2000). The first two are surveys conducted by national heritage organizations regarding the conditions affecting the survival of heritage sites and are supported by periodic reports (ICR 1996a, b, c, d; 1997; 2000; Darvill and Fulton 1998; 2000), while the third is a report on current threats to cultural heritage (ICOMOS 2000).

The Impact of Development

Development is undoubtedly one of the main causes of destruction of our archaeological heritage. Demographic growth and the need for land for the expansion of settlements, for agricultural purposes, and for the growth of infrastructure are

some of the most important causes of depletion of our cultural landscapes and of the indiscriminate bulldozing of thousands of unrecorded sites. The encroachment of archaeological sites and the unsympathetic growth of our cities and rural areas are the most visible effects of these phenomena. Subtler, but no less destructive, is the damage caused by the abandonment of the countryside following urbanization processes in many developing countries. The mechanization of agriculture and the loss of the human component in our rural areas contribute to the decay of sites and landscapes. Many antiquities authorities resort to salvage excavations to limit damage, but this practice is incredibly costly and unsustainable in the long run. This is because of the huge gap that exists between the vast areas to be salvaged and the limited number of available personnel. It is also due to time and financial constraints that demand shortcuts in the excavation and recording phases that are unacceptable from a professional and ethical point of view. In many cases, the loss of the archaeological heritage might have been avoided by adding this component to already existing territorial or urban zoning or planning strategies. Unfortunately, many times this does not happen because of the poor integration of cultural heritage within the economic and development spheres of society. In the case of existing sites, the lack of adequate planning measures also means that such sites quickly become "islands" of a past without any connection to the present, obstacles to "beautification" or gentrification initiatives, or, in the worst case, garbage dumps and places to avoid. It is the ultimate irony that these places are sometimes fenced in to protect people from the danger of open pits and crumbling buildings, perhaps more than to save these remains for a disinterested public.

Pollution and the By-Products of Development

It is impossible to separate development from pollution. In our society, pollution has become a measure of development: while developed countries pollute in huge measures, it is in developing countries where the effects of pollution are much more evident due to poor planning and the lack of means to reduce the visual effects of pollution.

Both high and low water tables are the direct effect of human intervention, and both cause great damage to the archaeological heritage. In Beirut, the high water table affects all the structures excavated within the urban center mitigation project, which are often submerged in sewage or highly polluted water. The salinization of soils, caused by excessive use and indiscriminate application of fertilizers, has destructive consequences on archaeological structures. Acid rains have caused immense damage to marble and stone monuments, such as Trajan's Column in Rome, where the finest details, still visible only fifty years ago, are now lost. Black crusts have formed on the surface of many stone monuments within recent years, often causing within a short time span damage that is much worse than the decay observed over hundreds of years. These crusts are a concentration

of pollutants and their removal can sometimes place the monument at even greater risk of decay.

Tourism and Site Conservation

The development of mass tourism is strictly linked to physical development and its economic dimension. Such threats range from the sheer number of tourists accessing fragile sites (with concomitant damage to decorated surfaces and other features) to unsympathetic behavior by visitors. This is the case of Volubilis, Morocco, where tourists often climb walls to take better pictures of the mosaic floors, or of many other sites, where they collect pottery fragments or mosaic tesserae to take home as souvenirs. Sometimes this behavior has to do with the lack of facilities at the archaeological site: the lack of signage, clear paths, and maintenance undoubtedly have a psychological effect on visitors. An "abandoned" site, or one perceived as such, gives the visitor an "everything is allowed" attitude, which often translates into behavior close to vandalism. Tourism pressure also translates into the encroachment of sites with visitor facilities and hotels, as well as excessive reconstructions. Vandalism is often associated with touristic activities, in the form of graffiti, gratuitous breaking of objects, and so on. In these forms, it is a consequence of ignorance and stupidity; however, vandalism is sometimes committed on purpose for reasons that are more appropriately described under the category of social unrest.

The Impact of Social Unrest on Cultural Heritage

Vandalism committed for political or social reasons is not a casual act and is often highly destructive: sites may be targeted for the value they hold in the eyes of certain groups of people against which the act is directed. Vandalism can take the form of looting, such as in Lebanon during the Civil War (1975–92), when sites in the Biqaa Valley were bulldozed to obtain artifacts to sell on the antiquities market in order to finance the purchase of weapons. Another such case occurs in Pakistan, where a large number of antique objects come in from Afghanistan. Vandalism can also take the form of the systematic destruction of the symbols of another community during an armed conflict, in order to deny that community's right to the land. This was the case of the destruction of mosques in Bosnia and of the famous Bosnian bridge in Mostar, and the attacks on mosques and synagogues (including those in archaeological sites) in Israel and Palestine, and on churches and mosques in Cyprus.

In addition to the effect of these acts of war on archaeological sites, there is the selection of archaeological sites for military purposes, For example, Anjar, a World Heritage site located in Lebanon, is currently occupied by a Syrian military camp that is damaging many of its monuments. Furthermore, the staff of many

antiquities departments are not well trained in emergency activities, which consequently results in great damage to heritage in crisis situations (such as taking objects off display without proper recording and storing them in inappropriate conditions).

Situations involving a conflict of values can also have sad consequences for archaeological sites. For example, the tension accumulated in Piazza Armerina in Italy over a contract for building extra parking lots around the site finally became explosive when a group of contractors who either were excluded from the bidding or felt that the competition was unfair vandalized some of the site's mosaics (Ciliberto et al. 1995). Similarly, tensions were extremely high when the Neolithic temples of Mnajdra, Malta, were seriously vandalized by hunters in response to drastic limits imposed on hunting activities in and around the site (Debono 2001).

The Problem of Looting

Looting merits a category on its own because, in some countries, this is the single most important cause of the depletion of cultural resources. Looting is caused by the huge demand for archaeological objects in the international antique markets. Often associated with organized crime, the traffic in antiquities takes advantage of poverty in rural areas and of the connection of middlemen with the higher social classes of the ruling elite. Another reason for the difficult control of clandestine archaeological activities is that while the Western public's interest in archaeology is deeply rooted, people from other parts of the world perceive archaeology as a foreign import or an activity practiced by the elite, and for this reason, as something to mistrust. Archaeologists are often seen as treasure hunters with whom to enter in competition. While this is not the place to expand on this topic, oftentimes looters do not see themselves as guilty of wrongdoing, especially when the foreigners are perceived to be engaged in exactly the same activity. This might be called the "treasure hunt" syndrome. The idea that foreigners are there to find gold is very common across the Mediterranean; unfortunately, the usual response is to dig after the archaeologists, or better before them, in the hope of finding the treasure that "the foreigners" must be after. The looting of Daunian cemeteries in Apulia, Italy, using bulldozers, or the destruction of Bronze Age cemeteries in the Jordan Ghor by treasure hunters are some examples of this phenomenon.

Archaeological Excavations: A Damaging Factor

Archaeological activities are one of the main causes of decay of archaeological sites. In too many cases, excavation projects do not take into consideration the conservation of the structures found. Even worse, they do not provide for the consolidation and protection of the structures from one project season to the next. The result is not only that "completed" archaeological projects soon look like a collec-

tion of abandoned and collapsing structures and pits but also that archaeological evidence is lost because of the uncontrolled erosion and decay taking place.

Simple and inexpensive procedures exist to secure the safety of a site during excavation and in the period immediately following the end of a project (Pedeli and Puglia 2002; Stanley Price 1995), but, unfortunately, archaeologists do not always believe that it is their ethical responsibility to ensure the survival of the site they investigate. This is often compounded by the scarce coordination between scientific missions and local antiquities services, with the latter in many cases exerting little control and imposing loose regulations on excavation projects. It is important to emphasize this point, as archaeology carried out purely for research objectives, and not justified under salvage schemes, is a common phenomenon in the Mediterranean, one that attracts many foreign teams to various countries in the area. For this reason, it is even more important that excavation teams provide for conservation, site stabilization, and backfilling (where necessary) to take place at their sites with the involvement of conservation professionals.

Damage Caused by Inappropriate Interventions

It is ironic that conservation activities, although often carried out with good intention, may have disastrous effects on the structures meant to be preserved. Untrained personnel, the application of outdated methodologies or incompatible materials, and undocumented reconstructions disguised as restorations have made conservation, in many cases, a threat to sites and monuments. For example, despite claims to the contrary, cement continues to be widely used in many countries for stabilization and conservation projects even though it is a material that contains high quantities of salts and is incompatible (being too strong and rigid) with traditional lime-based mortars. The application of such incompatible materials is sometimes dictated by the absence of valid alternatives, but is more often the consequence of poorly trained personnel being given responsibility for major conservation projects.

Also problematic, driven by the desire to show monumental architecture to the visitor, is the issue of reconstruction on archaeological sites. Some reconstructions are made with the intent of protecting the site, returning it to an ideal "original" condition, or making it more understandable to the visitor. Reconstructions are, however, often irreversible, do not improve the understanding of the site, and may be historically and archaeologically incorrect. Reconstructions, but also "improvements" such as heavy wall cappings, partial reconstructions of walls, and the erection of columns using "spare pans" or new material, show, historically, how fast our taste changes in conservation and also how easy it is to do damage that is difficult to repair.

The opposite of excessive conservation intervention, that is, the lack of maintenance, is certainly a cause of the destruction of many heritage sites. Vegetation

growth, accumulating dirt, and stagnating water are factors that contribute to material decay. It is not uncommon to see grass and bushes growing out of mosaic floors or on walls. In the same way that a house needs continuous maintenance to avoid large-scale problems, so do archaeological sites.

Lack of Administration and Legislation as Factors in Heritage Loss

The lack of administrative and legislative frameworks within which to carry out the conservation process causes tangible threats to heritage sites. Examples include the unclear definition of the status of archaeological remains on private property, the lack of consideration for site context, and vague criteria for designating protection zones, as well as the poor integration of physical heritage into urban and development plans. In addition, there is the thorny issue of adequate training of personnel in the organizations responsible for site protection, adequate retribution, and other incentives to promote improved job performance.

Discussion

After such an extensive list of man-made threats, those caused by nature seem not only obvious but also more manageable; however, this is not the case. Destructive phenomena such as earthquakes, fires, floods, landslides, and volcanic eruptions often cause extensive damage to human life and property that needs to be dealt with first, before attention can be directed to archaeological and historic sites. The slower, cumulative effect of other natural phenomena such as erosion, material decay, and pests can be as destructive as catastrophic events. *Save Our Sites: The Fragility of Archaeological Sites and Monument*s, an exhibition organized by the Centro di Conservazione Archeologica in Jordan and Syria, defined two categories of threat: those having an immediate and catastrophic effect and those having slow and cumulative effects (Nardi et al. 2000). It also identified the importance of preventive conservation and pointed to training, administration, consciousness-raising, maintenance, and emergency plans as specific areas of intervention to reduce the effects of damaging phenomena.

The ICOMOS *Heritage at Risk* survey is more articulate in suggesting responses to different types of threats. These range from maintenance, monitoring, and promotion of traditional and modern preventive technologies to limit the impact of natural decay processes to the development of legislation for planning, pollution control, and for ensuring the existence of buffer zones around sites. The stated aim of such measures is also to "promote and improve the implementation of international conventions," "promote cultural diversity," and "promote the recognition of cultural diversity." There is some contradiction in promoting the use of international conventions as a measure of good practice while decrying the threats

of globalization. This contradiction is a fundamental one, since a stance that recognizes the existence of diverse heritage and perceptions of heritage also insists on a single standard for conservation (ICOMOS 2000).

The approach advocated in these proceedings, which characterized the entire Corinth workshop, does not stop at simply responding to perceived threats. It recognizes the need for planning, prevention, maintenance, and monitoring in cultural heritage management; at the same time, it also maintains that the process must be based on the recognition of values that often go beyond the traditional areas of scientific research and aesthetic importance. These values have an impact on the way a site is perceived, understood, and, ultimately, managed. If this is a first step toward a less mechanistic view of heritage conservation and management, the second and more radical step is the recognition of the people behind the expressions of values attached to the heritage resources, and the way in which these values influence the significance of the resource. By describing the variety of threats affecting cultural heritage, this paper has demonstrated the importance of assessing and understanding the present conditions of cultural resources prior to the formulation of long-term management plans.

[. . .] [T]aking measures to reduce threat is relatively simple: the idea of preventive conservation and maintenance is gaining consensus on a large scale, although its practical development is still uneven. What is more difficult to achieve, however, is the development of a conceptual framework for heritage management planning that looks at value and stakeholder recognition (and participation) as the core elements for developing plans that are sensitive to local conditions and sustainable in the long term.

References

Ciliberto, E., R. Chillemi, S. Sciuto, G. Spoto, C. Puglisi, G. Villari, and A. Bombaci. 1995. "Acts of Vandalism on Archaeological Monuments: The Case of the 'Villa del Casale,' Piazaa Armerina." In *Science and Technology for the Safeguard of Cultural Heritage in the Mediterranean Basin*, 1:785–88. Rome: CNR.

Darvill, T. and A. Fulton. 1998. *MARS: The Monuments at Risk Survey of England, 1995: Main Report*. Bournmouth: Bournemouth University and English Heritage.

Darvill, T., and A. Fulton. 2000. *MARS: The Monuments at Risk Survey of England*. See http://csweb.bournemouth.ac.uk/consci/text_mars/marsint.htm.

Debono, F. G. 2001. "Vandals Cause 'Irreparable' Damage to Mnajdra Temple." *The Sunday Times of Malta*, 15 April, 1.

ICOMOS. 2000. *Heritage at Risk: lCOMOS World Report 2000 on Monuments and Sites in Danger*. See http://www.international.icomos.org/riskindex_eng.htm.

ICR. 1996a. *Carta del Rischio del Patrimonio Culturale: La Cartografia Tematica*. Rome: Bonifica S.p.a.

ICR. 1996b. *Carta del Rischio del Patrimonio Culturale: La Metodologia per il Calcolo del Rischio*. Rome: Bonifica S.p.a.

ICR. 1996c. *Carta del Rischio del Patrimonio Culturale: Il Rischio Locale*. Rome: Bonifica S.p.a.

ICR. 1996d. *Carta del Rischio del Patrimonio Culturale: Il Sistema Informativo della Carta del Rischio*. Rome: Bonifica S.p.a.

ICR. 1997. *The Risk Map of Cultural Heritage*. Rome: Bonifica S.p.a.

ICR. *Carta del Rischio del Patrimonio Culturale*. See http://www.icr.arti.beniculturali.it/rischio/rischio00c.htm.

Melucco Vaccaro, A. 1989. *Archeologia e Restauro*. Milan: Il Saggiatore.

Nardi, R. et al. 2000. *Save Our Sites: The Frugality of Archaeological Sites and Monuments*, exh. cat. Amman/Damascus: Centro di Conservazione Archeologica.

Pedeli, C. and S. Puglia. 2002. *Pratiche Conservative sullo Scavo Archeologico: Principe e Metodi*. Florence: All'Insegna dei Giglio.

Stanley Price, N., ed. 1995. *Conservation on Archaeological Excavations*. 2nd ed. Rome: ICCROM.

ARLEN F. CHASE, DIANE Z. CHASE,
AND HARRIOT W. TOPSEY

Archaeology and the Ethics of Collecting (1996)

The beauty, market value, or display potential of collectible archaeological finds can encourage looting and associated damage. Chase, Chase, and Topsey consider various aspects of the collection of antiquities and the resulting responsibilities of archaeologists and museums. The reading includes a short history of the discipline of archaeology and comments on how present problems arise, in part, from past practice and its expectation that archaeological excavations should yield exquisite treasures. The authors also highlight the ethical obligation of archaeologists not to use archaeological objects with no provenance as a basis for scholarly work.

A major magazine recently ran on its cover a photo of a handsome Maya jadeite mask, suggesting that the piece had originally been dug up by looters. The magazine also reported that the piece was for sale at an exorbitant price. The cover depicting this object and an article within the issue in defense of private collecting rocked the archaeological community, and underscored the growing rift between scientific archaeologists and art historians and epigraphers, who often use looted material in their research. The controversy also raised some ugly questions about the discipline of archaeology, the majority of them revolving around the deprivations caused by the intertwined evils of collecting and looting. It is important to ask, for instance, if the portrayal of a looted artifact on the cover of a national magazine raises its value on the illicit art market. Or is its appearance offset by educating the public about the serious problem of a burgeoning black market in

looted antiquities? Even more controversial, however, is any stance sanctioning the collecting of illicitly recovered objects.

Some archaeologists feel strongly that every artifact shown publicly or used as a kingpin in arguments about ancient societies must have an archaeological pedigree—it must have been properly excavated. They must know precisely where it comes from to tell its story. Without any indication of its origins and context, it is deemed worthless by some, or at best unreliable. Many institutions, the Archaeological Institute of America among them, have taken strong stands against illegal traffic in antiquities and will not knowingly publicize looted objects for fear of increasing their market value.

The controversy concerns not only intent, but results. How can one defend, either directly or indirectly, the rape of the past? Doesn't buying the fruits of such an enterprise only make the collector an accomplice in the crime? Today's private collectors, however, usually point to the beginnings of archaeology to justify their attitudes.

In its infancy, the discipline was primarily concerned with collecting artifacts. A number of prominent individuals of the 1800s were indeed antiquarians or collectors. In that era, collecting was believed to be both a mode of science and a way to increase knowledge. But while the destructive excavation methods of the antiquarians may have been similar to those in use by looters today, even then antiquarians usually recorded at least some details about the context of their finds—something looters don't do.

By World War I, archaeology had grown out of this stage. Today, an archaeologist "collects data" and, more important, "collects" context. Collecting objects is not, in and of itself, scholarship. It is the collecting of information in a scientific way that characterizes archaeology. To liken the archaeologist and the looter to one another—as some have done—is to project a false and simplified version of what archaeology is all about. The ethical and moral responsibilities involved in carrying out archaeology are found in neither the world of the looter nor that of the collector. In fact, the looter and collector are so intertwined that neither could exist without the other. The case of the robbery of Mexico's National Museum of Anthropology on Christmas Eve 1985 serves as a grave warning. Here, the looters stole certain objects "on order", much as big-city car thieves steal a given make and model of auto. When people will rob an institution to satisfy the collector's greed, no cultural resource in the world is safe.

But where do these heated differences of opinion come from, and who are the various parties that are concerned with ancient artifacts? Archaeologists, art historians, epigraphers, museums, government officials, collectors, looters and dealers each have their own concerns. But who are the rightful guardians of the past and what are the responsibilities that go hand-in-hand with such guardianship? Professional obligations cannot be ignored. Looted or fraudulent pieces have sometimes been made respectable by noted scholars, either through publications

or exhibits. The authentication and valuation of non-pedigree pieces constitutes irresponsible behavior.

The archaeologists of today have inherited the consequences of the methods and attitudes of the researchers that went before them. The first big archaeological and anthropological museums developed out of the antiquarian attitudes of the 1800s. For them, amassing artifacts was one way to increase their prestige and reputation. They therefore sent out expeditions to collect large numbers of pieces. With the advent of foreign nationalism in the 1950s and with the beginning of scientific archaeology in the 1960s the traditional collection-related roles were re-defined. Most archaeological and anthropological museums broke away from their previously mandated role. Now expeditions were sent out less to collect pieces than to make spectacular finds and collect data. By the early 1970s many museums openly discouraged looting and actively hindered unfettered collecting: they did this by refusing to purchase or acquire by donation collections devoid of archaeological context or pedigree. Yet even then these same institutions had not yet fully broken away from the collecting mentality. Once they had gained prestige by mounting a large long-term archaeological expedition that continually "collected" significant discoveries, many sponsoring institutions did not then go on to provide sufficient post-field support: they failed to process the mountains of collected data, or even to fully publish their findings in a timely manner. Archaeology may be defined as "controlled destruction"; whatever is excavated must be fully recorded because it can never be precisely restored to its exact context. Full publication of archaeological investigations allows a recreation of this context. To put it simply, archaeologists do not and should not dig unless they can expect to fully record and then publish their findings. These go far beyond the pretty pots and objects that form the sole interests of the collector.

Not writing up and not publishing findings is irresponsible. However, nonarchaeologists need to understand that for every day spent in the field, at minimum seven days are required for processing, analyzing and writing. Projecting these post-field rates, it is not surprising that it takes years for final reports to appear. If one's emphasis is solely on collecting, the rest of the data are expendable. Today's archaeologist and, indeed, today's responsible institution, does not take such a narrow view. Rather, whatever is collected needs to be placed into its context to be understood; this takes time and forms the basis of the scientific enterprise. The end result of this long-term procedure is a final report that not only deals with past ways of life and cultural processes, but also permits the reader to recreate the excavated archaeological record and cross-check archaeological interpretations.

Modern archaeologists have a series of commitments, contracts and responsibilities that they did not have in the past. Most often these ethics or rules of conduct are understood by working archaeologists, but the general public is largely unaware of them.

While the primary task of archaeology is to answer scientifically questions about ancient societies, through their research archaeologists become enmeshed in

a wide network of relationships that involves not only their work but the plans and goals of their colleagues, the local public and the government. Once an archaeologist begins to work at a site, he or she has usually made a commitment not only to the collection of data from that locale but also to the physical preservation of the site once excavation ceases. Preservation of a site is accomplished either through backfilling of all excavations, or consolidating the site for viewing by tourists, in conjunction with government offices in charge. Such a stabilization and reconstruction program is part of the ethical responsibility of modern archaeology.

Apart from responsibilities to the site being worked on, the archaeologist also submits published reports on his or her research to the government offices in charge of archaeology and to colleagues within the overall discipline. In a wider sense, this responsibility also extends to guardianship of data. Archaeologists recognize that they do not physically own any of the items they are digging up. Rather, these items generally form part of the patrimony of the country in which the excavation is taking place and they rightly belong to the people of that country. Likewise, the data collected through archaeology ultimately should be used by the wider profession and the public. These data, however, must remain fully in the hands of the archaeologist until full publication. Only then can such material be placed in a permanent archive, preserved for use by other scholars.

Perhaps the most obvious responsibility of modern archaeologists centers on the published articles, public lectures and museum exhibits that should result from their activities. For these are the only ways that archaeologists can fulfill their primary obligation to the public—in return for public funds. Still, major questions are currently being raised by archaeologists about just how to do this and how much to tell. Should all data be made openly available to everyone or should some finds be hidden? Does the open display of national treasures encourage looting and collecting? The archaeologist must attempt to educate the public concerning its collective responsibility to the past patrimony. This responsibility should involve the open sharing of data with nonarchaeologists through lectures, exhibits and newspapers. Nothing found in or by archaeology should be intentionally hidden.

In certain countries there has been a recent trend in the opposite direction. Rather than fully educating the people as to their past, news of important finds made by archaeologists is sometimes suppressed from public dissemination. Pictures of rare finds are not shown in public forums and archaeologists make no mention of them.

Suppression of data can create a dangerous situation by making archaeologists and government officials untrustworthy in the eyes of the public. If the data are not made available, some might unknowingly ask how the archaeologist is different from a looter. And who is to know where these unpublicized finds might end up? A lack of openness or honesty is not in keeping with ethics of scientific archaeology. But still there is sometimes fear that increased knowledge will lead to even more looting and destruction.

Figure 1
The effigy cache vessel, excavated at Santa Rita Corozal in 1980, was later stolen from the Belize Department of Archaeology and is probably now in a private collection. Photo: courtesy A. & D. Chase.

In Belize, there is a concerted effort to educate all Belizeans as to the necessity for preserving the past. This effort is being carried forward by the Department of Archaeology, archaeologists working there and the Association for Belize Archaeology, a local group interested in prehistory. Major new finds are presented in public archaeological displays throughout the country's districts and archaeology is being taught in elementary school. This enlightened approach is raising the consciousness of the nation about the importance of preserving the past. As a result, the public is increasingly helpful in preserving both sites and artifacts.

Beyond the problems involved in excavation, analysis preservation and dissemination of information, the archaeologist is faced with another dilemma. Should looted pieces and collections be used side by side with carefully excavated material? Archaeologists who do not include unidentified objects in their interpretations share an outlook that embodies three major points: First, these looted or collected items do not provide the full story; they are not associated with other artifacts or a particular location that can provide a context.

Second, non-provenanced material originally derives from illegal excavation and using these objects indirectly legitimizes the artifacts and the looting from which they are derived. Professionals are concerned that the use of such objects may also drive up market value and increase looting.

Third, because of the high demand for archaeological objects in the public sector, many of the looted pieces on the art market today are either fakes or

repainted vessels that bear little resemblance to the originals. There is no assurance that the interpretations made from them are valid. It is in fact often difficult to distinguish a fraud from the real thing.

Some collectors and art historians feel that a rich world of iconography and glyphs has been opened up by the collection of looted pots of unknown provenance. Any responsible archaeologist would question this assertion, for it is not known whether such materials are real or repainted. The use of iconography founded on non-provenanced vessels is likely to introduce false interpretations, for the modern forger is just as skillful and inventive as the ancient artist. Even if some of these vessels should prove genuine, a much richer world of iconography and associations has been destroyed by removing the vessels from their contexts. Archaeologists do not ignore or discard data that can be utilized by epigraphers and art historians, even though their goals are different. This collection of all data by the archaeologist leads, in fact, to the problem of lag time between data collection and full publication.

Epigraphers, by definition, are predominantly interested in hieroglyphic texts, while art historians are primarily interested in single vessels and their iconography. Such information can be rapidly disseminated because it comprises such a small amount of the data recovered through archaeology. Yet hieroglyphics and single objects form only a part of the repertoire that the archaeologist seeks to publish.

Collecting is big business. Archaeology is not. Business ethics, in which the dollar is supreme, is not compatible with archaeological ethics, where contextual data are worth more because they provide a fuller picture of ancient peoples not discoverable solely from the iconography of decorated artifacts. These interpretations of prehistoric life are the goals of archaeological science. The collector of artifacts needs to be made more aware of the invaluable nature of archaeologically collected pieces—and of the fact that information gathered about the relationships and meaning of such items may be worth far more than the object itself. It would be far better if collectors could be persuaded to spend their time and money in support of legitimate archaeological research. Such work would not only produce beautiful objects, but would also result in the contextual data needed to make archaeological interpretations of the past. And more important, collectors could experience the thrill of discovery, and the multitudes of meaning, that can be derived from the accurate placement of objects in their context. This experience might prove far more satisfying than mere ownership of a looted plot.

Today, collecting and profit go hand-in-hand. The unfortunate truth is that if collectors were not willing to pay exorbitant amounts for artifacts, destructive looting would not be so rampant. Nor would fraudulent archaeological materials so often be introduced into the marketplace. The argument that collecting "saves the past" only clouds the issue. A looter is not salvaging materials. He is only helping to destroy the past—for a profit. Most sites are not in danger from any other source but the looter's pick. And untouched archaeological sites are rapidly becoming an

endangered species. Private collecting simply encourages further looting and from an archaeologist's viewpoint it is wrong.

Some would argue that the responsibility for curtailing looting lies not with the collectors but with government officials. But many countries are only now realizing the invaluable nature of their past. Most countries have solid laws against such activity but not the manpower to enforce them. The responsibilities to curb looting, however, go beyond enforcement and educating the nation's people. They also rest with the country to which the looted items ultimately go. The simple fact that customs checks are made when one is entering but not when leaving a country means that the country entered has more of a chance of detecting a looted piece than the country of departure. Beyond this, curbing of looting requires an educated public unwilling to purchase items not rightfully for sale.

The dispersal of looted artworks into the world is a direct result of the existence of an art market to support such activity. Responsible museums and individuals have recognized that their obligation to the public precludes the ownership, authentication and valuation of such objects. It is now time for collectors, also, to realize their responsibility to the cultural patrimony of the world.

Julie Hollowell

Moral Arguments on Subsistence Digging (2006)

Arlen Chase and colleagues, in reading 23, illustrate that the undocumented excavation of archaeological materials for the commercial market—or "looting"—clearly damages the resource and causes major problems for the conservation of archaeological sites. But what are the moral dilemmas involved in the archaeologist's attitude to subsistence digging—defined here as undocumented digging to sustain basic life needs? These activities, while contributing to their subsistence, gain minimal returns for the diggers but are often at the beginning of a chain of exchanges whereby the artifact, unprovenanced and having lost most of its archaeological value, steadily gains in monetary value until it reaches the showrooms of dealers in the art capitals of the world.

How does the archaeologist deal with this dilemma? Hollowell uses recent debates on the World Archaeological Congress electronic mailing list and her own study of legal subsistence digging in Alaska to tease out the moral dimensions of the practice, including the role of rights and ethics in the arguments for and against the practice, reflecting to archaeologists the varying positions they hold on this problematic issue and the double standards that are often involved. Although there are no easy answers, her discussion, by objectively canvassing the problem and addressing underlying issues, opens up the possibility of new approaches to the dilemma—with potential to benefit subsistence diggers and at the same time provide a solution for archaeological conservation.

The undocumented excavation of archaeological materials for the commercial market, often called 'looting' by archaeologists, dearly damages the archaeological

record and conflicts with contemporary principles of archaeological ethics. This chapter reflects upon the ethical divide between archaeologists and 'looters' with a particular focus on attitudes surrounding one form of undocumented excavation, 'subsistence digging'. It may upset some archaeologists to discuss subsistence digging so openly, as if doing so gives credence to the activity itself, but I take the stance that everyone concerned with working towards solutions to what is, for archaeology, a troubling dilemma benefits from a closer look at the situation and trying to understand the social, economic and historical standpoints involved.

Practising archaeology in today's world requires dealing with a range of interests, often in the spirit of compromise and negotiation, and a willingness to respect other legitimate points of view. The past certainly does not serve only one purpose or one group of stakeholders (Wilk 1999). Archaeologists are often called upon to balance ethically or to negotiate their own interests and definitions of conservation, significance, stewardship or appropriate management with those of others.

Perhaps more so than anyone, owing to their position of expertise and their claim to be stewards of the archaeological record, archaeologists have an obligation to examine and clarify the philosophical arguments that underlie their attitudes towards subjects such as looting, the commercial use of artefacts, subsistence digging, collecting or other practices, which they deem unethical (Wylie 2003: 5–6). This kind of moral inquiry, which involves the process of looking closely at the moral arguments underlying one's convictions, has at least two important purposes (Moody-Adams 1997: iii; Salmon 1997: 59). One is better to understand the person or position with whom or with which one disagrees. Another is to encourage the kind of self-scrutiny 'which may lead one to see oneself, one's relations to others, and one's place in the world in a different way' (Moody-Adams 1997: 120), thus opening up the possibility of considering alternative approaches to a seemingly unsolvable dilemma. When it comes to a particular problematic situation, ethical differences can sometimes be resolved, or at least a better or less harmful course of action determined, by a deeper, less partial understanding of the specific conditions under which people make certain moral choices (Salmon 1997: 48).

Looting

My discussion examines attitudes about a particular kind of 'looting', which I will call 'undocumented digging'—the act of taking objects from the ground—sometimes referred to as pothunting. This makes a distinction between looting which directly impacts upon the archaeological record, and that which involves objects already long removed from sites, but called 'looted' because they were stolen from a museum, crossed borders illegally or were implicated in some other illicit activity. It is important to distinguish among different kinds of looting because, although there are overlaps among these situations, they represent different problems and are likely to call for different approaches. If the real objective is to protect what

remains of the archaeological record, it makes sense to focus on what is happening 'on the ground'.

Many archaeologists have argued long and hard against looting and the commercial use of artefacts (Brodie *et al.* 2001; Coggins 1972; Elia 1997; Gill and Chippindale 1993; O'Keefe 1997; Renfrew 2000; Smith & Ehrenhard 1991; Tubb 1995). The Society for American Archaeology's (SAA) Principles of Ethics and other professional codes speak strongly against any support for such activities and give clear arguments as to why (Lynott and Wylie 1995). In actuality, and in spite of what is written in any professional code, archaeologists' attitudes about undocumented digging range, as Matsuda noted, from empathy to vilification (Matsuda 1998a: 88), and many have had close encounters of more than one kind with these activities in the field (see Green *et al.* 2003 for a particularly candid account). Written accounts of interfaces between archaeological practice and looting, which are all too few and far between, are important because they shed light on the nuances and complexities of these situations and the consequences of various ways of responding.[1] As Wylie suggests, a systematic, empirical evaluation of the negative and positive consequences of different approaches to dealing with an ethical dilemma such as undocumented digging is a much-needed next step (2003: 9–13; 1996: 178–80), but will not be tackled here.

The term 'looter' lumps together people with diverse motivations and interests, including those who engage in a legal hobby that defines, for them, a close, sometimes even a hereditary, connection to a particular place (see Colwell-Chanthaphonh 2004; LaBelle 2003) and others who see digging and its profits as socially acceptable and justifiable in the face of government neglect (Migliore 1991). In some places, undocumented destruction of archaeological sites goes hand in hand with government corruption (see Carleton *et al.* 2004; Sandler 2004; Stark and Griffin 2004), the cultivation of an 'outlaw' image (Early 1999) or an individual's status as a 'local expert' (Smith 2005). Almost all discussions of looting have focused on its illicit nature (Brodie *et al.* 2001; Schmidt and McIntosh 1996; Tubb 1995; Renfrew 2000), though not all undocumented digging is against the law.[2] My concern here is not with the licit or illicit nature of the activity, except to the extent that legal mechanisms and the policies of institutions reflect certain moral standpoints and have diverse consequences.

Calling someone a 'looter' is meant to instil shame and shows strong moral opposition to the unauthorised taking of things from archaeological sites (McIntosh 1996). On the other hand, the label can be downright lionising to those who identify with its outlaw connotations, and others see it as a word used by the state to mark its authority. As far as I know, diggers never refer to themselves as 'looters'. Migliore (1991) describes how diggers in Sicily perceived themselves not as looters or criminals, but as treasure hunters who have been marginalised by the state. Use of such a loaded, one-sided term can be counterproductive to dialogue and the search for mutually beneficial solutions. The fact that, in the late 1980s,

some archaeologists publicly called St Lawrence Islanders—some of whom legally dig on private property for goods to sell—'looters' and 'cultural cannibals' still hinders dialogue and relations between archaeologists and community members, especially since, only fifty years before, archaeologists were packing up and leaving with crates of human remains.

Subsistence Digging

My discussion in this chapter is limited to 'subsistence digging': where people dig to find archaeological goods to sell and use the proceeds to support a subsistence lifestyle. David Staley employed the term to describe the digging on St Lawrence Island (Staley 1993), and Dave Matsuda used it in his ethnography of diggers in Belize (Matsuda 1998a). St Lawrence Islanders now use the term to refer to their own activities. Focusing on a particular kind of undocumented digging helps begin to differentiate among the various forms these activities can take and the motivations behind them.

Subsistence digging is the major source of newly excavated materials on the market. This form of 'looting' plays an important social and economic role in many countries around the world. It is often a local response to specific political and economic needs and situations. The term is not neutral. Use of the word 'subsistence' in this context euphemises the negative connotations of 'looting' and invokes a discourse of self-determination and economic justice, one that is associated today with struggles of peoples all over the world to maintain access to resources important to local livelihoods (Nuttall 1998; Young 1995).

Subsistence harvests once were defined as non-commercial, but no longer. Even economists realise that many subsistence activities require substantial inputs of cash and sometimes generate cash as well. Digging for artefacts is consistent with the ideology of subsistence in many ways and has much in common with other hunting or gathering practices (see Hollowell 2004: 101–3; Krupnik 1993). It even has aspects of the thrill of the hunt. Yet unlike *renewable* subsistence resources, there is no such thing as a 'sustainable harvest' of the archaeological record. Furthermore, the ethical lines between what is considered subsistence use of a resource and a use that would be considered extravagant are far from clear or unanimously drawn. These issues come up again below, because they underpin some of the moral arguments used to support or oppose subsistence digging.

Two sources provide the primary frame for my discussion of the diverse moral claims that surround subsistence digging. One is a conversation on the electronic mailing list of the World Archaeological Congress. The other is my ethnographic study of legal subsistence digging in the Bering Strait region of Alaska, where Native residents have for generations been digging for long-buried walrus ivory, whalebone and worked artefacts as a way of generating needed cash or commodities to use in trade (Hollowell 2004). Studies of subsistence diggers by Matsuda

(1998a, 1998b) and Paredes-Maury (1998) offer additional support for moral arguments that underlie the activities of diggers, as does information from shorter accounts and journalistic sources. The situation in Alaska is especially interesting because it offers a case where digging and selling archaeological materials is not illicit. Removing the issue of illegality puts the focus on the role that rights and ethics play in arguments for or against undocumented digging. In general, the more information that archaeologists or local communities have about the varied contexts in which subsistence digging occurs, the better informed their decisions and responses can be.

The World Archaeological Congress Discussion

In December 2003, a flurry of correspondence on the subject of looting erupted among archaeologists on the World Archaeological Congress (WAC) electronic mail distribution list, which circulates messages among WAC members. This cyber-storm was prompted by an e-mail from Sam Hardy, who had submitted a rather controversial proposition to the membership and Executive Council at WAC5 (the fifth quadrennial meeting) in Washington, DC, several months before. The proposition, which Sam had framed in accordance with principles stated in the United Nations Universal Declaration of Human Rights, took the position, in simple terms, that a person has a 'right to loot' and to sell artefacts for subsistence purposes if other alternatives for livelihood are not available (Hardy 2004). WAC is recognised as a liberal body in the spectrum of archaeological organisations. Still, the proposition was, according to Hardy, strongly opposed.[3] In mid-December, Sam sought further explanations for the reactions from the WAC membership list to what he thought was a well-constructed argument.

The ensuing emails elicited a range of responses and quite a bit of discussion. It goes without saying that the particular background, values and experiences of a respondent affect that person's standpoint. Here I am interested in the range of moral stances these archaeologists took in critiquing or justifying subsistence digging, or what Hardy calls the right to loot.

The reader should keep in mind that Hardy's proposition grows out of the trying times surrounding war and destruction in Afghanistan and Iraq. Like myself, and others, he was haunted by the fact that humanitarian aid for the millions in Afghanistan appeared to come only after the destruction of antiquities (Hardy 2003). Second, as several contributors to the web discussion pointed out, supporting someone's right to loot under certain circumstances should not be considered tantamount to a blanket support for looting itself.

I have drawn below from the WAC discussion list and other sources to delineate some of the main arguments that emerged in support of and in opposition to subsistence digging. I describe each of these moral arguments and how they justify certain positions, examining some of the points for and against each argument,

based on my own research on subsistence digging in the Bering Strait region of Alaska, other ethnographic accounts of subsistence digging, and additional reports of digging activities in scholarly and popular sources, including newspapers and magazines. The objective here is neither an apology for nor a condemnation of looting or subsistence digging, but the closer scrutiny of diverse moral positions in light of some of the evidence. The topic would benefit from further clarification of various arguments and the incorporation of additional evidence from a much wider range of voices, especially those of subsistence diggers.

The Economic Justice Argument

The primary moral argument that Hardy and others used in support of subsistence digging or the 'right to loot' is based on principles of economic justice. This ethic allows that under certain conditions of poverty or lack of other means of livelihood, people are justified in using archaeological goods as an economic resource. An even broader ethic underlies this one: that concern for things, whether artefacts or archaeological sites, should not come before concern for human life. Mark Kenoyer, an archaeologist who works in Pakistan, put it this way: 'Why should we expect the Pakistanis to care about archaeology when they're worried about staying alive?' (Kenoyer 2002).

All evidence points to a strong relationship between digging for the market and a lack of viable economic alternatives (Heath 1973; Hollowell 2002, 2004; Matsuda 1998a, 1998b; Paredes-Maury 1998). Reports of digging continue to emerge from developing regions, where carving out a living is a constant challenge, and one major find can provide the equivalent of a family's annual income (Beech 2003; Heath 1973: 263; Stark and Griffin 2004). In many cases, increases in site digging are directly linked to a deterioration of local economic conditions and opportunities, often due to uncontrollable events such as drought (Brent 1994; Lawler 2003), political instability (Blumt 2002; Matsuda 1998b; Paredes-Maury 1998), major changes in the local economic base (Hollowell 2004), or any combination of these. The area around Blanding, Utah, for example, became infamous for pothunting after the shutdown of uranium mines left many local residents unemployed. In these situations, one valuable find can incite widespread digging. This was the case in southeastern Iran, where drought, desperate economic conditions, and the discovery of a lucrative site attracted whole families (Lawler 2003). Typically, the vast majority of diggers are those most directly affected by civil unrest and economic upheaval—local residents. In Israel, it is reported that 99 per cent of artefact diggers are shepherds or inhabitants of nearby villages, many of whom lost their livelihoods in the wake of the Intifada (Blumt 2002). Matsuda reported similar results from his research in Belize (Matsuda 1998a, 1998b).

War triggers the social disintegration and loss of livelihood that precipitates subsistence digging. Families uprooted by war and forced to leave behind their

lands and all their assets turn to carrying off portable antiquities in an attempt to ensure their own survival.[4] War also encourages other less justifiable forms of looting. Often both sides engage in opportunistic digging and theft of cultural property, frequently with the complicity of insider officials or the military. This has been true in Iraq where local villagers and professional looters alike inundated sites and started digging on a massive scale. Still, according to reporters, digging has been much more widespread in Southern Iraq because of the endemic poverty in that region (Carleton *et al*. 2004).

The vacuum created by economic disintegration also attracts organised crime and black-market entrepreneurs to the artefact market who often employ area residents as diggers (Brent 1996; Heath 1973; Matsuda 1998b). In the Ukraine, for example,

> Mafia groups . . . are pursuing a lucrative sideline in archaeology, looting valuable artefacts to be sold on the black market, in addition to their traditional criminal enterprises. . . . Some of the mafia families have employed archaeologists to work directly for them, after making them an offer that they can't refuse. . . . The economy here is very depressed, people need the money. (McLeod 2002)

In a case like this, would the economic justice argument support the right to dig for some and not others?

There are probably more situations than we would like to think where entire communities see the looting of sites as a legitimate route to financial gain and an act of social justice, in open defiance of laws that are perceived as indifferent and unresponsive to local concerns. This attitude was evident in Sicily, where Migliore (1991) found that people perceived the government not as a protector of archaeological heritage, but as an entity that was diverting what should be local wealth to foreign archaeologists. In these cases, the apathy or the disapproval of government can be interpreted as unwillingness to 'confront the fact that there are indigenous peoples among them—oppressed by land speculation and resource-hungry militaries, constrained from extra-local commerce, and lacking political power—who dig their ancestors' remains to put food on the table' (Matsuda 1998a: 90).

An economic justice argument also lends ethical weight to the 'right to dig' when it is conceptualised in terms of class struggle, one that pits wealthy archaeologists and governments against poor producers, rather than as merely a cultural one, over heritage preservation. According to Matsuda, many subsistence diggers in Belize saw things in this light. Archaeologists arrived each year with elaborate equipment, treating local people as low-paid workers with little or no chance of advancement. They returned to fancy homes and well-paid careers made possible by artefacts and information excavated and extracted with government permission, while those who used the proceeds of their digging to buy seed corn, medicine,

clothing and food were considered villains (Matsuda 1998a: 93). To paraphrase Anne Pyburn, archaeologists 'take the gap between vernacular perceptions of the world and ours to be cultural gaps', or gaps in understanding, as if 'they' don't understand the importance of heritage, when the differences are to a great extent economic—and often not by choice but by necessity (Pyburn 2003: 171).

A major problem with the economic justice argument is its lack of clarity about who would be eligible for the 'right to loot'. What circumstances, if any, are dire enough to warrant digging into an archaeological site? Should we attempt to distinguish between 'better' and 'worse' diggers based on intentions and consequences, on whether the money they receive from digging is used to buy food, computers, cigarettes or methamphetamines? How would anyone draw the line between subsistence digging as a necessity for livelihood and when it is merely a supplement to an adequate standard of living?

Evidence shows that people dig for a wide variety of reasons. In some places, digging for artefacts is part of the seasonal round, done in conjunction with other subsistence activities (Hollowell 2004; Matsuda 1998a, 1998b; Paredes-Maury 1998). In Belize, the amount of digging in any one year was said to be more closely related to the success or failure of that year's crops than to auction house prices (Matsuda 1998a: 94). In northwestern Alaska, families go digging together on weekends for recreation, children dig for fun and curiosity, people dig to help pay the bills, or to buy groceries and equipment for subsistence hunting. In many cases eliminating digging altogether would increase the economic hardship communities already face. Subsistence digging is a way to convert locally available resources into cash, material goods and opportunity—those things so many of us desire in today's world. In China, Arctic Alaska, Latin America and elsewhere, people have acquired the capital needed to start a business, attend college or medical school or start a new life after fleeing a war-torn country by selling excavated goods.

Framing the right to dig as a question of economic justice certainly carries moral weight, but in most cases the dilemma of subsistence digging—and at least part of the solution—appears more generally related to a straightforward lack of alternative economic opportunities. In the Bering Strait, when jobs with a more reliable income were available in a community, such as working on the construction crew of a water and sewer project, even the most inveterate diggers stopped digging. There were still people who preferred the independence and flexible hours of digging or who dug mainly for recreation, but, to the dismay of dealers, the major suppliers of the market were preoccupied during the digging season.

Diggers as Victims of a Global Market

A corollary to the economic justice argument is the notion that subsistence diggers are victims of a global market, exploited by the demands and desires of dealers and collectors, who are the real villains. Ample evidence for this comes from the reports

that diggers typically receive a very small percentage of the final market value of their finds (Alva 2001; Coe 1993; Pendergast 1994). But a less typical example comes from St Lawrence Island, which represents a legal market for artefacts. In this case, diggers demand and obtain consistently high returns for their goods, now that they have access to the estimates in Sotheby's catalogues. This seems to be evidence that a *legal* market, with fewer intermediaries and less risk, offers higher returns to subsistence diggers, but we do not have enough cases really to evaluate this claim.

A corollary to this argument appears to be that if diggers were to receive higher prices, they would dig less. At least on St Lawrence Island, this does not appear to be the case. Higher prices for artefacts do not slow down the digging; if anything, they incite more people, including groups of kids, to head out with hopes of hitting a jackpot. At a closer look, while arguments about how little or how much diggers are paid for artefacts may appeal to an ethic of economic justice, they are irrelevant to concerns of protecting the archaeological record, except that they might indicate what the value of an economic substitute would need to be to persuade people to stop digging.

The main thrust of the 'global victim' argument, however, is to apologise for the activities of subsistence diggers and place the blame for undocumented digging on other parts of the market, notably wealthy collectors, who are seen as the 'real looters'. Much has been written from this moral perspective (Elia 1997; Renfrew 1993), but we are only beginning to acquire ethnographic descriptions that are detailed and broad enough to clarify how various participants in specific markets for archaeological goods manipulate supply and demand (see Brent 1996; Coe 1993; Hollowell 2004; Kersel in press). My research into the St Lawrence Island market suggests that the market is driven less by the needs of diggers or the desires of collectors than by dealers, who create and manage both the supply and the demand. It is the job of dealers to promote the market and cultivate taste for objects, and they do so with the (unwitting) help of museums, art historians, archaeologists and the media. I also know artefact dealers who argue that they have provided economic benefits to local people that far exceed what archaeology has had to offer and sadly in some cases this is true.

Finally, the portrayal of small-scale producers as victims of globalisation obscures their efforts to rework capitalist and global structures to meet local needs (Haugerud *et al*. 2000: 11). The subsistence diggers I know of in the Bering Strait are not blind victims of the desires of collectors, overpowering dealers, or supply and demand. They need ways to participate in the global economy and procure desired goods, and selling artefacts is one of the best options they have. They are constrained, however, by having few sources of capital or other locally available resources that they can turn into cash, and very limited choices of how to market their goods.[5] For most, a decision to dig for the market is clearly related to a lack of other more stable or reliable economic alternatives. As one St Lawrence Islander

said, 'Our ancestors used ivory to make the tools they needed for survival. We have a different use for ivory today, but it is no less important for *our* survival' (Crowell 1985: 25).

The Ethic of Non-commercialisation

The primary moral argument archaeologists wield against subsistence digging maintains that commercial use of archaeological materials should not be allowed because these activities incite further undocumented destruction of the archaeological record. Many professional codes of ethics directly invoke an ethic of non-commercialisation, while at the same time recognising the potential for archaeologists to enhance the commercial value of archaeological objects indirectly, through their activities and associations (SAA 1996: Principle 3).

   One of the underlying principles of the non-commercialisation argument is the idea that the archaeological record should not be created as a commodity, either because it cannot be owned or because it is owned by all of humanity (Warren 1999). Keane (2001: 66) reminds us that contestations over what should and should not be alienable go much deeper than simple economics. We need to peel away the layers to reveal who claims what aspects of the archaeological record as inalienable and for what purpose(s). This will be further discussed below, in conjunction with the argument that archaeological materials belong to 'all of humanity'. Indigenous peoples have their own ideas about inalienability and appropriate uses of the archaeological record, which can overlap or conflict with those of the state or those of archaeologists.[6]

   Plenty of evidence exists documenting the link between a market for artefacts and the destruction of archaeological sites (Brodie *et al*. 2001; Heath 1973; Matsuda 1998b; Early 1999; Renfrew 2000; Schmidt and McIntosh 1996; Stark and Griffin 2004; Tubb 1995).[7] Nevertheless, many social and legal attitudes either work against an ethic of non-commercialisation or raise a double standard. US private property laws, with their differential treatment of public and private property, are one example. A number of states and countries support overt or quasi-legal marketing of artefacts where this is good business. In both Israel (Blumt 2002) and Alaska (Hollowell 2004), attempts to restrict the sale of archaeological goods to tourists have met vocal opposition from both retailers and the state. Archaeological writing or research and media accounts of new discoveries also stimulate and promote the market and undocumented digging (Heath 1973: 259; Matsuda 1998a). Art exhibitions and coffee-table books significantly increase the commercial value of the objects they display (Peers 1989). They influence taste and desire and directly motivate digging by encouraging dealers to obtain a supply (Heath 1973: 259–61; Matsuda 1998b). Museums frequently confront double standards in their practices relating to acquisitions, tax credits and insurance values (Barker 2003). And, of course, an ethic of non-commercialisation directly opposes the interests

of collectors, who defend their right to engage in a free market. Add to this the historical fact that just forty years ago archaeologists were still purchasing objects to fill holes in institutional or even personal collections from the parents of some of the same people who are digging today.

Collecting antiquities is still seen as a form of status and social capital, but those who aspire to an ethic of non-commercialisation hope that one day it will be considered immoral and antisocial, much like wearing fur or smoking cigarettes (Elia 1997: 97). Social attitudes do seem gradually to be changing. Human skeletal material is now rarely commodified, and in more and more cases is treated as the inalienable property of cultural descendants and repatriated accordingly (though some museums probably continue to make trades 'in the name of science'). Museums, even some art museums, are refusing to purchase objects without a known, documented archaeological provenance. But in spite of archaeologists turning their backs on its existence, a commercial market for artefacts continues to thrive, and a policy of avoidance has not been very productive (Vitelli 2000). Rather than spending energy fighting a multimillion dollar market that deals with objects already out of the ground, archaeologists might want to focus on protecting what remains of the *in situ* archaeological record (Bauer 2003; Hollowell 2002; Lynott 1997: 594).

Not surprisingly, international art dealers argue against non-commercialisation. One argument used in this context is that an unrestricted trade in already excavated antiquities would actually deter site destruction because an increased supply of legally available objects would satisfy collector demand, thus decreasing the demand for objects from the ground (Merryman 1994). Israel is putting these ideas into action, trying to prevent further destruction of archaeological sites while having a market for antiquities. How is this working? The evidence from situations where a legal or quasi-legal market for archaeological artefacts exists indicates that the kind and range of marketable objects seems to expand to fill untold new product niches (Blumt 2002; Hollowell 2004; Prott 2003).[8] Nor has the lack of restrictions on the trade in Bering Strait archaeological materials slowed the digging, or changed the desire of collectors for newly excavated, 'never-before-seen' objects. More studies are needed that look at the effects of various laws, policies and political conditions, and their consequences for subsistence diggers and for the archaeological record (rather than for national patrimony).

Tom King (1985, 1991, 2003) and others have suggested that archaeologists ought to compromise their ethics and coopt the illicit market by working with diggers to allow the sale of artefacts that have been documented according to archaeological standards. But in my experience, digging according to archaeological standards would be far too slow and painstaking a method of extraction for most subsistence diggers, in terms of both returns from digging and the techniques used. Also, many subsistence diggers work independently, on a finders keepers basis; others work as members of a team. To whom would the objects found belong and how would the proceeds be shared or distributed? With the individual digger? A

landowner? The whole community? Would it not be just as beneficial to hire diggers as excavators or site stewards, pay them more than they are likely to get from digging, and encourage new relationships with archaeology and ways to benefit the community in the process?

Allowing a trade in excavated materials raises the important question of which is more important, the information or the material object. Lynott (1997: 596) has argued that archaeology must keep all material results for future re-examination because, unlike other sciences, there is no possibility of replicating research results once a site is gone. But how realistic is this? Does everything need to be kept, or just a representative sample? Would selling the few, unbroken objects that might be marketable really make a difference? What if certain high-end objects were sold with the caveat that they would still be available for study? The consequences of these and other arrangements that articulate with the market deserve careful evaluation. It might be possible to find some moral common ground by rewarding collectors for not destroying context, yet allowing artefacts to be sold.

Improper Management of Cultural Resources

Another major argument used against subsistence digging is that it exemplifies mismanagement of a non-renewable cultural resource. Just what comprises proper management, however, depends on who is doing the managing. Archaeologists may consider themselves experts in this area, but evidence suggests that subsistence diggers also regard archaeological sites as a resource they are managing, at least in discourse with outsiders. Heath (1973: 263) and Paredes-Maury (1998) both found that *huaqueros* in Costa Rica and Guatemala respectively spoke of antiquities as a resource to be exploited, like other natural resources. An article in the *Nome Nugget*, written by a St Lawrence Islander, exemplified the very different local approach with the title of 'St Lawrence Island "Digs" Resource Management' (Silook 1999). Obtaining a fair price and maintaining better control over their resources are major concerns.

From other perspectives, the management techniques of archaeologists have seemed just as exploitative or inappropriate as those of subsistence diggers. Archaeologists are 'just one more user-group either trying to convert archaeological resources (or Aboriginal heritage) into cash or influence, and whose impacts need to be managed' (Murray 1992: 13). Community members have rarely had input into the interpretation of findings or the questions the research addresses. Very few projects return information to the community about their lands. When a project is over, it leaves behind no sustainable activity and no way for people to participate in the management, protection or tourism benefits of the sites next to them (Paredes-Maury 1998).

This accurately describes a relationship of 'scientific colonialism', one in which data are extracted from a community and turned into knowledge elsewhere,

without either the intellectual or the economic benefits returning to those closest to its source (Galtung 1967: 295–300; Zimmerman 2001: 169). In a growing number of instances, archaeologists have begun to reverse the legacy of scientific colonialism and have worked with communities to help them create appropriate management plans that address local needs and make conservation more rewarding than digging. The results show that, under certain conditions, undocumented digging greatly diminishes.[9]

Lack of Sustainability

One of the most vocal perspectives on the WAC web discussion, used to support the argument that subsistence diggers are mismanaging resources, was the argument that subsistence digging is an unsustainable solution to creating an adequate standard of living. 'Mining the resource just uses it up' (Price 2003). This attitude emphasised the fact that *in situ* archaeological resources are non-renewable; there is no sustainable yield. People need to find ways to live off the interest of the cultural capital these resources represent, instead of the capital itself. An ethic of sustainability also aligns the plight of the archaeological record with that of endangered species, an argument that carries a great deal of moral weight among many publics. There is a potential double standard lurking here. Are we holding the subsistence digger, who may have few other economic options, to a higher standard, while the mining of precious metals and other non-renewable resources continues to support unsustainable lifestyles in uneven ways all over the planet? Indigenous landowners in Papua New Guinea who are pro-logging have found themselves the subject of a similar critique and have clearly stated that they will continue to exploit their natural resources until they have alternative, equally productive ways of generating an income (Filer 1996: 296–7).

Subsistence diggers are aware of the limited supply of archaeological resources. I have heard people in the Bering Strait discuss the benefits of conservative digging. They talk about sites as if they were banks that hold their inheritance. If digging proceeds slowly, not only will the resource last longer, but, since people believe that prices will continue to rise, there will be greater benefits for the future.[10]

What happens when the resource does run low? In the art market (and the tourist market as well), when the supply of a specific kind of artefact dries up, dealers shift to creating taste and demand among their consumers for other more available but equally rare or curious objects (Becker 1982; Moulin 1987; Thompson 1979). Such has been the case with Malian terracottas (Brent 1996), Cycladic figurines (Gill and Chippindale 1993) and Apulian vases (Elia 2001). This economic principle of substitutability also works at the other end of the commodity chain. When the supply of archaeological resources becomes depleted, diggers will need

to substitute other (not necessarily more sustainable) sources of income, as they have had to do in the past.

The substitutability of resources elucidates the processes by which many archaeological objects become commodities in the first place. On St Lawrence Island, for example, people started digging in earnest for artefacts in the early 1900s after the collapse of the global market in whale baleen (with the demise of hoop skirts and buggy whips, and the invention of spring steel). The trade in baleen had made the Islanders relatively wealthy, but now they needed a substitute commodity to exchange for Western goods. Traders found a market for old ivory, curios and 'specimens' (as you've guessed, some customers were museums) and started to deal in archaeological goods (Hollowell 2004: 189–93). More recently, global bans on other forms of ivory caused custom carvers to turn to archaeological ivory from the Bering Strait as one of the few remaining legal substitutes,[11] increasing both the value of and the demand for these excavated materials. Some of the same policies put an end to walrus hunting by non-Natives. Many of those Natives who had once been well-paid guides turned to digging to supplement their incomes. Whole tusks have now become harder and harder to find, but regional dealers have recently created new markets for bulk whalebone and fragments of artefacts.

Damage to the Archaeological Record

From the standpoint of archaeologists, the number one concern with undocumented digging is not the lack of a sustainable yield but the irretrievable loss of contextual information about the past embedded in the archaeological record. This argument extends to the fact that undocumented digging deprives others and future generations of this information and the knowledge that could be derived from it.

There are not many worthy counterarguments here. The fact that the archaeological record does not matter or is irrelevant to certain people suggests that archaeologists have not done a good job of explaining their ways of meaning-making, or of showing consideration for those of others. Most collectors, dealers or diggers are not aware of the kinds of information that can be gleaned from finding an object *in situ* or from other contextual elements of the archaeological record. Many think of archaeology as it existed in the early part of the last century, when it hardly differed from what we call looting today (Hinsley 2002), and the objective was to fill the shelves of national museums. Thus even the most erudite collectors wonder why archaeologists would ever need another such-and-such, and dealers believe that a site name, estimated depth and a polaroid amount to adequate archaeological documentation. To an archaeologist this seems almost unbelievable, but this distancing is a mark of the professionalisation of the discipline, the inaccessibility of research findings, and the refusal to associate with certain 'tainted' elements.

Undocumented digging, however, is not the primary cause of damage to the archaeological record. In many places, erosion, agriculture and development rank higher in terms of destructive impact (Canours and McManamon 2001: 100). Are we applying a double standard when we vilify relic collectors or subsistence diggers as 'looters' simply because developers, by jumping through the proper hoops, have the authority of the state on their side? There is also the argument that we can't dig it all. This, however, neglects to take into account the singular and unique information about particular pasts at stake in sites all over the world, no matter what threatens them, and amounts to an apology for the status quo. There is no place, for example, comparable to St Lawrence Island, where undocumented excavations have brought many beautiful objects to light, but very little information about the people who used and created them.

Unfortunately, just the presence of an archaeology project can unintentionally cause damage to the archaeological record by stimulating undocumented digging. A quantitative study of eighty-four projects conducted in various (non-US) locations found that projects that included more public outreach reported higher incidences of looting in the area (Hollowell and Wilk 1995). Clearly, archaeologists need to prepare for these consequences and do a better job of convincing people that archaeology is 'for everyone's benefit' (Price 2003).

Archaeology as a Public Good

This moral argument asserts that all forms of undocumented digging amount to stealing from our common world heritage since the record of the past belongs to all of humanity. Thus no particular person or group can own it or has the right to sell pieces of it. Archaeologists, then, hold the position of professional stewards of the archaeological record, envisioned as a public good, held 'in the public trust' for all of humanity. Such heady universalisms beg further scrutiny (see Wylie 2005; and Dingli, Omland and Young, this volume [not included here]). What interests do they serve? What actions do they justify? Certainly not everyone benefits equally from the public good that is archaeology.

Arguments appealing to broad statements about the 'public trust', 'common good' or 'all of humanity' can mask nationalistic desires to retain cultural property. Claims related to 'the public trust' by the state in some cases have even been used to justify the seizure of private lands for archaeo-tourism or other forms of commercial development. In this paradigm, the expertise of archaeologists is enlisted by the state to manage its cultural resources in the name of the public trust in exchange for career positions and legitimacy. This explains some of the distrust of archaeologists, who are seen as in collusion with the state, which has too often abused the 'public good' argument.

Merilee Salmon (1997: 59) suggests that the use of a 'common good' argument can easily obfuscate and override the need to balance competing rights or

to deal with troublesome issues of justice and fairness. 'Public good' arguments are in fact often used by governments to justify their authority to make decisions against the will of less powerful voices that stand in the way of nationalist agendas and 'progress'.[12] This ethic (typical of the cost/benefit analysis many governments follow) alleges that the harm done to a small group is justified by an outcome that brings more benefits to a greater number of people.

Double standards also exist in access to objects and information supposedly held in public trust. Collectors argue that artefacts lie unseen in locked dark basements and reports are never published, and feel that they are better stewards and give objects more care and exposure than most museums. The concept of the public trust is also problematic from the perspective of cultural groups who have culturally specific ideas about forms of knowledge that should or should not be accessible to the public (Ouzman 2003).

As Matsuda asserts, concepts of public trust and nationalistic debates over cultural property are for the most part irrelevant to subsistence diggers because they do not 'include indigenous voices, create alternative modes of subsistence or provide for the survival of indigenous lifeways and belief systems' (Matsuda 1998a: 94). He identifies the real issues as the unequal power and economic relationships that compel people to turn to subsistence digging as an economic alternative and remove from them their own ability to manage their cultural resources.

Culture and Heritage Loss

Another moral argument used by archaeologists is that subsistence digging and selling artefacts represent the loss or abuse of cultural heritage. Two related circumstances are usually blamed: an ignorance of the value of archaeology and the lack of a meaningful connection to heritage or the past. This argument assumes that if subsistence diggers understood the value of archaeology and heritage, they would stop digging. According to Walter Alva, once the residents of Sipán began to feel that archaeology was valuable to their identity and their political situation, they made a choice to stop looting (Alva 2001: 95; Atwood 2003). This took but a mere twenty years of building trust and understanding.

It is true that the knowledge produced by archaeology lacks relevance from the standpoint of many subsistence diggers. David Pendergast (1994) noted that the Maya feel archaeology has little to offer that concerns their lives. He blamed this dissociation and the lack of art ethic of site preservation on the failure to include living people in the process of knowledge creation in archaeology. Pendergast identified this sense of detachment, along with the lack of other economic choices, as the main causes of subsistence digging (Pendergast 1994: 2–3).

But people are also detached from archaeology because they have other uses for the past and other, often more personal, ways of connecting to the past, such as oral histories, traditional skills and even the act of digging itself, ways that may

not be valued by archaeologists or that are not meant to be shared (see Smith 2005). Only recently have oral histories been recognised by archaeologists as valid sources of information, and they are still regarded as a subsidiary to the archaeological record (Zimmerman 2001: 173).

Can heritage or culture be 'lost' (or gained) and could subsistence diggers possibly be blamed for that loss? As Larry Zimmerman observes (2001: 178), the past cannot really be lost or 'saved'. Selling objects is not equivalent to selling one's heritage, and to imagine otherwise amounts to fetishising objects.[13] On St Lawrence Island, digging for artefacts is part of every Islander's heritage, an activity that can actually strengthen one's connections with the past. Artefacts are regarded as gifts left by the ancestors that, if they allow themselves to be found, are meant for use in today's world. Similarly, in Belize, people conduct ceremonies before tunnelling into ancient sites and call the artefacts they find *semilla*, or seeds the ancestors have left to supplement their income (Matsuda 1998a: 92). Still, some St Lawrence Islanders do imagine the diaspora of archaeological artefacts in terms of 'culture loss', caused by the lure of the market or a colonialist legacy of 'white people ripping us off'. People wonder out loud if future generations will hold them responsible. Elders sometimes talked about the digging as causing harm or disturbance and blamed social problems in the village on 'all the holes people have dug out there'. There are times when diggers distance themselves and claim not to be related to the people whose former lives they disturb.

Cultural Affiliation

Should a different ethic apply to diggers who have a cultural affiliation to those whose objects they seek? Does the fact that the diggers on St Lawrence Island are mining their own culture somehow make it more acceptable? After all, it is their heritage; they can do what they want with it. Dealers use this argument, because if the Natives themselves are digging and *they* don't have a problem with it, it vindicates the market (see also Pendergast 1994: 3). Archaeologists generally feel that cultural descendants have a stronger claim to the past than others (NAGPRA is evidence of this). Diggers who consider themselves cultural descendants are likely to agree, at least when it is beneficial to them, but concepts like heritage, identity and cultural affiliation are slippery, polymorphous forms of cultural capital that take varying shape depending on particular situations. Some even argue that any claims based on special cultural relationships are essentialist or even racist (Warren 1999). In this case they become an apology for the status quo, one that does not really address either the fate of the archaeological record or that of subsistence diggers. Still, believing that one has a direct connection can increase the intrinsic value of digging, and perhaps this could carry over to archaeology.

Towards an Archaeological Ethic

The breadth of the arguments outlined above certainly speaks to the complexity of the issue of subsistence digging. Archaeologists represented in the WAC discussion touched upon all of the arguments, and many mentioned or discussed more than one. While all the participants seemed willing to see the issue from other perspectives, there were widely divergent and sometimes cynical views about how an explicitly archaeological ethic might interface with the dilemma of subsistence digging in practice. Some also had a strong feeling that the archaeological perspective was the 'right' one and a slight unwillingness to consider compromise, as if it would appear to condone looting. Without some common ground these attitudes could inhibit working with subsistence diggers or communities to find mutually beneficial solutions, so I want to conclude by discussing some principles that might underlie an explicitly archaeological ethic and how these might articulate in practice.

From the standpoint of archaeologists, it should be clear that it is not the act of undocumented digging in and of itself that is unethical, but rather its consequences—the destruction of the archaeological record. If the consequences cannot be avoided, they must be mitigated. Archaeologists are uniquely familiar with this framework already, because it describes most of the work done under the heading of cultural resource management, where the portions of a site not sampled under agreed-upon significance criteria meet the same fate as, or one worse than, those confronted by the shovel of a subsistence digger.

Next, it should also be apparent that an archaeological ethic regarding subsistence digging must take into account both the integrity of the archaeological record *and* the human condition of subsistence diggers and be careful *not* to put the welfare of artefacts or the archaeological record above the welfare of living people and an understanding of their situations. The tendency to privilege the archaeological record is a disciplinary fallacy, a nearsightedness caused by the training archaeologists receive and their own position of privilege. Furthermore, the categorical imperative and the precautionary principle[14] insist that we assess the wider positive and negative consequences of actions and consider the potential harm archaeologists and others could do by enforcing their ethic, *or* as a result of other unintended or unintentional acts. Here again the consequences of various laws, policies or practices on living people (we may be on the verge of including once-living people here as well; see Scarre and Tarlow, chapters 11 and 12 this volume [not included here]) ought to outweigh consideration of the archaeological record. More specifically, the consequences of these acts on subsistence diggers receive additional weight because their marginal economic and political status exposes them to greater potential harm.

An ethic that aspires to uphold the integrity of the archaeological record appears to be incompatible with subsistence digging as we know it, if as Lynott (1997)

suggests, archaeologists should not compromise the ethic of non-commercialisation, e.g. by allowing the sale of materials after documentation. Nevertheless this is certainly an area where compromise could occur, albeit with careful evaluation of the potential and actual effects on the archaeological record and the various participants in the market. Another highly possible compromise would be to negotiate set-asides of sites or areas designated as significant, much in the manner of CRM work, where any digging would require the use of archaeological techniques. I have seen this succeed firsthand, under rather challenging conditions.

The compromises suggested above are to the integrity of the archaeological record, but how might the activities of subsistence diggers align more closely with an archaeological ethic? The only possibilities appear to be that diggers either adopt archaeological techniques in their digging or cease digging altogether. The first requires working with and being trained by archaeologists; the second means finding a substitute subsistence activity; and either would require incentives to change, including a viable and more sustainable replacement for the income generated by undocumented digging. Whatever course of action, the lives of the diggers should improve and not worsen as a result.

What is archaeology's role in these scenarios? In the second scenario, perhaps none. Since it is likely that subsistence diggers will stop digging when more stable and reliable forms of income are available (Hollowell 2004: 94; Matsuda 1998a; Posey 1990: 14), an applied anthropology or development project, not necessarily related to archaeology, could ostensibly provide new means of subsistence for former (reformed?) diggers to replace the lure (and thrill) of digging. In times of dire conditions such as war or social unrest, this might be the best recourse. Hardy and others suggest instituting basic aid programmes or, where feasible, providing jobs, perhaps on the lines of the civilian conservation corps organised in the USA in the 1930s and 1940s, that would provide some stability and a steadier income than artefact digging or other forms of looting (Hardy 2003; Ouzman 2003). Realistically, the places that need this most are likely to be those that cannot afford or safely manage it (see Norton 1989; Stark and Griffin 2004). Still, it seems important for development agencies to recognise the potential connection between economic recovery or community development and archaeological heritage protection.[15] This would be most effective if the money would get directly to who would otherwise be looting.

The suggestion that subsistence diggers lay aside their digging practices and become site stewards or adopt archaeological techniques has several worthy precedents that prove this can be a viable option with benefits on several levels (Alva 2001; Atwood 2003; Howell 1996; McEwan *et al*. 1994; McIntosh 1996). These projects offer incentives that make doing archaeology or conserving the archaeological record more valuable than digging it up. The primary incentive, at least at first, is likely to be an extrinsic monetary one, since diggers need, at the least, to replace their subsistence digging income. These arrangements oblige diggers and archae-

ologists to work closely with one another, something that is unlikely to succeed if either strongly views the behaviour of the other as 'wrong' or unethical. The relationships formed in the process are an opportunity to overcome the feeling of dissociation or detachment that Pendergast described as fostering looting, and a chance to increase the intrinsic value of the archaeological record and make archaeology a more meaningful enterprise. The challenges for archaeologists include rethinking approaches to research design, recognising local expertise, involving community members in the production of knowledge and decision-making, returning benefits to the community, and, in general, making archaeology relevant to community needs. Gupta's (1998) findings from the field of conservation and development are very apt here. In situations where people have turned to resource degradation, different ethics can replace predatory practices if two conditions can be met. First, conservation must become more economically viable than exploitation; and second, local communities must be recognised and rewarded for their unique contributions to knowledge about the resources.

A particularly productive approach treats archaeological preservation as a form of development, much like applied anthropology, with the goal of placing the planning, profits and decisions in the hands of those people in the community who live with it and can protect it. K. Anne Pyburn's work with the Belizean community of Crooked Tree is an example of this paradigm (Pyburn 2003), and Green *et al*. (2003) present a thought-provoking case study of a project based on principles of participatory development.

Archaeo-tourism projects can also offer meaningful employment and make the preservation of sites a more profitable and sustainable venture than digging them. One example is the village of Agua Blanco in Ecuador, where archaeologists employed subsistence diggers first as excavators and later in the development of a community museum (McEwan *et al*. 1994). Visitors to Agua Blanco today are led on tours of unexcavated sites near the village by local residents. More studies of archaeo-tourism projects are trickling out (Crosby 2002; Rowan and Baram 2004), and these will hopefully provide information about the uneven consequences of these various commodifications of the past on the archaeological record, local economics and relations of power (see Kohl 2004). For example, in situations where local diggers do not benefit directly from these ventures, or there are insufficient jobs to go around, they could easily end up stimulating digging (Stark and Griffin 2004).

I have delineated moral arguments on subsistence digging, a practice that creates an ethical dilemma for archaeology, and have critically examined some of the evidence for and against them. To a large extent, my purpose has been to reflect to archaeologists the range of positions they and others hold on this problematic issue, some of the justifications in support of them, and the double standards they evince. This opened up the possibility of locating several potential approaches to the dilemma that benefit both archaeology and subsistence diggers and are based

on an explicitly archaeological ethic. Finally, I want to reiterate the need to include the communities and individuals most affected in this conversation, and to develop methodologies that also meet their needs and make archaeology a more meaningful endeavour in the process.

Notes

1 For examples described by archaeologists see Alva 2001; Brodie *et al*. in press; Early 1999; Green *et al*. 2003; Munson and Jones 1995; Harrington 1991; McEwan *et al*. 1994; Pendergast 1991, 1994; Schmidt and McIntosh 1996; Staley 1993; Stark and Griffin 2004. Many more examples are reported by journalists (Kirkpatrick 1992). For a particularly cogent account, see Smith 2005.

2 In most of the United States, for example, it is perfectly legal for landowners to dig into old sites on their lands for artefacts and sell them, unless they are from a burial context. Most states in the USA now have laws protecting even unmarked burials, and a few have successfully restricted digging on private land by requiring a permit for intentional archaeological excavations (Canouts and McManamon 2001). While many archaeologists would, on ethical grounds, call this, and any unauthorised alterations to sites or their contents, 'looting', others who adhere to a strictly legal definition do not (Hutt *et al*. 1992: 11).

3 I would be remiss not to mention that a very different proposition, submitted to the same body, which supported the carrying of weapons by archaeologists in areas of widespread looting, was reportedly roundly rejected on the premise that defending the archaeological record did not justify endangering human life (K. A. Pyburn, pers. comm., August 2003).

4 According to an art collector who has been offered goods from various parts of the world over the years, this explains much of the influx on the art market of goods from specific war-torn regions during times of disruption (P. Lewis, pers. comm., 19 February 2005). It follows that collectors feel that they are providing aid to those in need when they purchase these objects.

5 This may change, as people on the Island are on the verge of engaging in e-commerce.

6 An indigenous perspective might, for example, find the public display of images of human skeletal material from an excavation just as appalling as the commercial use of cultural artefacts from an archaeological context, or more so.

7 Non-commercial uses of excavated materials also have a substantial impact on the archaeological record. The reuse and recycling of archaeological material for the construction of houses, walls or roads or for household use have existed in most cultures for millennia (Padgett 1989; Alva 2001: 94; Hamann 2002; Karoma 1996; Paredes-Maury 1998).

8 In Alaska, tourists can purchase a fragment of an 'ancient Eskimo artefact' glued on a card or a whalebone sculpture made from what once was part of an ancient house. In Israel, small sherds and other objects fill shops as souvenirs of a trip to the Holy Land (Blumt 2002; Kersel 2002).

9 One example is the archaeological project in the community of Agua Blanco (Ecuador) that worked to address pressing economic needs defined by the community itself. The close involvement of archaeologists with community concerns fostered mutual respect and new attitudes towards archaeology. An incentive to protect sites

came from turning conservation of sites into a profitable economic venture with more stable forms of employment than subsistence digging could offer (Howell 1996; McEwan *et al.* 1994). In other cases, long-term involvement and advocacy by an archaeologist in the community has made a difference (see Alva 2001; Atwood 2003; Goodale 1996; McIntosh 1996).

10   Some of this discussion ensued when a digger was asked why backhoes were not used at digging sites. There are, of course, places where people do use heavy equipment to mine sites.

11   Archaeological walrus ivory from the Bering Strait is used today in scrimshaw, knife handles, guitar inlays, jewellery, and other custom crafts. Some dealers ship it to Bali to be carved by workers who once carved elephant ivory.

12   One example is the flooding of huge tracts of Native lands in Canada to provide hydroelectric power to Canadian cities (Waldram 1988).

13   The idea that cultural identity is literally embodied in material objects goes back to at least the turn of the century and the salvage period of collecting when people believed they were saving the cultural objects away from their sources and storing them in museums (Boas 1940; Clifford 1988: 234; Cole 1985; Dominguez 1986). Colonialist though these practices were, today objects stored in museums gain new agency when reconnected with source communities (Peers and Brown 2003).

14   Note Bannister and Barrett 2004.

15   Funds for site protection efforts in Iraq have come from several foundations, including $750,000 from the Packard Humanities Institute (Carleton *et al.* 2004).

References

Alva, W. 2001. 'The Destruction, Looting and Traffic of the Archaeological Heritage of Peru', in N. Brodie, J. Doole and C. Renfrew (eds.), *Trade in Illicit Antiquities: The Destruction of the World's Archaeological Heritage*, pp. 89–96. Cambridge: McDonald Institute for Archaeological Research.

Atwood, R. 2003. 'Guardians of the Dead'. *Archaeology* 56 (1): 42–9.

Bannister, K. and K. Barrett. 2004. 'Weighing the Proverbial "Ounce of Prevention" versus the "Pound of Cure" in a Biological Context: A Role for the Precautionary Principle in Ethno-biological Research', in T. Carlson and L. Maffi (eds.), *Ethnobotany and Conservaton of Biocultural Diversity. Advances in Economic Botany* 15, pp. 307–39. Bronx: New York Botanical Garden Press.

Barker, A. B. 2003. 'Archaeological Ethics: Museums and Collections', in L. J. Zimmerman, K. D. Vitelli, and J. Hollowell-Zimmer (eds.), *Ethical Issues in Archaeology*, pp. 71–83. Walnut Creek, CA: AltaMira Press.

Bauer, A. 2003. [WAC] Proposition 15, 20th December. Available at https://listserver.flilnders.edu .au/mailman/private/wac/2003-December/000181.html.

Beech, H. 2003. 'Stealing Beauty: Asia's Looted Treasures'. *Time* 162 (17) (27 October): 58–66.

Blumt, Orly. 2002. 'The Illicit Antiquities Trade: An Analysis of Current Antiquities Looting in Israel'. *Culture without Context* 11 (Autumn): 20–3.

Boas, F. 1940. *Race, Language and Culture*. New York: Macmillan.

Brent, M. 1994. 'The Rape of Mali'. *Archaeology* 47 (3): 26–35.

———. 1996. 'A View inside the Illicit Trade in African Antiquities', in P. R. Schmidt and R. J. McIntosh (eds.), *Plundering Africa's Past*, pp. 63–78. Bloomington: Indiana University Press.

Brodie, N. and J. Doole. 2001. 'Illicit Antiquities', in N. Brodie, J. Doole and C. Renfrew (eds.), *Trade in Illicit Antiquities: The Destruction of the World's Archaeological Heritage*, pp. 1–6. Cambridge: McDonald Institute for Archaeological Research.

Brodie, N., J. Doole and C. Renfrew (eds.). 2001. *Trade in Illicit Antiquities: The Destruction of the World's Archaeological Heritage*. Cambridge: McDonald Institute for Archaeological Research.

Brodie, N., M. Kersel, C. Luke and K. W. Tubb (eds.). In press. *Archaeology, Cultural Heritage and the Trade in Antiquities*. Gainesville: University Press of Florida.

Canouts, V. and F. P. McManamon. 2001. 'Protecting the Past for the Future: Federal Archaeology in the United States', in N. Brodie, J. Doole and C. Renfrew (eds.), *Trade in Illicit Antiquities: The Destruction of the World's Archaeological Heritage*, pp. 97–110. Cambridge: McDonald Institute for Archaeological Research.

Carleton, M.-H., M. Zubeidi and M. Garen. 2004. 'The War within the War'. *Archaeology* 57 (4): 28–31.

Clifford, J. 1988. *The Predicament of Culture: Twentieth-Century Ethnography, Literature, and Art*. Cambridge, MA: Harvard University Press.

Coe, M. D. 1993. 'From Huaquero to Connoisseur: The Early Market in Pre-Columbian Art', in E. H. Boone (ed.), *Collecting the Pre-Columbian Past*, pp. 271–90. Washington, DC: Dumbarton Oaks Research Library and Collection.

Coggins, C. 1972. 'Archaeology and the Art Market'. *Science* 175 (4019): 263–6.

Cole, D. 1985. *Captured Heritage: The Scramble for Northwest Coast Artifacts*. Seattle: University of Washington Press.

Colwell-Chanthaphonh, C. 2004. 'Those Obscure Objects of Desire: Collecting Cultures and the Archaeological Landscape in the San Pedro Valley of Arizona'. *Journal of Contemporary Ethnography* 33 (5): 571–601.

Crosby, A. 2002. 'Archaeology and Vanua Development in Fiji'. *World Archaeology* 34 (2): 363–79.

Crowell, A. 1985. *Archaeological Survey and Site Condition Assessment of St. Lawrence Island, Alaska, 1984*. Washington, DC: Smithsonian Institution and Sivuqaq Native Corporation.

Dominguez, V. R. 1986. 'The Marketing of Heritage'. *American Ethnologist* 13 (3): 546–55.

Early, A. M. 1999. 'Profiteers and Public Archaeology: Antiquities Trafficking in Arkansas', in P. Messenger (ed.), *The Ethics of Collecting Public Property: Whose Culture? Whose Property?*, pp. 39–50. Albuquerque: University of New Mexico Press.

Elia, R. J. 1997. 'Looting, Collecting, and the Destruction of Archaeological Resources'. *Non-renewable Resources* 6 (2): 85–98.

———. 2001. 'Analysis of the Looting, Selling, and Collecting of Apulian Red-Figure Vases: A Quantitative Approach', in N. Brodie, J. Doole and C. Renfrew (eds.), *Trade in Illicit Antiquities: The Destruction of the World's Archaeological Heritage*, pp. 145–54. Cambridge: McDonald Institute for Archaeological Research.

Filer, C. 1996. 'The Social Context of Renewable Resource Depletion in Papua New Guinea', in R. Howitt, J. Connell and P. Hirsch (eds.), *Resources, Nations and Indigenous Peoples*, pp. 289–99. Melbourne: Oxford University Press.

Galtung, J. 1967. 'After Camelot', in I. Horowitz (ed.), *The Rise and Fall of Project Camelot: Studies in the Relationship between the Social Sciences and Practical Politics*, pp. 281–312. Cambridge, MA: MIT Press.

Gill, D. W. J. and C. Chippindale. 1993. 'Material and Intellectual Consequences of Esteem for Cycladic Figures'. *American Journal of Archaeology* 97: 601–59.

Goodale, G. 1996. 'Central American Sleuths Target a Hot Black Market'. *Christian Science Monitor* 88 (230), 23 October: 1.

Green, L. F., D. R. Green and E. G. Neves. 2003. 'Indigenous Knowledge and Archaeological Science: The Challenge of Public Archaeology in the Reserva Uaça'. *Journal of Social Archaeology* 3 (3): 366–98.

Gupta, A. K. 1998. 'Rewarding Local Communities for Conserving Biodiversity: The Case of the Honey Bee', in L. D. Guruswamy and J. A. McNeely (eds.), *Protection of Global Biodiversity: Converging Strategies*, pp. 180–9. Durham, NC: Duke University Press.

Hamann, B. 2002. 'The Social Life of Pre-sunrise Things: Indigenous Mesoamerican Archaeology'. *Current Anthropology* 43 (3): 351–82.

Hardy, S. 2003. [WAC] 'Looting Replies, 20 December'. Available at https://listserver.flinders.edu.au/mailman/private/wac/2003-December/000185.html.

———. 2004. 'Is There a Human Right to Loot?' Manuscript in the possession of the author.

Harrington, S. P. M. 1991. 'The Looting of Arkansas'. *Archaeology* 44 (3): 22–31.

Haugerud, A., M. P. Stone and P. D. Little (eds.). 2000. *Commodities and Globalization: Anthropological Perspectives*. Lanham, MD: Society for Economic Anthropology; Rowman and Littlefield.

Heath, D. B. 1973. 'Economic Aspects of Commercial Archeology in Costa Rica'. *American Antiquity* 38 (3): 259–65.

Hinsley, Curtis M. 2002. 'Digging for Identity: Reflections on the Cultural Background of Collecting', in D. A. Mihesuah (ed.), *Repatriation Reader: Who Owns American Indian Remains?*, pp. 37–59. Lincoln: University of Nebraska Press.

Hollowell, J. 2002. (Hollowell-Zimmer) 'The Legal Market in Archaeological Materials from Alaska's Bering Strait'. *Journal of American Archaeology (Revista de Arqueologia Americana)*: Special Issue on Heritage 21: 7–32 (published by the Instituto Panamericano de Geografía e Historia).

———. 2004. ' "Old Things" on the Loose: The Legal Market for Archaeological Materials from Alaska's Bering Strait'. Ph.D. dissertation, Indiana University.

Hollowell, J. and R. R. Wilk. 1995. 'Are Practices of Archaeological Field Projects Related to Positive Relationships with Local Communities? A Quantitative Analysis of 84 Cases'. Paper presented at the Society for American Archaeology (March), Chicago, Illinois.

Howell, C. J. 1996. 'Daring to Deal with Huaqueros', in K. D. Vitelli (ed.), *Archaeological Ethics*, pp. 47–53. Walnut Creek, CA: AltaMira Press.

Hutt, S., F. W. Jones and M. McAllister. 1992. *Archaeological Resource Protection*. Washington, DC: The Preservation Press.

Karoma, N. J. 1996. 'The Deterioration and Destruction of Archaeological and Historical Sites in Tanzania', in P. R. Schmidt and R. J. McIntosh (eds.), *Plundering Africa's Past*, pp. 191–200. Bloomington: Indiana University Press.

Keane, W. 2001. 'Money Is No Object: Materiality, Desire, and Modernity in an Indonesian Society', in F. R. Myers (ed.), *The Empire of Things: Regimes of Value and Material Culture*, pp. 65–90. Santa Fe: School of American Research.

Kenoyer, J. M. 1998. 'Challenges in Pakistan: Efforts to Combat a Taliban Mentality' (Interview by Susan Kepecs). *Archaeology* 55 (2): 19–21.

Kersel, M. 2002. 'A Double Edge Sword: Are Managed Antiquities Markets an Ethical Solution to the Trade in Antiquities?' Paper presented at the Symposium on Ethics and the Paractice of Archaeology, University of Pennsylvania Museum of Archaeology and Anthropology, 28 September, Philadelphia.

———. In press. 'From the Ground to the Buyer: A Market Analysis of the Illegal Trade', in N. Brodie, M. Kersel, C. Luke and K. W. Tubb (eds.), *Archaeology, Cultural Heritage and the Trade in Antiquities*. Gainesville: University Press of Florida.

King, T. 2003. [WAC] Proposition 15, 18th December. Available at https://listserver.flinders.edu
.au/mailman/private/wac/2003-December/000173.html.

King, T. F. 1985. 'The Whiddah and the Ethics of Cooperating with Pothunters: A View'. *SOPA
News* 9 (3–4): 1–3.

———. 1991. 'Some Dimensions of the Pothunting Problem', in G. S. Smith and J. E. Ehrenhard
(eds.), *Protecting the Past*, pp. 83–92. Boca Raton, FL: CRC Press.

Kirkpatrick, S. D. 1992. *Lord of Sipan: A Tale of Pre-Inca Tombs, Archaeology, and Crime*. New
York: William Morrow and Company.

Kohl, P. I. 2004. 'Making the Past Profitable in an Age of Globalization and National Owner-
ship: Contradictions and Considerations', in Y. Rowan and U. Baram (eds.), *Marketing
Heritage: Archaeology and the Consumption of the Past*, pp. 295–301. Walnut Creek, CA:
AltaMira Press.

Krupnik, I. 1993. *Arctic Adaptations: Native Whalers and Reindeer Herders of Northern Eurasia*.
Hanover: University Press of New England.

LaBelle, J. 2003. 'Coffee Cans and Folsom Points: Why We Cannot Continue to Ignore the Arti-
fact Collectors', in L. J. Zimmerman, K. D. Vitelli and J. Hollowell-Zimmer (eds.), *Ethical
Issues in Archaeology*, pp. 115–27. Walnut Creek, CA: AltaMira Press.

Lawler, A. 2003. 'Looting Savages New Site'. *Science* 302 (5647): 974–5.

Lynott, M. J. 1997. 'Ethical Principles and Archaeological Practice: Development of an Ethics
Policy'. *American Antiquity* 62 (4): 589–99.

Lynott, M. J. and A. Wylie. 1995. 'Stewardship: The Central Principle of Archaeological Ethics',
in M. J. Lynott and A. Wylie (eds.), *Ethics in American Archaeology: Challenges for the
1990's*, pp. 28–32. 2nd rev. edn. Washington, DC: Society for American Archaeology.

McEwan, C., C. Hudson and M.-I. Silva. 1994. 'Archaeology and Community: A Village Cultural
Center and Museum in Ecuador'. *Practicing Anthropology* 16 (1): 3–7.

McIntosh, R. J. 1996. 'Just Say Shame: Excising the Rot of Cultural Genocide', in P. R. Schmidt
and R. J. McIntosh (eds.), *Plundering Africa's Past*, pp. 45–62. Bloomington: Indiana Uni-
versity Press.

McLeod, M. 2002. 'Archaeology Is New Target for Ukraine's Mafia Gangs'. *Scotland on Sunday*,
13 October.

Matsuda, D. J. 1998a. 'The Ethics of Archaeology, Subsistence Digging, and Artifact "Looting" in
Latin America: Point, Muted Counterpoint'. *International Journal of Cultural Property*
7 (1): 87–97.

———. 1998b. *Subsistence Digging in and around Belize*. Ann Arbor, MI: University Microfilms.

Merryman, J. H. 1996. 'A Licit International Trade in Cultural Objects', in M. Briat and J. A.
Freedberg (eds.), *Legal Aspects of International Trade in Art*, pp. 3–45. International Sales
of Works of Art 5. The Hague: Kluwer Law International.

Migliore, S. 1991. 'Treasure Hunting and Pillaging in Sicily: Acquiring a Deviant Identity'.
Anthropologica 33: 161–75.

Moody-Adams, M. 1997. *Fieldwork in Familiar Places: Morality, Culture, and Philosophy*. Cam-
bridge, MA: Harvard University Press.

Moulin, R. 1987. *The French Art Market: A Sociological View*, trans. A. Goldhammer. New
Brunswick, NJ: Rutgers University Press.

Munson, C. A. and M. Jones. 1995. 'The GE Mound: An ARPA Case Study'. *American Antiquity*
60 (1): 131–49.

Murray, T. 1992. 'Aboriginal (Pre)History and Australian Archaeology: The Discourse of Austra-
lian Prehistoric Archaeology', in B. Atwood and J. Arnold (eds.), *Power, Knowledge, and
Aborigines*, pp. 1–19. *Journal of Australian Studies* special issue 35. Victoria: LaTrobe Uni-
versity Press in association with National Centre for Australian Studies.

Norton, P. 1989. 'Archaeological Rescue and Conservation in the North Andean Area', in H. Cleere (ed.), *Archaeological Heritage Management in the Modern World*, pp. 142–5. London: Unwin Hyman.

Nuttall, M. 1997. 'Packaging the Wild: Tourism Development in Alaska', in S. Abram, J. Waldren and D. Macleod (eds.), *Tourists and Tourism: Identifying People with Places*, pp. 223–38. Oxford: Berg.

O'Keefe, P. 1997. *The Trade in Antiquities: Reducing Destruction and Theft*. London and Paris: Archetype Publications and UNESCO.

Ouzman, S. 2003. [WAC] Proposition 15, 18th December. Available at https://listserver.flinders .edu.au/mailman/private/wac/2003-December/000175.html.

Padgett, T. 1989. 'Walking on Ancestral Gods: Using Mayan Ruins for Patios and Pigstys'. *Newsweek*, 9 October, 83.

Paredes-Maury, S. 1998. *Surviving in the Rainforest: The Realities of Looting in the Rural Villages of El Peten, Guatemala*. The Foundation for the Advancement of Meso-American Studies. Available at www.famsi.org/reports.paredesmaury/paredesmaury.html.

Peers, L. and A. K. Brown. 2003. *Museums and Source Communities: A Routledge Reader*. London: Routledge.

Pendergast, D. M. 1991, 'And the Loot Goes On: Winning Some Battles, but Not the War'. *Journal of Field Archaeology* 18: 89–95.

———. 1994. 'Looting the Maya World: The Other Losers'. *Public Archaeology Review* 2 (2): 2–4.

Posey, D. A. 1990. 'Intellectual Property Rights and Just Compensation for Indigenous Peoples'. *Anthropology Today* 6 (4): 13–16.

Price, J. 2003. [WAC] Proposition 15, 21st December. Available at https://listserver.flinders.edu .au/mailman/private/wac/2003-December/000179.html.

Prott, L. V. 2003. [WAC] Proposition 15, 21st December. Available at https://listserver.flinders .edu.au/mailman/private/wac/2003-December/000182.html.

Pyburn, K. A. 2003. 'Archaeology for a New Millennium: The Rules of Engagement', in L. Derry and M. Molloy (eds.), *Archaeologists and Local Communities: Partners in Exploring the Past*, pp. 167–84. Washington, DC: Society for American Archaeology.

Renfrew, C. 1993. 'Collectors Are the Real Looters'. *Archaeology* 46 (3): 16–17.

Rowan, Y. and U. Baram (eds.). 2004. *Marketing Heritage: Archaeology and the Consumption of the Past*. Walnut Creek, CA: AltaMira Press.

Salmon, M. H. 1997. 'Ethical Considerations in Anthropology and Archaeology, or Relativism and Justice for All'. *Journal of Anthropological Research* 53 (1): 47–63.

Sandler, L. 2004. 'The Thieves of Baghdad'. *Atlantic Monthly* 294 (4): 175–82.

Schmidt, P. R. and R. J. McIntosh (eds.). *Plundering Africa's Past*. Bloomington: Indiana University Press.

Silook, S. 1999. 'St. Lawrence Island "Digs" Resource Management'. *Nome Nugget*, 22 July, 15.

Smith, G. and J. Ehrenhard. 1991. *Protecting the Past*. Boca Raton, FL: CRC Press.

Smith, K. L. 2005. 'Looting and Politics of Archaeological Knowledge in Northern Peru'. *Ethnos* 70 (2): 149–70.

Society for American Archaeology (SAA). 1996. 'Principles of Archaeological Ethics'. *Society for American Archaeology Bulletin* 14 (3).

Staley, D. P. 1993. 'St. Lawrence Island's Subsistence Diggers: A New Perspective on Human Effects on Archaeological Sites'. *Journal of Field Archaeology* 20: 347–55.

Stark, M. T. and P. Bion Griffin. 2004. 'Archaeological Research and Cultural Heritage Management in Cambodia's Mekong Delta: The Search for the "Cradle of Khmer Civilization"', in Y. Rowan and U. Baram (eds.), *Marketing Heritage: Archaeology and the Consumption of the Past*, pp. 117–42. Walnut Creek, CA: AltaMira Press.

Thompson, M. 1979. *Rubbish Theory: The Creation and Destruction of Value*. Oxford: Oxford University Press.

Tubb, K. W. (ed.). 1995. *Antiquities Trade or Betrayed: Legal, Ethical and Conservation Issues*. London: Archetype Publications.

Vitelli, K. D. 2000. 'Looting and Theft of Cultural Property: Are We Making Progress?' *Conservation* (The GCI Newsletter) 15 (1): 21–24.

Waldram, J. 1988. *As Long as Rivers Run: Hydroelectric Development and Native Communities in Western Canada*. Winnipeg: University of Manitoba Press.

Warren, K. J. 1999. 'A Philosophical Perspective on the Ethics and Resolution of Cultural Property Issues', in P. M. Messenger (ed.), *The Ethics of Collecting Cultural Property: Whose Culture? Whose Property?*, pp. 1–25. Albuquerque: University of New Mexico Press.

Wilk, R. R. 1999. 'Whose Forest? Whose Lands? Whose Ruins?' *Journal of Science and Engineering Ethics* (special issue edited by M. Salmon) 5: 367–74.

Wylie, A. 2003. 'On Ethics', in L. J. Zimmerman, K. D. Vitelli and J. Hollowell-Zimmer (eds.), *Ethical Issues in Archaeology*, pp. 3–16. Walnut Creek, CA: AltaMira Press.

———. 2005. 'The Promise and Perils of an Ethic of Stewardship', in L. Meskell and P. Pells (eds.), *Embedding Ethics: Shifting Boundaries of the Anthropological Profession*. London: Berg.

Young, E. 1995. *Third World in the First: Development and Indigenous Peoples*. London: Routledge.

Zimmerman, L. J. 2001. 'Usurping Native American Voice', in T. Bray (ed.), *The Future of the Past*, pp. 169–83. New York: Garland Publications.

WILLIAM D. LIPE

A Conservation Model for American Archaeology (1977)

In this article, based on his 1974 paper in The Kiva, *Lipe offers a response to a perceived crisis in American salvage archaeology arising from increased development, poor methodology, and inadequate theoretical underpinning. Lipe contends that all archaeology should be regarded as potential salvage and argues for positive conservation measures—education about the importance of archaeology, involvement by archaeologists in planning, and the establishment of archaeological preserves. Salvage archaeology should be high-quality work, conducted on a regional basis, within a problem-oriented research framework, but also with an emphasis on preservation of a representative sample for posterity. Salvage excavation should be a last resort, he argues, when the value to society of the proposed project exceeds the value of keeping the archaeological site intact. Archaeologists should become protectors of the resource, not its exploiters.*

All of us in the archaeological profession are aware of the present crisis in American archaeology precipitated by the growing rate at which sites are being destroyed by man's activities—construction, vandalism, and the looting of antiquities for the market. Davis (1972) and Coggins (1972) provide thorough reviews of the problem. Many of us foresee the death of productive fieldwork in our regions during our own lifetime if these trends persist. Others foresee a few generations left at best.

Our basic problem is that we exploit a nonrenewable resource (Flinders-Petrie 1904: 169–170). We are like mining and paleontology in this respect, except

that our resource base is even more vulnerable, since by far the most of it lies at the very surface of the earth.

Salvage archaeology in the United States developed initially as a response to the recognition by the archaeological profession and by some members of government and business that the supply of archaeological sites was not infinite and that important sites, once lost, could never be duplicated among the supply of sites remaining, let alone be replaced. The response was to excavate sites threatened with immediate destruction—to salvage as much information as possible with the time, money, and methods available.

We are now beginning to realize that all sites are rather immediately threatened, if we consider a time frame of more than a few years. In this sense, all our archaeological excavations and surveys are essentially salvage. We can still distinguish between emergency salvage—when we know the site will be destroyed tomorrow or next year—and "leisurely" salvage—when we do not yet know the date when the site may be lost (Jennings 1963a:282). In recognition of the fact that limitations of time and money often make projects of the latter sort as frantic as the former kind, I shall refer to them as "academic" rather than "leisurely" research. They are ordinarily brought into being by demands of "pure," or academic, research problems rather than by immediate threats of the loss of sites.

As I have already noted, our initial response to the threat to our resource base has been in terms of an exploitative model for the use of archaeological materials. If a site is threatened, salvage it, dig it up. There has also been a great deal of debate about how to exploit the threatened resource—such as inductive versus deductive strategies, regional versus piecemeal salvage organization, etc. (e.g., Gruhn 1972; King 1971; Longacre and Vivian 1972).

I submit that we need not only to discuss how to do salvage archaeology but how not to do it (Scovill, Gordon, and Anderson 1972). If our field is to last beyond a few more decades, we need to shift to resource conservation as a primary model, and treat salvage, at least the emergency kind, as a last resort, to be undertaken only after other avenues of protecting the resource have failed. We must, of course, continue to excavate enough to pursue the problems raised by the discipline and to keep the field intellectually healthy.

But a focus on resource conservation leads us to a position of responsibility for the whole resource base. We must actively begin to take steps to insure that this resource base lasts as long as possible. Only if we are successful in slowing down the rate of site loss can the field of archaeology continue to evolve over many generations and thereby realize its potential contributions to science and the humanities and to society. In this context, excavation becomes only part of a larger resource management responsibility. It may be argued that archaeologists can only be held responsible for the conduct of archaeological research per se and that most of the forces causing loss of sites are outside our control. The latter is certainly true, but the body of antiquities legislation already achieved and the success of many emergency

salvage programs show that society can recognize and respond to the problem of loss of antiquities. Furthermore, if we who are most concerned about this problem do not take the lead, we certainly cannot expect less immediately involved segments of society to do so. As McGimsey (1971) pointed out with respect to legislation: "To obtain such legislation and the necessary public support, a greatly increased number of archaeologists . . . are going to have to take their heads out of their two-meter pits and become involved with the outside world [p. 125]."

In the following paragraphs I explore some of the larger implications of a resource conservation model for American archaeology. My objective is to suggest some objectives and principles designed to counter the trends that are fast taking our discipline down the road to extinction.

First, I should like to discuss what needs to be done to prevent our getting into last-ditch, emergency salvage situations. Second, I will comment on the implications of a resource conservation model for the conduct of archaeology when we do choose salvage as an impact-mitigating measure. And finally, I shall conclude with a brief discussion of the implications of this model for what I have called academic research.

Positive Conservation Measures

This area is the most important aspect of archaeological resource conservation and the one least under our control. Our goal here is to see that archaeological resources everywhere are identified, protected, and managed for maximum longevity. Archaeological resources must be accorded a higher value by society than they are now so that more projects will be designed to avoid sites.

The most important positive conservation measures we can take are in public education. We must also greatly expand our efforts to gain institutionalized and regular access to the planning process with respect to land alteration schemes forthcoming from society. And finally, we must press for expansion of our system of archaeological and environmental preserves.

Public Education

Public education and its objective, public support, are a key to the whole undertaking. Without this we don't stand much of a chance. Individual acts of vandalism are one of the principal threats to the resource and cannot be stopped without a large-scale change in public opinion about archaeology. More stringent laws are not the answer; we have more legislation than we use now. But if increased numbers of the public understood and respected archaeological values, greater self-restraint would be exercised, land-holding agencies would find it easier to justify expenditures for archaeological patrols, and law enforcement and judicial agencies would be more eager to apply existing antiquities laws.

Furthermore, legislation and funding favorable to public archaeological programs critically depend on public support, manifested in the representation of our interests in governmental bodies. The agents of land alteration schemes in both the governmental and private sectors are also generally somewhat responsive to public opinion and especially to directed pressure from the public, as some of the successes of the environmentalist movement have shown.

If we are to have success in educating the public about the value of conserving archaeological resources, we must first be clear in our own minds about the relationship and the benefits of archaeology to society (Flinders-Petrie 1904:167–193; G. Clark 1957). Unless we are prepared to argue convincingly that archaeology is more than just an interesting game for the privileged few, we might as well check in our badges.

Establishing the Societal Value of Archaeological Resources

Archaeologists are presumably convinced of the value of their discipline and of the antiquities with which it deals, but in most quarters the public, though interested in and perhaps entertained by archaeology, apparently sees it as remote from the main concerns of society. Therefore, simply making the public aware of the destruction of archaeological sites will not be sufficient to mobilize support for their protection. We must also convince a large segment of the public of the societal value of conserving archaeological sites. Since the passive value that the simple existence of archaeological sites entitles them to be preserved indefinitely is unlikely to appeal to large segments of the American public, we must stress the positive benefits to society that may flow from archaeological conservation. This positive approach requires that we convince the public that what can be *done* with archaeological sites is ultimately of value to society and that therefore a large number of sites should be preserved now so that these activities may be continued well into the future. That is, we must make the case that archaeological research and related public translations of it, such as on-site displays, museum exhibits, popular books, etc., do make significant contributions to the public welfare and that continued research and educational development will make additional future contributions. There is, of course, a danger in using this type of argument, which stresses the benefits of exploitation of a nonrenewable resource. Pressures may be generated for too rapid exploitation and hence exhaustion of the resource (Kelly 1963), when in fact the indicated policy, assuming continued evolution of archaeological methods, would be to expend the resource quite frugally in order to maximize the application of new methods and extend the period of exploitation as long as possible. I fear that we must risk overselling the exploitation argument, however, because at this time it seems to be the most workable basis for winning public acceptance of archaeological conservation.

Several positive arguments about the values of archaeology to society occur to me: I present them here as examples of the kind of thing I am talking about.

First, we need to capitalize on the obvious types of existing public interest in archaeology by finding out just what it is about the field that appeals to so many people and by using what we find to better present the case for conservation and support of archaeological research and educational activities. Outside the museum field (Frese 1960:236–237) little work of this sort has been attempted. Why do people visit archaeological parks, monuments, excavations, and museums in such droves, and what do they like and dislike about what they see when they get there? I have also not seen any good data-based explanations for the expansion of enrollments in college classes in anthropology and archaeology during the last decade or so. Nor can we characterize, in sociological, economic, or other terms, the type of person who visits archaeological museums or monuments, who gets involved in amateur societies—although Kelly (1963) has made an initial attempt at the latter—or who becomes a pothunter. I should think that the national and state parks systems could gather some of this information, and that the museums could well expand their data-gathering efforts. Archaeologists can contribute by publishing results of surveys done in classes, among visitors to sites, and in amateur societies.

Second, it seems to me that our findings are of potentially great value to one segment of our society—the Native American peoples. Grahame Clark (1957, 1970) and Ford (1973) demonstrate that archaeology has often been important in establishing group identity and pride in past accomplishments among emerging nations or newly self-conscious ethnic groups. Although some American archaeologists have worked closely with Native Americans in land claims cases, in developing museums or cultural heritage centers, and in environmental impact studies on tribal lands, there in general has been remarkably little communication between these groups and archaeologists. Since the results of archaeological research and the conservation of archaeological sites can be of great value to Native Americans, it is vitally important that we attempt to bridge the communications gap. The indicated actions on the profession's part would seem to be to ask Native American groups what their needs are for cultural heritage information, for developing the monuments of their past, and for protecting sites considered inviolate, and then to deal with these needs as well as we can in our research and educational efforts. There is also, of course, a great need for classroom teaching materials, especially at the grammar school level, that present Native American history and prehistory in accurate, detailed, and human terms. This need exists throughout the United States but is critical in the school systems where the children of these groups are being educated. Archaeologists, in cooperation with educators and representatives of Native American peoples, can play a vital role in developing such materials. Finally, it seems to me important that we recruit more Native American students into the field of archaeology. An important prerequisite is likely to be establishing greater credibility for our claim that archaeological knowledge offers something of value to Native American peoples.

Third, we can stress to the public the growing importance of archaeology to other sciences. Archaeological sites are often precisely dated repositories of many sorts of biological and geological materials that have value to specialists in other fields. Laymen are generally unaware, for example, of the potential of archaeologically derived data for the understanding of past climates, the evolution of plant and animal species, and the past wanderings of the magnetic pole. Some such findings have considerable practical relevance. Reconstruction of past climates, for example, is potentially of importance to long-term planning in agriculturally marginal areas.

Fourth, in our public role we often do not emphasize enough the contribution that archaeology has made and can make to sociocultural and physical anthropology through the testing of general theories of culture change and through the reconstructing of the cultural context in which human biological evolution occurred. Public interest in all areas of anthropology is growing; we would do well to capitalize on this by emphasizing the real and increasing linkage between archaeology and the rest of anthropology (J. M. Fritz 1973).

Finally, as Grahame Clark has so eloquently detailed (1970:1–52), archaeology provides contemporary man with a vital perspective on his place in cultural evolution and in the world ecosystem. If human society is to weather the many present and imminent crises it faces, its leaders and much of its populace must be freed of the "tyranny of the present and the local [W. R. Dennes, as quoted by G. Clark 1970:4]." Present-day man must come to see his demographic, sociopolitical, and adaptive situation as something very unusual on the scale of human history and as a state of extreme instability, hoped to be in rapid transition to a new equilibrium level (Platt 1965); and he must weigh his actions in light of this recognition. Prehistoric archaeology can provide this type of perspective.

The antiquity and evolution of human culture is one of those great discoveries of the past few centuries of science that have shaped and are still shaping a modern, pan-species world view. It is comparable to ethnology's contribution of the notions of cultural relativism and the cultural determination of behavior and to other great mind-expanding concepts and discoveries, such as organic evolution, the role of subconscious mental processes, and ecosystem relationships. The perspective furnished by prehistory is perhaps the most valuable contribution of archaeology to society. I think that the public is beginning to realize this, though generally not at a fully conceptual level, and that this realization accounts for much of the current interest in archaeology.

Public Education Tactics

Moving now from general arguments on the societal value of archaeology to tactics, we can examine the great variety of ways the message can be conveyed to the public. The news media can be helpful if we can learn how to use them properly and do

not throw in the towel at the first misquote. Of course, many of us have seen our own work turned into a treasure hunt by shallow journalism. Because of the power of the media to educate, however, our only option is to increase our efforts to get our story told properly, either by writing more popular material ourselves or by spending more time educating the media people. If we withdraw from these efforts, newspaper and television coverage of archaeology will not stop; it will only be less accurate and less likely to include the messages that we want to get across.

There is much room, it seems to me, for additional discussion of archaeological conservation values in the classroom and in museum exhibits. At the college and university level, courses and texts in archaeology and general anthropology seldom treat in any depth the basic questions of the societal value of prehistory and archaeological research. Below the college level there are promising developments in grammar and high school curricular design (Bailey 1971), and anthropology and archaeology are finally beginning to find their ways into the training of teachers. Both these developments have tremendous potential value in winning public support for archaeological conservation. But the profession must insure that talented people are involved in these programs and that the programs themselves incorporate credible and in-depth treatment of archaeological resource conservation.

There is much to be done with avocational groups. They are here to stay, and it is up to the professionals to see that the tremendous energies of these groups are channeled for the benefit, rather than the detriment, of archaeology. Much of the discussion in professional circles of the role of amateur groups has to do with how amateurs can assist professionals or can attain a professional level of quality in exploiting archaeological resources. I submit that there is a very large opportunity for avocational groups to function also as educators of the general public and as advocates for archaeological conservation. We need only look at the programs and accomplishments of the Audubon Society, National Wildlife Society, and other conservation-oriented avocational groups to find models.

One of the most productive functions of avocational groups in terms of conservation payoff is a gadfly or "Ralph Nader" function. Such groups can be very successful in identifying and exposing instances of neglect of archaeological conservation by business, industry, or government. Also, they are often more effective than strictly professional groups in lobbying for needed legislation or administrative action.

The best protectors of archaeological resources are often the people who live near the sites. Almost by definition such persons generally live in nonurban areas. The inhabitants of these areas could be of great service to archaeology by refraining from pothunting; by chasing vandals away from sites, or at least reporting them; and by blowing the whistle on land alteration projects that threaten sites.

It seems to me that one of the most important things that professional archaeologists can do in this regard is to attempt to dispel the "treasure hunter from the city" image that rural and small-town people often have of them. In the

areas where I have worked, the local people are aware of the economic and prestige values of museums and archaeological monuments, and they tend, with some justification, to see archaeologists as depriving them of ever having these things by digging up the local sites and carting the artifacts off to some distant urban museum. In this context local pothunters are often regarded as serving the community by getting to the treasures before the archaeologists do and insuring that the valuable artifacts remain in the area.

If the professional archaeologist can counter this kind of image, he has a much better chance of getting the local population to cooperate in conserving the archaeological resources of the area. I believe that archaeologists can effectively handle this problem only by accepting some responsibility for sharing the fruits of their labors with the communities in or near which their fieldwork is done. One way this can be done is to work with local museums if they are available or to assist in their development if they are not. Most of our institutions can spare a few items as a permanent loan to a local museum or we can somehow find time to help develop a display explaining our work.

This brief survey of public education tactics is incomplete and merely indicative of what needs to be done. The problem here is not theory but practice. Little of this type of work is being done, relative to the need. The critical variable here is professional payoff. By and large, one does not get promotion and tenure on the basis of articles in the popular press, lobbying efforts, or work with avocational groups. A recent symposium at the American Anthropological Association meetings provided a good example of this. The symposium dealt with the future of archaeology, yet no mention was made of the fact that the field is doomed unless some successful conservation measures are taken to slow down the rate of site attrition. It would obviously be self-defeating for most archaeologists to devote most of their time to public education and ignore basic research. But somehow we must make room for this type of effort in the profession and reward it professionally. Otherwise, the work will not get done because most of us are not altruistic enough to sacrifice our here and now careers for the possible benefit of future generations.

Involvement in Planning

Archaeologists must also make strenuous efforts to acquire institutionalized access to the planning and management process whenever land surface alterations are involved. In this way projects can be designed so that destruction of archaeological sites is minimized. Legislation has been and can be more effective here than in dealing with the individual vandalism problem. As cultural resource management programs become more effective in their coverage, and more expensive, both government agencies and private industries are beginning to involve archaeologists at early project planning stages in hopes of reducing expenses by avoiding archaeo-

logical sites at the outset. Many government agencies have begun to hire archae-
ologists to assist them in resource evaluation and planning.

Establishing archaeologists in resource management roles so that destruction
of sites, and hence emergency salvage, will be minimized creates several prob-
lems. The first is that most of our current archaeological contracting programs
have been set up so that the archaeologists get paid principally for exploiting the
resource—for doing salvage work. What I am proposing is that a major chunk
of the money spent by businesses, agencies, or industries concerned about site
destruction should go toward paying archaeologists for advice on avoiding sites and
hence avoiding salvage. This will require a restructuring of many of our current
modes of supporting contract archaeology teams.

There is evidence that such types of contractual arrangements between
research institutions and salvage-initiating units are beginning to emerge. The
Museum of Northern Arizona, for example, has recently been involved in a multi-
stage program of assisting a private industry in planning for the location of a large
plant. Several large areas were initially assessed for probable archaeological impact,
concurrently with assessment of other environmental variables by other consul-
tants. After the target area was narrowed down to one valley, brief archaeological
surveys were conducted to sketch in the contours of archaeological site distribution
within the chosen valley. Finally, after several specific plant sites had been desig-
nated, these areas were surveyed intensively, and the impact of the proposed con-
struction on the archaeological resources of these specific areas was fully assessed.
In this way the archaeological resource was considered in the planning process
from beginning to end. Other examples of this sort of archaeological involvement
in planning are beginning to appear in the Southwest and, presumably, in other
parts of the country. It is encouraging that our society is flexible enough to permit
the rapid development and institutionalization of such arrangements.

A second problem posed by the expansion of advisory and planning roles for
archaeologists is that it may create a tendency for government agencies, businesses,
and industries heavily involved in land alteration or land management to develop
in-house archaeological research teams. The possible conflict of interest in such
arrangements is great. If the resource base is to be protected, the archaeologist's
first loyalty must be to site conservation, not his employer's need to save money or
to push through a favored project. Contracting such advisory resource management
work to qualified scientific and academic institutions seems the best way to mini-
mize conflict of interest and maximize the archaeologist's independence. Private
consulting teams specifically organized for the purpose of archaeological contract-
ing and lacking a broad institutional base would also seem vulnerable to conflict-
of-interest problems, although perhaps less so than in-house groups employed by
the land-altering agent. This does not mean that there is no room for professional
archaeologists in the employ of land-holding, land-managing, and land-altering

businesses, industries, and agencies. Such persons can perform valuable service as managers by drawing up and administering archaeological contracts, educating the personnel of their institutions about archaeology, operationalizing recommendations made by archaeological consultants, developing public education and site protection programs, and inspecting contractors' work for compliance with antiquities regulations. They may also be able to write overviews of existing archaeological knowledge, and to conduct a certain amount of continuing inventory work. But the principal research and advice on archaeological resource evaluation, impact assessment, and mitigation should come from "outside" archaeological researchers if possible.

Once the focus is on management of resources and on avoidance of archaeological sites in the planning stage of land alteration schemes, the priority of good site inventories becomes clear. These inventories are essential at the initial stages of planning, before the land-altering agent develops substantial investment in any particular location. Useful inventories must, however, provide data about where sites are not as well as where they are. The typical statewide survey, which has unsystematically accumulated data over a number of years, will seldom be of much use for this type of planning. It shows only where some sites exist and tells us little about what the blank spaces mean—whether these actually indicate absence of sites or merely reflect absence of survey. Yet the implications of doing intensive, systematic inventory surveys of any very substantial area are rather frightening.

For example, over the years, most of my research has concentrated in an area of about 3750 square miles—half of one southwestern county. If we consider as sites all archaeological manifestations down to small sherd or lithic areas and isolated petroglyphs, the target region would probably average about 25 sites per square mile. A four-person search team with members spaced 25 yards apart would have to walk about 17 miles to cover a section thoroughly. This would be at least 2 days' work, 8 person-days. Plotting the extent of each site on aerial photos, recording features, noting artifact concentrations and their character, estimating the temporal position of the site, etc., would take a minimum average of 40 minutes per site, or another 8 person-days per section, for a total of 16 person-days. Even if the crew made only $3 an hour per person, the fieldwork alone would cost $1,440,000. Even if few or no collections were made, so that cataloguing and curatorial expenses were minimal, the costs of transportation, administration, typing and filing of field forms, preparation of a summary report, overhead, etc., would easily boost the cost of the inventory to well over $2 million for only half of one county.

The indicated alternative to wholesale inventory would be a multiphase sampling design. We know that the distributions of archaeological sites often correlate well with environmental features such as physiography, water supply, or vegetation zones. We would follow the lead of Binford's (1964) pioneering paper on research design and think in terms of characterizing the distribution of a population of sites

on the basis of an explicit sampling design. A sampling-based inventory, plus a search of the existing literature, would provide valuable information to planners about environmental and geographic correlations of site distributions at a fraction of the cost of a 100% inventory. This would put the archaeological advisor in a position to say, for example, that sites were much more likely to be encountered in valleys than on the ridges, that grassland environments were much richer in sites than forested areas, or that the northern part of the area, irrespective of environmental variables, had a greater frequency of sites than the southern part of the area. If a specific project were broached, such general information might permit the weeding out of some possible alternative locations without additional fieldwork. Additional inventory work in the remaining alternative locations might still be based on sampling approaches, although the work would have to be much more intensive and would involve the investigation of a larger number of variables. Finally, the surviving few alternative locations could receive 100% inventory. Sampling can provide good information about the general character of distributions, but it is a poor technique for discovering rare types of sites or predicting specific locations of sites. These questions would of course have to be dealt with in deciding upon the specific location of a land alteration project, hence the need for a 100% survey of certain areas before final choices were made.

I have described the above procedure as if archaeology were to be the only variable to be considered in project location. Obviously, this will not be the case; information on numerous variables will have to be considered by any planner of a construction project or other development. The multiphase procedure I have just described can be used parallel to other information inputs. It seems the most realistic—that is, economical—way to introduce reliable archaeological information into the planning process. Furthermore, the inventory and mapping of resources, and the identification and resolution of conflicting resource demands, are established aspects of land-use planning among most of the land-holding agencies. Such procedures as I am advocating for archaeological resource management should actually fit better with established agency practices than would the ex post facto salvage approach, which excludes archaeology from the planning process.

Note that in my discussion of archaeological resource inventories, I have assumed that the collecting of artifacts would be minimal. Since the purpose of the inventory is planning, not research, there seems no justification for biasing the surface record at numberless sites and adding greatly to the costs of the survey by making collections. In most areas, it seems to me, inventory data suitable for planning purposes can be obtained without much collecting. It may be that in areas where surface collecting by relic hunters is rampant, professionals will be well advised to seize any opportunity to make collections lest all material soon be gone. We may hope such situations will become rarer as effective public education programs take hold. There is also the possibility that it will be difficult to get professional teams to undertake inventory surveys unless there is research payoff

and that their research interests may require collections. In such cases the professionals must take care to collect in such a way as to obtain data useful to others and distort the record remaining on the site as little as possible. The collection of representative samples of material in terms of sampling theory should be the best way to attain both objectives. The guiding principles here are that the archaeologist himself erodes by his activities the information content of the site, that within the demands of his research needs he has the responsibility to leave a maximum of information for other researchers, and that his own collections should, if possible, be made in such a way as to be useful for future research as well as the research for which they were originally intended.

Archaeological Preserves

A third basic conservation strategy is the establishment and protection of archaeological preserves, areas where land alteration is prohibited or at least very rigidly controlled. We currently have a number of national, state, and local parks, monuments, and wilderness areas containing important archaeological resources. The rapidly growing National Register of Historic Places also includes increasing numbers of archaeological districts as well as individual sites. All of these preserves are going to become increasingly important as arenas for problem-oriented or academic research, particularly if our efforts to slow the rate of site destruction elsewhere are not very successful. Furthermore, such areas may increasingly become the only places where groups of related archaeological sites can be studied as settlement systems and in relation to something approaching their original environmental context.

It follows that it is in our interest to promote and support the establishment of additional preserves. It is not necessary and perhaps not even desirable that all such areas be established primarily on the basis of their archaeological resources. We will probably be most successful in adding to the number of preserves if we focus on those that have wilderness or other values in addition to archaeology; this will insure us of allies in the drive to set such areas aside.

Insofar as we have to make choices regarding the establishment of preserve areas containing archaeological resources, we have to deal with the question of the significance of particular archaeological sites or groups of sites. Given several possible preserves and the likelihood that we will not be able to have them all set aside, to which shall we throw our support? Typically the answer to such questions has been that the most significant site or group of sites should be protected. The establishment of most of our archaeologically based parks and monuments, and of the National Register, has been based on this principle.

If this principle is applied, what are the implications for the future of archaeological research and educational interpretation? At some time in the future our basic usable resource for new work and new public educational efforts may be the

sites in such preserves that have been set up now and will be set up in the near future. If we choose such areas on the basis of current significance to research and public interest, what do we do if these standards of significance change in the future? And they are certain to change if our field is alive and evolving, as I believe it is.

I think we can already see the conflicts that emerge as ideas of significance change. Many of our archaeologically based national parks and monuments were established on the presumption that the largest, most spectacular, and most unique types of archaeological sites were the most significant. At the time these preserves were set up, this was probably an accurate reading of both the public's and the research archaeologists' assessment of significance. Yet today many projects are designed to investigate functional variability among groups of sites, small as well as large, and there is much greater interest in the statistically typical as well as the rare and unique. It seems to me likely that the interest of the public will follow that of the archaeological profession; it is not hard to imagine a time when scattered-site displays of settlement systems will be as big a drawing card as is Cliff Palace or Pueblo Bonito. Fortunately, a number of our existing archaeological parks and monuments have been set up to cover districts rather than individual sites, so there are resources available for different research and display orientations.

From this perspective it is easy to take the next step and say that the guiding principle in setting up additional archaeologically relevant land preserves should be representativeness rather than current significance. The notion of preserving a representative sample of this country's archaeological resources should be paramount. A representative sample is designed to represent a large population of items in terms of a small selection of such items, with a minimum bias in the selection. Such a sample replicates the main features of the original population, or universe, whether these features are known in advance or not. It thus permits new discoveries about the sample that can also be reliably thought to apply to the original universe. Thus, preservation of a representative sample of this country's archaeological resources would at least theoretically permit any type of research to be carried out on the sample that could have been carried out on the original intact population. A sample selected on the basis of current ideas of significance, on the other hand, would be biased and might exclude some future research and educational possibilities. Obviously, a truly representative sample, in the strict statistical sense, is unlikely to be achievable, because of the vagaries of preservation, and the politics and economics of land acquisition. Nevertheless, I would argue that the principle of representativeness should be used instead of or in addition to the principle of current significance in selecting new archaeological preserves.

Once we begin to think of our various land preserves as possibly vital to the continuing evolution of the field of archaeology at some time in the future, it becomes evident that the whole archaeological profession has a stake in the management of the archaeological resources in such preserves. Decisions to exca-

vate, develop, salvage, stabilize, or simply destroy archaeological sites in such areas should not be based on narrowly conceived and short-sighted management objectives. The agencies in charge of such preserves are custodians for the resources upon which major portions of the field of archaeology may come to depend for their research. Hence, it follows that management decisions affecting these resources should be subject to review by bodies representative of the profession, much as research grants are generally subject to review by committees of research peers.

Conduct of Salvage Archaeology

What are the implications of a conservation model and its implied future orientation for the conduct of salvage archaeology? (In current cultural resource management parlance, salvage would be called data recovery, and be undertaken as one type of impact mitigation. Much of what I have to say in this section also applies to research conducted for impact assessment and other management needs, as well as to salvage per se.) As I have emphasized above, the first implication of a conservation approach is that salvage should ordinarily be undertaken after all reasonable alternatives to destroying the site have been explored and when the value to society of the proposed project clearly exceeds the value of keeping the site or sites intact. How to compare such disparate types of values is of course a major question, one that I cannot deal with in the framework of this paper. This question alone should be a topic of current thinking and research among archaeologists and planners.

Assuming that salvage is dictated, what then? My starting point in thinking about salvage archaeology has been the philosophy espoused by Jesse D. Jennings (1959) for the Glen Canyon Archaeological Salvage Project, as a member of which I had my first real involvement with this type of archaeology in the years 1959–1961. Jennings's philosophy remains, I believe, a good starting point for a discussion of salvage archaeology today. He wrote:

> The operations envisioned under the Upper Colorado River Basin Project (Glen Canyon Project)—or any other salvage work—constitute a very special kind of archaeological work. The project differs in many important ways from any other archaeological project most of the staff members will ever have participated in. It is distinct in that it is not a problem study but is an area study, an area defined by law. It is a project of known duration. The field work cannot be extended beyond a [definite] period. . . .
>
> It is impossible for the technical staff to concentrate work on one problem, or one time period, or in some special aspect of a problem or time period. Total recovery is the objective: this means total sampling of all cultures, and all time periods to be found in the area. Additionally, since time is the crucial factor, there will be constant compromise with the time element itself; standards of work and excavation techniques must be adjusted to the pressure of time.

Salvage work, as all science has come to be, is a sampling, statistical operation, but in the course of that sampling it is incumbent upon the field observers and supervisors to gain as much objective data as possible. . . .

A steady flow of increasingly competent publications will benefit the discipline and at the same time be of cumulative benefit to the project supervisors and other specialists who are writing the reports. . . .

The approach to reporting, for the life of the project, will be this: Work unreported is essentially work not yet finished [pp. 681–683].

Several themes emerge here that seem to me central to a consideration of the conduct of salvage archaeology today: the possibility of an areal or regional approach, the arbitrary nature of the choice of the salvage area with respect to archaeological problems, the necessity for a sampling approach, the responsibility of the salvage archaeologist to collect data relevant to the broadest possible range of archaeological problems, and the importance of the salvage archaeologist's making contributions to the intellectual life of this field through publication. In the paragraphs that follow, I should like to expand on these points and add a few not covered by Jennings's 1959 statement.

A central problem, as Jennings recognized, was how the archaeologist is to make intellectual contributions to the field of archaeology within the constraints of the salvage format. Not only must the salvage archaeologist produce reports regarded by the profession as currently useful, but he must make observations and collections that will be useful to future generations of archaeologists. Since the body of sites he has been charged to investigate are being destroyed, his records and collections will have to serve as surrogates for these sites in the future. If these data are to function as resources for the future, they will have to meet the data needs of new research problems unthought of today. At least, this will be the case if our discipline continues to evolve, which is our fond hope.

As Jennings also recognized, in seeking to investigate a site or set of sites that is to be destroyed, the salvage archaeologist will almost never be able to apply his most intensive data collection techniques to the whole body of archaeological remains he is charged with studying. It seems to me highly unlikely that we will ever be in a position to fully excavate every threatened site, using the full battery of data recovery techniques available at the time the work is undertaken. Society is not going to support this type of investment in archaeology (unless in some way archaeology comes to be generally recognized as critical for national defense, and I am not prepared to develop the arguments for this position). Hence, we shall always have to settle for only part of the cake insofar as intensive excavation is concerned.

The salvage archaeologist is therefore in the position of having to make a research contribution on the basis of a site or set of sites selected for him by cir-

cumstance, of having to record and collect in such a way as to provide suitable data for unknown future research problems, and of having to do so on the basis of only some fraction of the data recovery that could conceivably have been undertaken.

It seems to me that the salvage archaeologist, in seeking to maximize the return on these objectives, might rely on the following devices: primary problem orientation, collection of representative samples of data relevant to other types of problems, increased use of intensive surface survey techniques in addition to excavation, application of a regional frame of reference, provision for indefinite storage of records and collections, and direct site protection techniques. Furthermore, as the problem orientations, data requirements, and data recovery techniques of the field evolve, some ways will have to be found to maintain congruence between the expectations of the contract-granting firms and agencies, on the one hand, and of the archaeological profession, on the other, with respect to what constitutes an adequate standard of salvage work.

Primary Problem Orientation

The expenditure of large sums of money by society for the conduct of salvage archaeology is justified by the fact that at least some segments of society perceive archaeological remains themselves and the information derived from their study as being of some value. Salvage archaeology is therefore justified to the extent that it yields new information, not only by bringing forth new artifacts and exposing features long buried, but also by providing new and more satisfactory explanations of its subject phenomena. Like other disciplines, archaeology is healthy only to the extent that it continues to evolve new and more satisfactory approaches to explanation. I contend that a discipline healthy in this sense is doing a better job of discharging its responsibility to the society that supports it than is a stagnant discipline and that, furthermore, society is likely to support a basic research field in approximate relation to that field's health.

All archaeologists, whether involved in academic or salvage research, thus have a responsibility to try to make real contributions to their discipline and hence to its continued evolution and health. Furthermore, if we include surficial study and testing of threatened sites as well as actual excavation, salvage work comprises a large proportion of all archaeological fieldwork in the United States. Responsibility for the discipline's health in this country is increasingly in the hands of people doing salvage work. If salvage archaeologists do not stay intellectually alive, if they are not producing articles and books eagerly awaited and debated by their peers, if their segment of the field stagnates, then the whole field is in trouble. Jennings, in the paper cited in this chapter, argued that the salvage archaeologist should collect data useful in as many types of problem-oriented approaches as possible but that the salvage archaeologist should eschew heavy involvement in specialized problem orientations of his own. While I agree with Jennings about the archae-

ologist's responsibility to collect data for a broad range of problems, I believe that the salvage archaeologist must in addition to this feel a responsibility at least to attempt to make a significant contribution to knowledge in some special problem area. I say this because I believe that the nature of salvage archaeology itself provides conditions in which research may come to be done by rote and that a primary problem orientation is an antidote.

It is, of course, also possible for the academic research segment of the field to become intellectually irrelevant as well, but I think the danger is at least theoretically greater in salvage work for three reasons. First, academic research is usually justified in terms of some particular problem or problems of recognized importance in the field. If outside research funds are sought, a proposal must usually be prepared detailing the significance and innovative features of the project, and this must be approved by a committee of professional peers. Salvage, on the other hand, is generally dictated by the location of a land-altering scheme that is usually intrinsically unrelated to archaeological problems. Furthermore, the award of a salvage contract is generally a matter of negotiation between the salvage-initiating institution and the institution that furnishes the archaeological team. The proposal presented by the archaeologists generally deals more with costs and logistics than with potential contributions of the work to the solution of archaeological problems.

Second, the institutions that fund emergency salvage work tend not to be very sensitive to changes in problem orientations or in standards for data recovery occurring within the archaeological profession. Archaeological research is not their primary mission, and they generally are involved in it only because the law or public pressure requires them to be. Furthermore, contract performance standards, once agreed upon, can generally not be unilaterally raised by the archaeologists. It is often difficult to explain to an industrial business officer why standards that are adequate last year are no longer adequate, particularly if raising the performance standards requires a substantially greater outlay of money for what appears to be the same work, that is, salvaging a site or set of sites. I shall comment more on this problem later.

Third, much salvage archaeology is currently in the hands of students trained only at the BA or MA level. This work provides fine training for them, and some may have a willingness to experiment lacked by their academic elders. But very often these people do not have the strong commitment to a problem orientation and to carving out a disciplinary reputation found in researchers who have survived the rigors of PhD training.

For these reasons I feel there is the danger that much salvage archaeology could become rote in nature and make little real contribution to the continued evolution of the field. I am not asserting that the processual paradigm in American archaeological research is more viable than the culture-historical paradigm. There is good and bad work being done in both, and also much work that cannot be clas-

sified in either paradigm. There are enough problems to go around. What I am saying is that if salvage archaeology is to continue to live up to its basic justification, it must continue to make significant contributions to the solution of archaeological problems and must move the field forward. Each worker in charge of a salvage project must actively be engaged in the intellectual life of his discipline, must be willing to stake his reputation on his ability to define and contribute to problems recognized as important by his peers.

The implication of this is that problem orientations and research designs are as important in salvage as in academic research. Whereas the academic archaeologist ideally tries to find the site or sites where best to test his hypotheses, the salvage archaeologist is confronted with the sites and must develop his problem orientation in such a way as to make the most of the raw material. Of the two approaches, the latter seems intellectually the more challenging. In the long run, however, it does not matter in what sequence the problem, hypotheses, and data get together. What matters is that they are logically appropriate to one another and that significant results are obtained.

Data for Others

I have argued above that to discharge his responsibility to the discipline and to society, the salvage archaeologist must himself contribute to the intellectual life and continuing evolution of his field. To do this, he must concentrate on some particular problem or set of closely related problems of significance to the profession. Yet the salvage archaeologist is dealing with sites that are to be destroyed. All that will remain for others to work with are the records and collections he makes (Chenhall 1971). In a very real sense the salvage archaeologist is also working for the whole profession.

Thus he has a responsibility to be aware of problems of concern to other professionals and of the data demands of these problems. And if possible, he has to outguess the data demands of the as yet undefined problems of the future. This brings us back to the notion of maximal archaeology, applying all the data recovery techniques at one's command to the salvage work. Yet, as I have already noted, this gets very expensive very rapidly, and we can probably never expect to apply this type of approach to a very large proportion of the archaeological deposits that we have the authority to salvage. Furthermore, some types of data—village layouts, large-scale architectural patterns, intrasite stratigraphic relationships, irrigation and fortification systems, etc.—require very extensive excavation of sites. If all this were to be done with a brush and trowel so that every scrap of recognized data were retained, the process would be almost endless; thus, the large-scale features will probably get short shrift.

The only way out of this dilemma that I can foresee is for the salvage archaeologist to attempt to collect representative samples of all types of data the sig-

nificance of which he is aware. In other words, his target list of variables would attempt to cover the research concerns of all segments of the profession. The target universe (the threatened site or sites) would then be sampled to obtain data on these variables representative of their distribution in that universe. Obviously, in any particular case the set of target variables and the sampling design would be further constrained by the time and money available and the salvage archaeologist's knowledge of research problems outside his own specialty.

In carrying out such a goal an explicit sampling design based on sampling theory is called for (Binford 1964; Cowgill 1964; Lipe and Matson 1971). Ideally the archaeologist would want to inventory the occurrence of all the main variables he was interested in and draw a separate sample for each variable. To do this requires considerable prior knowledge of each variable. Generally, in archaeological situations, this would probably defeat the purpose of sampling, which is to acquire reliable estimates of population parameters on the basis of a relatively small amount of investigation. In most cases, then, the archaeologist will have to carry out some type of multipurpose or compromise sampling design. In this approach data-bearing units, such as sites or areas (often quadrats, or rectangles of equal size), are chosen by some type of bias-excluding means, such as a table of random numbers. Each site or area contains data on a large number of variables. It is expected that a sample of such units will also be a good sample of the variables contained in the units, since choice is random with respect to the variables as well as to the sites or areas chosen. If the archaeologist wants to be sure to get an adequate sample of certain variables—say, for example, village sites versus camp sites—he may stratify the sample, choosing a separate sample for each type of site.

Once the sample has been chosen, data on different variables can be collected by different techniques, and subsampling can be employed. On a particular village site there is only one overall village layout, and this may have to be revealed by large-scale stripping with heavy machinery. There may be many similar house structures, on the other hand. Only a sample of these need be excavated intensively. Likewise, the contents of the one or several middens can be sampled by sets of pits or trenches rather than total excavation.

The importance of sampling approaches are that they permit estimates of total populations to be made on the basis of fractions of that population and that collections and records made on the basis of a good sampling approach may in the future provide representative data on variables not thought of at the time the data were collected. For example, if the field archaeologist today collects a sample of pottery in such a way as to reliably represent the kinds and distribution of pottery at the site, then future workers using new techniques for studying pottery may have some confidence that their results apply to the original population of pottery at that site. If, on the other hand, the fieldworker today collects only in terms of the demands of his pet problem orientation or attempts to make a representative collection on the basis of subjective judgment, the future worker will not know

whether his results reflect actual conditions at the site or simply the bias of the original fieldworker.

Intensive Survey

In seeking to get as large and as representative a body of information as possible within the limits of the time and money available the salvage archaeologist will usually be well advised to make good use of intensive surficial investigation of sites. Surficial examination is almost never a good *substitute* for excavation, and for many sites it gives relatively little information about what lies underground. But all sites were surface sites once. The fact that some artifacts and features lie at the present ground surface does not thereby render these phenomena devoid of information value. The return on survey work will vary from area to area, of course, but it is my impression that much progress can be made everywhere in developing methods for getting reliable information from surficial examination of sites. The much reduced costs of surficial examination versus excavation give the former technique much appeal in a salvage situation where funds and time are limited yet where all information not recorded will be lost. In any case, if the archaeologist is attempting to obtain a representative sample of data on a site or sites that are to be destroyed, an intensive survey is almost mandatory to provide a basis for selecting sites or parts of sites to be excavated. This would hold, it seems to me, whether the choices are to be made through subjective judgment or through the application of sampling theory.

But my main notion here is that intensive surficial investigation can be developed to be a more productive source of information, complementary to excavation (Ruppé 1966). It is my impression that in many salvage projects survey is primarily used to locate sites for excavation, rather than to supply basic information as well. Surficial examination is so much cheaper and less time-consuming than excavation that the profession needs to support studies on improving its scope and reliability. Certainly when a set of sites is to be destroyed by a construction project, the sites that are not excavated should be subjected to very intensive surficial examination and collection. Or at least a substantial sample of them should be so treated.

Regional Framework

Some of the larger salvage projects coincide with natural regions such as river basins. Most salvage projects, however, are arbitrary with respect to physiographic, biotic, or cultural regions. Yet proper understanding of the archaeological manifestations within such an arbitrarily defined project area may often depend on relating these manifestations to environmental and cultural data occurring in the larger surrounding area. Furthermore, the value of excavating a particular site may differ when viewed from a regional, rather than a strict salvage area, perspective.

There are undoubtedly many instances in which work on a particular salvage project could be made much more meaningful to both present and future professionals through the conduct of additional survey and excavation in areas adjacent to the salvage area per se. McGimsey (1972b) suggests that research priorities be developed for each region of the country, that available funds be allocated so as to carry out these priorities, and that the regional plans be updated periodically. In salvage project areas choice of sites for excavation would be guided by these priorities. In addition, implementation of these priorities would lead to research outside of areas immediately threatened by development projects. To McGimsey, "In a literal sense all archaeology is salvage."

King (1972) urges the formation of regional archaeological "cooperatives" to facilitate team approaches to regional research designs and to permit regional organization for salvage and archaeological resource management. Such cooperatives would integrate the efforts of archaeologists from universities, colleges, museums, and avocational groups.

Such notions are appealing, for they provide means whereby academic research might be coordinated with emergency salvage proper and whereby the knowledge, expertise, and influence of many individuals from diverse institutions could be pooled. Given a conservation goal, such groups might be ideal for coordinating the type of planning inputs I have previously described as essential to slowing down the rate of site attrition. Conservation-oriented regional groups or commissions might also help us get more mileage out of salvage work by helping fit problem-derived research designs to the pool of sites available in salvage project areas. In other words, such groups might attempt to see that studies on problems of regional interest would be undertaken, insofar as possible, on sites that needed salvaging, rather than on sites safe for the time being. Such groups would also have to be sensitive to the equally important goal of acquiring representative samples of data.

A problem with such regional organization is that it might encourage a "party line" evaluation of research problems within a region. Maintaining variety in problem orientations seems essential for the continuing health and evolution of the field. Organizers of such regional groups would have to take considerable pains to build in safeguards for variety.

Despite the problems that can be foreseen, such regional approaches seem promising to me, provided they operate within a framework of archaeological resource conservation and management.

Indefinite Storage of Records and Collections

At some future time, we hope far in the future, archaeological sites, at least of the prehistoric period, will be very rare, and fieldwork almost a thing of the past. All that will be left for the prehistorian will be the reports we publish today and the

basic records and collections that remain. Barring world chaos and catastrophe, our published reports are likely to be preserved, at least on microfilm or computer tapes, for an indefinite future, but what about the records and collections? We all know that writing a report requires us to select and abstract from and interpret our data: that is as it should be. But the report is in no sense a substitute for the basic field records and collections if someone with a different perspective, a new set of problems, or new techniques wants to re-examine our data. One of the strengths of archaeology is that even after the site is gone, the archaeologist's records and collections may be studied again with new interpretations and even new observations actually resulting (Jennings 1963b). For example, microscopic examination of the structure of animal bones from Near Eastern archaeological sites is promising to reveal important new information about early domestication; this technique can be applied to bones collected before the technique was known. My earlier argument for representative sampling is based on the point that such sampling will make our records and collections better surrogates for the sites no longer accessible to direct examination and that future new work on these materials will be thereby facilitated and made more reliable.

I submit that we should be even more concerned about the indefinite preservation of our records and collections than about preservation of our published works, however important the latter may be to scholarship. Libraries are, in general, doing a much better job of maintaining collections of books than museums are of maintaining collections of artifacts and site records. Furthermore, published works are likely to grow more and more obsolete through time and receive less and less attention, whereas the basic records and collections are likely to grow more important and be more frequently consulted through time as our supply of actual sites dwindles. Yet in some parts of this country archaeologists are still throwing away large parts of their collections after they have been given an initial study. The assumption seems to be that all possibly relevant current or future information has been extracted by this first study. Even archaeologists who do not share this assumption, which seems to me patently false, are often forced to throw away materials by the fact that their storerooms are full and they have no foreseeable possibilities of getting more storage space. And this is a one-way street. The only direction that the need for storage facilities will go is up.

Part of our archaeological conservation campaign, then, must be to convince our museums and museum-like institutions, and their financial backers, of the importance of storage. The museum's role as a keeper is at least as important to society as its role as a displayer, yet the latter usually receives more support. Storage is especially critical with respect to nonrenewable resources such as archaeological materials.

In addition to doing the educational and political work needed to increase archaeological storage space in our various institutions we can perhaps come up with innovative ways to reduce storage costs. Many archaeological facilities have

too few categories of storage; many collections that are very seldom used remain in high-cost, high-accessibility storage because there are no alternatives. Many research collections, including some of great importance, may be used only once a decade or even less frequently. If we project a long life for these collections, they may be used many, many times, but the rate of use per unit of time may remain low. Such collections could better be stored in low-cost, low-accessibility "cold storage" facilities rather than in prime areas adjacent to the laboratories and exhibits.

With regard to the problem of records storage, much good advance work and trial application has been done by the librarians. Excellent systems for miniaturization of records are becoming available.

When the archaeologist is pushed into the position of having to discard portions of large collections, what principles should he use in making selections? Again, I would invoke here the principle of a representative sample over the principle of significance, as determined by current interests. Of course, there is nothing wrong with preserving materials of significance, so long as the total sample is also representative. I think the best paper on this topic is still Cowgill's (1964) on sampling large sherd collections.

Direct Site Protection Techniques

It may be that archaeologists many generations hence will find their principal field resources in sites long buried as a result of both natural and cultural processes. Perhaps salvage archaeologists can begin more consciously to take advantage of the preservative qualities of certain types of construction to stockpile sites for the future. If, for example, a housing project or highway involves raising rather than lowering the land surface, perhaps we should in some cases content ourselves with intensive surface examination and collecting and minimal excavation, and let what remains be covered over. Such notions may seem heresy to those working within an exploitative model of archaeology, but they seem to me congruent with a conservation model.

Maintaining Flexibility in Salvage-Funding Institutions

If the field of archaeology continues to evolve methodologically and if salvage continues to be an important consumer of archaeological effort, then some means will have to be found to insure that the expectations of salvage-funding businesses, industries, and government agencies are keyed to the standards of the profession. Too often now, institutions are willing to fund only minimally adequate survey and excavation and make no provision or inadequate provision for analysis and reporting. In many cases the problem is that initial contacts and contracts with a salvage-funding institution have set inadequate precedents on what types of sampling approach, data recovery techniques, analytic routines, reporting format, etc.,

must be funded. If the future standards of the profession require that the archaeologist put far more money into certain kinds of data recovery or analytic techniques than he had previously been doing, how does he get the salvage-funding entity to go along with this?

The archaeologist may, of course, find sympathetic ears if he merely keeps the institution that pays his costs fully informed about the reasons for his doing what he does, about the significance of his findings to the profession and to the public, and about how his publications are received by his peers. Many archaeologists have found salvage-funding organizations willing to accept increased costs if they were given full justification of the ways in which the quality of the research was thereby increased. In my opinion continuing education of salvage-funding institutions by archaeologists working under them will always be an important part of maintaining flexibility in these institutions, whatever other approaches are used as well. Archaeologists on the staffs of such institutions can also help keep their employers up to date concerning the state of the archaeological profession.

Another approach is through government agencies charged with managing federal land resources, including archaeology. These efforts are backed by numerous provisions of federal law and policy (cf. McGimsey 1972a; Lipe and Lindsay 1974). Agencies such as the United States Forest Service, the Bureau of Land Management, and the National Park Service therefore have substantial leverage already with which to set and maintain standards of performance for resource evaluation, salvage, and site preservation. Such agencies are increasingly employing administrators well versed in the activities of American archaeology. Although the agency contact with the field of archaeology seems good now, the establishment of project review panels of outside research scientists might further improve these communications and might insure that communications gaps or barriers would not develop in the future.

Finally, professional groups, such as the Society of Professional Archaeologists, might function to educate and, if necessary, put pressure on salvage-funding institutions unwilling to support an acceptable standard of archaeological work. In fact, there is and probably will continue to be room for all three of the approaches just noted.

Conduct of Academic, or Pure Problem-Oriented, Research

I have already spent a good deal of space arguing that the salvage archaeologist must not only collect data on a broad front for the future use of other researchers but that he must also maintain a strong primary problem orientation. A strong problem orientation is necessary if the archaeologist is to contribute to the intellectual life and continuing evolution of the field. The salvage archaeologist thus differs from the academic, or "pure" problem-oriented, researcher in that he must

adapt his problem requirements to the body of sites made available to him by society's decision to destroy them.

Whereas the salvage archaeologist can justify his work both in terms of his problem orientation and in terms of saving a representative sample of information for the future, the academic researcher has only his archaeological problem as justification for his work. It seems to me that from a conservationist view the archaeologist who plans to work with sites not immediately threatened has the responsibility to provide a full and explicit theoretical justification for the proposed work. Furthermore, such justification should also present evidence that the research problem could *not* be adequately investigated as part of a salvage program currently accessible to him.

In other words, I am arguing that all archaeologists need strong problem orientations. A conservationist model would further require that the data needed for these investigations be sought, if possible, from sites threatened with immediate destruction. I am perfectly willing to grant that many problems may require that unthreatened sites be worked with. But I would argue that such sites should not be attacked if ones that need to be salvaged would be adequate for the data requirements of the problem. There will of course be practical problems in bringing together the archaeologist, the problem, and the appropriate sites. Salvage-funding agencies will therefore need to maintain flexibility in awarding contracts in order to help archaeologists achieve the desired "matches."

Although archaeological research is not currently a major consumer of the resource base, we must remember that it nearly always destroys sites or parts of sites. The primary differences, then, between the salvage archaeologist and the academic researcher are that the former works with sites for which destruction is imminent, while the latter does not; that the former is responsible for gathering data beyond his problem needs, while the latter is less constrained to do so; and that the former may excavate as much as his maximal data-gathering strategy, time, and money will allow, while the latter should leave as much of the site or sites as possible for future workers.

Achieving this last objective requires a research and sampling design that makes economical use of the resource. If digging 25 rooms of a 100-room pueblo will provide reliable data for the problems of concern, why dig 50 rooms? Furthermore, maps and records must be explicit enough so that future workers can tell where excavation was done or surface collections made, and these maps and records must be archived so that future workers will have access to this information. Placing nondeteriorating markers in excavations before backfilling will be of help to future archaeologists conducting additional work on the site. The sampling design should attempt to insure that the work does not entirely eliminate some of the varieties of archaeological contexts from a site or region. In other words, all of the houses, or all of the midden, or all of the ceremonial fea-

tures should not be destroyed by the project if it is possible to avoid doing so. The objective should be to leave as representative a sample of material in the project area as possible.

In conclusion, a conservation model implies that there should be no sharp distinction between salvage archaeologists and academic research archaeologists. To the extent that his research problem can be carried out on sites threatened with imminent destruction, the archaeologist is doing salvage and must accept certain data definitions and sampling responsibilities beyond the immediate needs of his problem. To the extent that his research problem requires work on sites not immediately threatened he is doing pure problem-oriented, or academic, research, and this imposes other types of conservation responsibilities.

Acknowledgments

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References

Baily, W. C. 1971. Education of the public concerning the value of archaeological resources: Introduction of study materials into public school systems. Paper presented at the 36th Annual Meeting of the Society for American Archaeology, Norman, Okla.

Binford, L. R. 1964. A consideration of archaeological research design. *American Antiquity* 29:425–441.

Chenhall, R. G. 1971. Positivism and the collection of data. *American Antiquity* 36(3):372–373.

Clark, G. 1957. *Archaeology and society* (3rd ed.). London: Methuen.

Clark, G. 1970. *Aspects of prehistory*. Berkeley, Calif.: Univ. of California Press.

Coggins, C. 1972. Archaeology and the art market. *Science* 175:263–266.

Cowgill, G. L. 1964. The selection of samples from large sherd collections. *American Antiquity* 29:467–473.

Davis, H. A. 1972. The crisis in American archaeology. *Science* 175:267–272.

Flinders-Petrie, W. M. 1904. *Methods and aims in archaeology*. New York: Macmillan.

Ford, R. I. 1973. Archeology serving humanity. In *Research and theory in current archeology*, edited by C. Redman. New York: Wiley. Pp. 83–94.

Frese, H. H. 1960. *Anthropology and the public: The role of museums*. Leiden: E. J. Brill.

Fritz, J. M. 1973. Relevance, archeology, and subsistence theory. In *Research and theory in current archeology*, edited by C. Redman. New York: Wiley. Pp. 59–82.

Gruhn, R. 1972. Letter on "The crisis in American archaeology." *Science 176*:353–354.

Jennings, J. D. 1959. Operational manual: University of Utah—National Park Service upper Colorado River basin archeological salvage project. In *The Glen Canyon archeological survey*, edited by D. D. Fowler and others. *University of Utah, Anthropological Papers* No. 39, Part 2, 677–707.

Jennings, J. D. 1963a. Administration of contract emergency archaeological programs. *American Antiquity 28*:282–85.

Jennings, J. D. 1963b. Anthropology and the world of science. *University of Utah Bulletin 54* (18).

Kelly, J. H. 1963. Some thoughts on amateur archaeology. *American Antiquity 28*:54–60.

King, T. F. 1971. A conflict of values in American archaeology. *American Antiquity 36*:255–262.

King, T. F. 1972. A cooperative model for archaeological salvage. Paper presented at the 37th Annual Meeting for the Society for American Archaeology, Miami Beach, Fla.

Lipe, W. D., and A. J. Lindsay, Jr. (Editors). 1974. Proceedings of the 1974 Cultural Resource Management Conference. *Museum of Northern Arizona, Technical Series* No. 14.

Lipe, W. D., and R. G. Matson. 1971. Human settlement and resources in the Cedar Mesa area, southeastern Utah. In *The distribution of prehistoric population aggregates*, edited by G. J. Gumerman. *Prescott College Anthropological Reports* No. 1:126–151.

Longacre, W. A., and R. G. Vivian. 1972. Reply to Gruhn. *Science 179*:811–812.

McGimsey, C. R., III. 1971. Archaeology and the law. *American Antiquity 36*:125–126.

McGimsey, C. R. 1972a. *Public archeology*. New York: Seminar Press.

McGimsey, C. R. 1972b. Regional overviews and archaeological priorities. Paper presented at the 37th Annual Meeting of the Society for American Archaeology, Miami Beach, Fla.

Platt, J. R. 1965. The step to man. *Science 149*:607–13.

Ruppé, R. J. 1966. The archaeological survey: A defense. *American Antiquity 31*:313–333.

Scovill, D. H., G. J. Gordon, and K. M. Anderson. 1972. *Guidelines for the preparation of statements of environmental impact on archeological resources*. Tucson: Arizona Archeological Center, U.S. National Park Service.

SHARON SULLIVAN

Aboriginal Sites and
ICOMOS Guidelines (1983)

Understanding the research value of archaeological resources is fundamental to managing their informational values. In this paper Sullivan reports on work by Bowdler and Bickford to define three key questions for assessment of research (scientific) values. Informed answers in the affirmative to all three questions indicate a high degree of research significance. This is now a widely used methodology, which marked an important phase in the developing practice of archaeological site conservation—the use of rigorous, repeatable, and comparative frameworks to assess the research value of archaeological resources.

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In general terms, the assessment of scientific significance must be based on the researcher's knowledge of the subject, and on what she presently sees as the potential for solving research problems. Very many sites contain potential information; and judging them to be important just on this basis—that is, their capacity to supply data—is not a sufficiently selective process, and leads to mindless data collection, while not necessarily increasing our real knowledge. For example, a nineteenth century bottle dump may contain a great deal of information about nineteenth century bottles, but we must ask whether the information will add *substantially* and *significantly* to our knowledge of nineteenth century life in Australia. Thus Sandra Bowdler and Anne Bickford suggest that the relative *scientific* or *research* value of a site can be judged by answering the following questions:

- Can the site contribute knowledge which no other resource can? That is, can it provide information not available from documents or oral history, for example.
- Can the site contribute knowledge which no other such site can?
- Is this knowledge relevant to general questions about human history or other substantive subjects? (Sandra Bowdler, pers. comm.)

Answers in the affirmative (with supporting statements) will demonstrate the scientific or research value of a site. There are, as always, problems of application. We can confidently assert, on this basis, that the Willandra Lakes, or Fraser Cave have research value; but this is in part because we have little information about the whole resource. Systematic site survey in south west Tasmania may greatly increase the number of caves with research potential, lessening the value of Fraser Cave *in particular*.

Research significance will change through time; and is particularly likely to in Australia, where comparatively little is known about the resource. Research significance must be established by preliminary research, sufficient to indicate the undoubted potential of the area or site. Identification of this research significance can and often does lead in time to public or historic value for the site. Sites at Lake Mungo have research value; but Mungo is also famous for past important and exciting discoveries, and hence is an area with public and social value to both blacks and whites. This process results from the realisation of research potential by the carrying out of significant research.

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David Frankel

The Excavator: Creator or Destroyer? (1993)

Is archaeological excavation destruction? There are alternative perspectives to the conservation model for archaeology. Frankel offers a short, considered response to a syllogism expressed in an earlier issue of Antiquity *that "all excavation is destruction; destruction is wrong; therefore all excavation is wrong." Frankel's main thesis is that the impact of archaeology is minimal when considered in a broader societal and historical context. The paper questions the modern notion that excavation should be minimized, observing that sampling that presumes uniformity and homogeneity may not yield accurate data. Preserving sites presupposes improved archaeological skills in the future; skills can only improve with practice, yet practice is frowned upon as destructive. Frankel argues that the present is as important as the future and that, because sites may not remain unaltered, the archaeologist should find as much as possible today. Archaeological potential is released by excavation. The responsible excavator creates a viable, useful, and coherent set of found objects and related data.*

[. . .] A generation ago Mortimer Wheeler articulated the basic principle that 'all excavation is destruction'. This has come to be accepted as a fundamental article of faith, and underpins the conservation philosophy expounded in the special section on Heritage in the June 1993 issue of ANTIQUITY (67 (1993): 400–445), which may be summarized in a syllogism: all excavation is destruction; destruction is wrong; therefore all excavation is wrong. I would like to respond with a contrary view that excavators do not destroy archaeological sites; they create them.

Although the impact of archaeologists is minimal when set against the multitude of direct or indirect impacts of modern society, the simple acceptance of the concept of destructive excavation can be seen in the prejudice against excavations

held by many cultural heritage managers. In Australia, for example, the size of most excavations has rapidly shrunk from half the site, to 10%, to very small (50 cm x 50 cm) holes—if excavation is allowed at all. There is little consideration given to different scales of excavation required by different research aims. Excavation is seen as exceptional, with an associated feeling that it is important to leave parts of sites untouched for future excavation, which can then 'test' the work of current researchers. While there is certainly some value in the ability to re-excavate sites, there are several problems with this argument. A policy of sampling small portions of sites rather than excavating on a larger scale has an implicit assumption of site homogeneity or uniformity; that one small part will be representative of the whole. While this may be true for the coarser scales of analysis common in much Australian hunter-gatherer archaeology, it involves a model of site formation and function which needs to be demonstrated rather than assumed. A belief in uniformity and homogeneity is also essential to the idea that future excavations can 'test' previous work by using the material from one part of a site to demonstrate that the collection of material from another part was 'wrong'. If our successors are able to excavate so much better than we can, they may never be able to relate the finer scale of their excavations to the coarser scale of ours. They will have black holes of uncertainty in the centre of their site-plans, and will curse us as much for digging small portions of sites and destroying spatial patterns as for digging the whole.

This discussion so far has presupposed that sites are identifiable and bounded entities. But, while individual as a place, a site is only one representative of a class. While some are so unusual that they must be treated as special cases, many sites conform to general patterns. There are many examples in Australia of absurd limitations where only partial excavation of one of many equivalent neighbouring sites is permitted, with the result that we have inadequate information on one site, with no data on its internal patterning of discard, and no possibility of deriving this information without digging another. It is surely better to treat the whole set of features as the sampling universe, and to dig at least one completely, or on a scale commensurate with the extent of the site.

Preserving sites for future study presumes that archaeological skill in the future will be better than the present (or how could future work test that of today?). Skills and techniques of field archaeology can only be improved by training, practice and experience; we need to excavate continually in order to assess critically the earlier field research. Knowing our skills to be limited, we must practise them in order to improve: even if this is at the expense of some of our sites.

That is not the only paradox. Much heritage and conservation philosophy is predicated on this responsibility of the Present to the Future. If we interpret this to mean we should not excavate sites because they must be preserved for future archaeologists to work on, and if our equally patient successors hold the same attitude, they will leave all sites for the more distant future, and so on ad infinitum.

One can, however, argue that the Present is as important as the Future: we owe it to people of today to obtain as good an understanding of past events and processes as possible. We have not only a responsibility to allow future people opportunities for primary research, but also one to supply them with a well-founded and clear basis for their programmes of study. Sites are not stable. They will not remain unaltered, even if we refrain from investigating them. Apart from immediate and direct human threats, there are less easily controlled forces at work—water, wind, rabbits and other agents of destruction. Perhaps we have an obligation to excavate.

The arguments against excavation might be acceptable, if the heritage value of unexcavated deposits, of unknown age and composition—or indeed presence—could be assessed by any other means. These considerations, including the conflicting agendas of indigenous peoples, are beyond the scope of this discussion, but we should not forget that even the concept of a past, a long and complex past, has only come about through excavation.

Which brings me to a broader issue. The past as we perceive it is culturally determined. Our view of it, knowledge of it, or understanding of it is structured by the social and historical context we live in and the data available to us. The majority of people in Australia today accept the structures of the human past provided by archaeologists: the archaeologists' past(s) is founded on their constructs of excavated data. While material is buried in a soil matrix, invisible and unknown, it only has an untapped potential for providing information about the past. The extraction or mining of these sites releases different parts of this potential. Sites excavated by a small, deep test-pit will supply data for a basic chronology, while those excavated over a wider area will also provide data for synchronous behavioural explanations. Clearly, the style and nature of the excavation not only locates artefacts and ecofacts, but provides them with a defined context: not an absolute but a artificial one. The skill of an excavator is seen in an ability to identify original contexts and give them definition, or otherwise to create a viable, useful and coherent set of relationships for found objects. The nature of these constructs allows, limits or determines the possible interpretations placed upon them.

In short, archaeologists create archaeological data out of sites. The previous (unknown) physical structure of a site is changed—irrevocably changed (or destroyed)—and a new (formally defined) abstract structure is given to them. Some potential information will be lost in the process, but other data are extracted and given meaning and significance. The analogy is perhaps to the sculptor, who destroys a block of stone to find a statue within, who discards or loses some of the material to isolate and define one previously hidden value, from an otherwise relatively meaningless block of deposit.

In terms of the processes that make and change sites and knowledge, the excavator should be seen not simply as a destroyer, but as a particular agent of transformation, which creates our structured archaeological record.

A M I H A I   M A Z A R

The Archaeological Agenda in Israel: Past Sins and Future Atonement (2000)

There is in the destructive nature of archaeology an implicit obligation to publish the results of archaeological investigations. However, this is an often neglected obligation, with dire consequences for the conservation of information. Mazar, drawing on a wide range of discussion, outlines the context for archaeological heritage management in Israel and summarizes the reasons for the lack of publications: a combination of institutional, financial, personal, and professional circumstances. While the focus is on Israel, Mazar's concerns and his comments regarding potential solutions have universal relevance.

In Israel, about a dozen large-scale and long-term excavations at major sites are carried out each year, in addition to smaller-scale projects at small sites, numerous salvage excavations and surface surveys. This wide range of field activity is carried out by five universities, the Israel Antiquities Authority (IAA), museums and several foreign expeditions. Over time, a huge backlog in the scholarly publication of these excavations has accumulated, with the result that, today, one cannot carry out an in-depth study of any subject without facing the problem of unpublished finds. It is clear that an unpublished excavation is nothing but a waste of hard-found budgets and human physical and mental effort, as well as causing irreversible damage to ancient sites. In cases in which very small, single-period sites in fringe regions like

the Judean Desert or the Negev are completely excavated, the damage is even more serious, since these sites are subsequently lost for ever.

In many cases only short preliminary reports are available, enough to pique one's curiosity as to what one could learn from a full report on such an excavation. Interpretations of the archaeological data and the use of such data for broader syntheses are often based only on the impressionistic images gained from the short preliminary reports, rather than on in-depth study of the finds. In the words of W. G. Dever, *'The system suffers from overload and threatens to break down in the near future'* (1996, 37). The problem is not confined to Israeli excavations: some of the major foreign excavations carried out in the region in past years are probably lost for ever, such as Tell Balata (Shechem), the 'flagship' of American archaeology in Palestine during the 1950s. It appears that the situation is not much better in other countries, and can be defined as a worldwide professional disease.

The situation in Israel is surprising in light of the rather good beginning. The first large-scale Israeli excavations—those at Tel Hazor—were promptly published soon after the initial seasons, resulting in three fine volumes. However, this strong beginning did not continue, and it took 30 years for the final two volumes to appear, some chapters written by a third generation of scholars. The fate of many excavations of later years was worse: many of them are known only from preliminary reports and short articles, with only a few published, and then, usually, only partially. Between 1960 and 1980, a series of large-scale excavations at Bronze and Iron Age sites was carried out in Israel [. . .]. Of these, only two were fully published. Of the remainder, either small parts were published or they were virtually never published at all, except for short preliminary reports.

Nevertheless, side by side with the failures, there have also been significant achievements. The Israel Exploration Society (IES), the Israel Antiquities Authority (IAA) and the Institutes of Archaeology of the various universities in Israel have made great efforts in recent years to overcome the publication problem. [. . .]

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Despite [these efforts resulting in a] rather large number of final reports, the picture remains far from satisfactory. To reiterate, many of these volumes appeared dozens of years after the excavation was concluded, and in many cases were not written or edited by the excavators themselves. In many cases, also, only a very small part of the entire excavation was published, leaving most of it unpublished.

Awareness of the publications problem in Israel has increased a great deal over the past 10–15 years. Today, almost all the archaeological institutions are putting considerable effort into bridging the gaps, and most of the current archaeological expeditions in Israel make every effort to deal with this problem.

In an important article on this issue, Herzog (1996) compared the number of excavation seasons carried out at Bronze and Iron Age sites and how many of

these seasons have been published. While he admits that his calculations may be somewhat misleading due to the large differences in the volume of work carried out during an excavation season at various sites, his figures nevertheless give an idea of the extent of the problem. According to his calculations and my updating of his lists, 877 seasons of excavation have been conducted at Bronze and Iron Age sites in Ancient Israel since the beginning of exploration in the late 19th century, of which 466 (53%) have never been published and an additional 240 (27%) only partially published. Between 1970 and 1980, when archaeological activity in Israel reached its peak, 288 seasons of excavation were conducted, of which 200 (69%) are still unpublished and 56 (19%) only partially published. These figures indicate that the profession is in deep crisis.

What are the reasons for this situation, and how can it be resolved? This subject was addressed at a conference arranged in 1994 by Hershel Shanks, editor of *Biblical Archaeology Review*, the proceedings of which were published in 1996 (Shanks (ed.) 1996). A second book on the topic stemmed from a session at the 1996 Annual Meeting of the Society for Biblical Literature (Shanks (ed.) 1999). Together, these two publications contain 21 papers written by Israeli and American scholars that provide a variety of viewpoints on the subject, but also reveal a great deal of frustration, mainly on the part of American archaeologists working in Israel. The major reasons presented in these papers for the lack of publications are:

- Personal inability of excavators to write their reports (Stern 1996, 19; Shanks 1996, 51–53).
- Lack of budget. Many recognize that the budget needed for processing the finds and writing a final report is at least similar to the budget needed for the excavation itself (Dever 1996, 41). In many cases, there is no money left for processing the data and for publication once the field project is over.
- The complexity and time-consuming detail demanded from a modern published report. Processing the varied and vast amounts of data collected in the field requires the collaboration of many experts. The work includes studying, analysing and discussing stratigraphy, drawing plans and sections, meticulous typological and quantitative pottery analysis, studying various special classes of objects like seals, figurines, metal objects, coins, stone objects, etc., physical and chemical analysis of artifact composition, technological studies of artifacts and more. Sedimentologists, geomorphologists, palaeobotanists, osteologists, physical anthropologists, palaeometallurgists and others are also involved. The coordination of these varied research topics and taking care of the technical aspects like photography, drawing, registration, laboratory work, etc., requires a huge amount of time and administrative skill. This makes the publication of an excavation an extremely time-consuming, expensive and complicated task (Ben-Tor 1996; Dever 1996, 38–39; Seger 1996, 57–59).

- Even when all this technical work and the various studies are completed, the writing up of the final report and the integration of the mountains of data into a comprehensive picture of cultural history is not an easy task and many archaeologists simply cannot cope with it.

- The sociology of scholarship and the human factor. While the field excavation involves dynamic team work, accompanied by social activity, the satisfaction of discovery and the bright lights of exposure in the media, etc., the preparation of the final report is a long, drawn-out and tiring process, done by a small team, often under the total responsibility of one person. It demands an incredible amount of tiresome work, while the rewards come years later. In the present structure of academic life, publishing a preliminary report, an essay or even a semi-popular book on one's dig may bring immediate rewards in terms of tenure and promotion, but the archaeologist who decides to dedicate the necessary years of work to writing a final report may seriously harm his/her academic career, because of the length of time it takes for this labour to bear fruit (Mazar 1996, 24–26; Blakely 1999, 88). The personal careers of scholars also affect their publication obligations. Enthusiastic young dig directors become involved over the years in various teaching obligations, academic administration, editorial work and other commitments, which cause endless delays in the preparation of their excavation reports. In some cases, dig directors may shift their interest to other fields of research. As the years pass, the excavator becomes detached from the material and, in many cases, the end result is an unpublished excavation.

- Excavation directors who have passed away, lost interest or become incapable of publishing due to illness or advanced age. This problem often results from the previous situation. Who is responsible for the publication of such excavations? The answers are not simple (Dever 1996, 40; Blakely 1999; Cahill 1999). For example, three large-scale excavation projects, directed by B. Mazar, N. Avigad and Y. Shiloh, took place in Jerusalem between 1968 and 1984. All three directors have passed away and the Hebrew University and IES are making great efforts to process and publish these excavations. Thus far, six volumes have been published and three more are in press. However, the complete publication of these projects will take many more years and depends on the availability of funds. The responsibility for these publications of the excavations' sponsoring institutions is unclear, since the IAA regulations stipulating that sponsoring institutions must take responsibility for publication are relatively new and were not in effect at the time.

- The cost and length of time for printing. Even after preparing and writing up a final report, its publication is not a simple matter. These volumes are usually lavishly illustrated, replete with tables, lists, etc. They usually need to be edited by a professional, and the graphic work must be done by a professional. This stage is time- and money-consuming. A manuscript

may lie in the drawer for several years before it is printed. In Israel, this problem is solved to a large extent by publication endowment grants available from the Hebrew University and Tel Aviv University, donations, and by publishing abroad. Professional editors work for IES, IAA, the Hebrew University, and Tel Aviv University, and they are crucial in bringing the reports to light.

Also addressed in several papers in the two above-mentioned books are epistemological, theoretical and philosophical questions relating to the contents of excavation reports.

- Dever emphasizes the lack of well-designed research goals in the first place. It is much easier to publish an excavation that, from the outset, is designed to solve a specific, well-defined problem, particularly when dealing with a single-period site (Dever 1996, 43–44).
- Several authors take the complexity of the reports to task. Some, in their view, are virtually unusable—like the reports on Kenyon's excavations at Tel Jericho (Dever 1996, 41; 1999, 22)—and the huge amount of detail can hardly be digested and utilized for reconstructing cultural history.
- What should an excavation report contain and in how much detail should technical data be presented? Dever suggests an agenda for a final report which includes: research design, presentation of the data in such a way that the reader will be able to reconstruct how layers were accumulated in each excavation square, a comparative study of the finds, interpretation, integration, explanation and summation (Dever 1999, 16–17). These appear to be exaggerated demands that will only slow down the publication process. In Sharon's view (1999), a report should reflect the objective situation in the field, with many questions left unanswered and stratigraphic observations left open to interpretation. Disagreements among staff members on the interpretation of the evidence should be reflected in the report, and insecurities regarding stratigraphic attributions should be presented. He also opposes any standardization of archaeological reports.
- J. D. Seger (1996) discusses the difficulties involved in incorporating the theoretical frameworks suggested by the New Archaeology of the 1960s and 1970s. Great expectations of the utilization of theory in archaeological reports were difficult to meet. The problem of interpretation in light of the processual and the current post-processual way of thinking in archaeology over the past 30 years is strongly in evidence.
- The audience. Several authors emphasize the very limited audience for technical final reports, while there is a great need to communicate with the wider audience of researchers who use archaeological material, such as historians, biblical scholars, etc. For these scholars, the synthesis of the archaeological data is of interest, rather than the raw data presented in the reports.

In my view, there are numerous solutions for designing and writing a final report that include enabling the reader to reconstruct the stratigraphic situations and problems encountered in the field and presenting the finds in an appropriate quantitative manner. If the standards and requirements established are too high and ideal, they will not be met by many archaeologists and cause more frustration and delays in publication. We must work to establish minimal requirements to all. If these requirements are met, the reports will provide the essential data for continued research, while those excavators who choose to study and publish their finds in depth, beyond the minimal requirements, will be providing an added bonus. Thus, I disagree with Dever that every report should contain 'interpretation, integration, explanation', while Sharon's ideas may result in very complicated and unclear reports.

What can be done to overcome the delays in publication? A list of 14 needed measures was presented by J. Aviram (1996, 113–19), and I believe that these are generally agreed upon by all. A few of his and some additional points should be emphasized.

- Insisting by law on the publication of *Preliminary Reports* as a precondition for the renewal of excavation permits. These reports should be as detailed as possible.
- Creating a socio-professional atmosphere that will stigmatize excavators who do not publish their results within a reasonable amount of time.
- Using sanctions against those who have not published or proved sufficient progress towards publication by denying excavation permits after a certain number of years. The law should also enable the transference of unpublished material to others after a certain period of time (Shanks 1996, 51).
- Demanding that the respective archaeological institutions take responsibility for the publication of old and 'orphan' excavations that they sponsored. This requirement must be accompanied by endowment funds to cover the costs, like the celebrated Shelby White-Leon Levy Publication Program or the two archaeological publications endowments at the Hebrew University— the Qedem endowment fund established by the Friends of the Hebrew University in Belgium thanks to the initiative of Yigael Yadin, and the Philip and Muriel Berman Center for Biblical Archaeology fund. Excavations that had a financial patron and devoted staff, like Shiloh's excavations of the City of David (sponsored by Mr. Mendel Kaplan), have managed to continue working and producing publications, even after the major crisis of the death of the director.
- Training and creating jobs for professional editors to help in preparing archaeological reports (Shanks 1996, 51–52). A few such jobs already exist in the publication departments of the Hebrew University, Tel Aviv University and the IAA.

- Encouraging and creating conditions for graduate doctoral and post-doctoral students to participate in the publication of excavations. Some reports have appeared on time because the material was used as the basis for a Ph.D. dissertation.
- Making an effort to shorten the time span between submitting a manuscript and its publication. Today, this time span can be two–three years.
- Defining the minimal requirements for a final excavation report. This minimum should be obligatory, while more detailed studies would be optional.
- Examining the current and future possibilities for electronic publication. The utilization of new technologies is inevitable and electronic storage devices like CDs/DVDs can save space, reduce costs, and greatly improve reports from the technical standpoint, such as allowing for the publication of photographs in colour. The Internet revolution enables the fast transmission of large volumes of data of high quality worldwide. There is no doubt in my view that electronic publication will soon be introduced to archaeology on a large scale, despite the many technical and conceptual problems (on some pioneering attempts see Jacobs 1996). Some even suggest that the publication of basic data—without waiting for the 'great synthesis'—through the Internet should be encouraged, to make the information immediately available throughout the world (Seger 1996, 66).

In the final part of this essay, I would like to give an example of [. . .] the amount of time and effort needed to prepare [excavation reports] based on my own experience over many years of field work and research at four complicated, multi-layered sites: Tell Qasile (1971–1974), Tel Batash (1977–1989), Tel Beth Shean (1989–1996), and Tel Rehov (from 1997 to date). [. . .]

My experience is that preparing such reports takes many years. The goal can be accomplished only when there is a dedicated team and sufficient budget. For Tell Qasile, three seasons of excavation were published in two volumes eleven years after the last season (Mazar 1981 and 1985). The last of twelve relatively small-scale excavation seasons at Tel Batash was conducted in 1989 and the final reports will include three volumes: the first appeared in 1997 (Mazar 1997), the second is in press (Mazar and Panitz-Cohen in press), and the third is in preparation. This project involves, in addition to myself, one researcher and a few experts for special classes of objects. For Tel Beth Shean, where I directed nine six-week seasons between 1989 and 1996, the publication plan includes five volumes. Two Ph.D. theses and at least two M.A. theses are based on this excavation. At this stage, four years after the conclusion of the last season, the first two volumes are almost completely written, although it will probably take several more years until they go to press. At Tel Rehov, the three seasons conducted between 1997 and 1999 provided sufficient data for a first volume. For this project, we are doing our utmost to publish the first volume as soon as possible.

Teamwork in processing the data as soon as possible after the end of an excavation is, in my view, one of the keys to a successful publication. Analysis and write-up of the stratigraphy in each excavation area, preparing plans, sections and photographs, restoring and drawing of objects, ^{14}C dating and analyses of animal bones and botanical remains must be carried out during the year following an excavation season, while the in-depth study of artifacts can always be done later.

Computer programmes are of great help in processing excavation finds. We currently use AutoCad 1.3 for processing and drawing plans and Microsoft Access for managing and processing data bases, such as lists of loci, catalogues of arti-facts, and the typological registration of the pottery. Colour photographs, slides and drawings may be scanned and stored, together with data bases, on CDs as part of the published report.

Conclusions

The frustration concerning final reports led Dever (1996) to doubt if the current large-scale field projects will ever be published. He suggests that the amount of fieldwork be reduced and even that a moratorium be declared on large-scale field projects for some time, with only focused, small-scale excavations intended to solve specific problems continued. In my opinion, such measures will only result in the slow death of our field. Creative ideas, new technologies and suitable conditions to carry out such complex research programmes, as well as awareness of the problems and well organized, dynamic teams will enable both the continuation of excavations and their publication in a prompt and efficient manner. Thus, the past sins of our profession might be atoned in the future.

Bibliography

Aviram, J. 1996: 'Towards a New Start', 111–19 in Shanks (ed.) 1996.
Ben-Tor, A. 1996: 'Why Publication takes so long', 33–36 in Shanks (ed.) 1996.
Blakely, J. 1999: 'Resurrecting Dead Digs', 71–93 in Shanks (ed.) 1999.
Cahill, J. M. 1999: 'Who is Responsible for Publishing the work of Deceased Archaeologists',
      47–58 in Shanks (ed.) 1999.
Dever, W. G. 1996: 'The Importance of Research Design', 37–48 in Shanks (ed.) 1996.
———. 1999: 'Making Final Publication Reports Useful', 15–28 in Shanks (ed.) 1999.
Herzog, Z. 1996: 'With time, we're getting worse', 87–110 in Shanks (ed.) 1996.
Jacobs, P. F. 1996: 'The On-Line Dig Master', 71–78 in Shanks (ed.) 1996.
Mazar, A. 1981: *Excavations at Tell Qasile, Part One. The Philistine Sanctuary: Architecture and*
      Cult Objects (*Qedem* 12). Jerusalem.
———. 1985: *Excavations at Tell Qasile, Part Two. Various Finds, The Pottery, Conclusions,*
      Appendices (*Qedem* 20). Jerusalem.
———. 1997: *Timnab (Tel Batash) I: The Stratigraphy and Architecture. First Final Report on the*
      Excavations between 1977–1989 (*Qedem* 37). Jerusalem.

Mazar, A. and Panitz-Cohen, N. in press: *Timnab (Tel Batash) II: The Pottery and Other Finds from the Iron Age II and Persian Periods. Second Final Report on the Excavations between 1977–1989 (Qedem 41)*. Jerusalem.

Seger, J. D. 1996: 'Archaeology's Midlife Crisis', 55–70 in Shanks (ed.) 1996.

Shanks, H. 1996: 'Getting Assistance in Writing Reports', 49–54 in Shanks (ed.) 1996.

Shanks, H. (ed.). 1996: *Archaeology's Publication Problem*. Washington.

———. 1999: *Archaeology's Publication Problem, Vol. 2*. Washington.

Sharon, I. 1999: 'Don't Standardize: Reports as an Adjustable Prism for Viewing the Past', 109–46 in Shanks (ed.) 1999.

Stern, E. 1996: 'Archaeological Field Work as Related to Publication', 17–22 in Shanks (ed.) 1996.

——— (ed.). 1996: *Encyclopedia of Archaeological Excavations in the Holy Land*. New York–Jerusalem.

BILL STARTIN

Preservation and the Academically Viable Sample (1993)

Both entertaining and astute, this mock soliloquy, doubtless composed in lieu of finishing an excavation report, expresses the perennial dilemma of the archaeologist—the paralyzing nexus between the desire and obligation to dig and the risks and traumas of doing so.

To dig, or not to dig, that is the question:
Whether 'tis nobler in the mind to suffer
The slings and arrows of outrag'd professors,
Or to take picks and shovels against our past,
And by digs explain it?—To dig—explain;—
Destroy; and by digging to say we end
The thirst, and the thousand natural questions
That we are heirs to, 'tis a consummation
Devoutly wish'd by some. To dig—explain;—
Destroy! Perchance publish: ay, there's the rub;
For through that publication what may come,
When we have shovelled off this mud and soil,
Must give us pause: there's the critique
That makes a mockery of such conceit;
For who would bear the developer's scorn,
The professor's wrong, the academic's abuse,
The pangs of ignorance, the law's delay,
The insolence of office, and the spurns
That patient merit of the unworthy takes,
When he himself might his digs undertake
With a bare trowel? Who would restraints bear,
To grunt and swear under such restriction,
But that the dread of critical review,
That uncover'd error from which no
Reputation returns, puzzles the will,
And makes us rather bear preservation
Than fly to study what we know not of?
Thus conscience does make cowards of us all;
And thus the impetus for revelation
Is stifled with great policy and law;
And enterprises of great pith and moment,
With this regard, their currents turn awry.

—※—

Antoni Nicolau Martí

Excavation, Exhibition, Conservation or Reservation: Technical Criteria for a Decision-Making Process (2005)

"Urban archaeology inhabits the epicentre of what has become known as the urban conflict, [the place] where highly diverse interests collide," Martí argues in this reading. Conserving urban archaeological remains can be costly and impede development; arguments for conservation can be seen as subjective and self-serving. Traditionally, archaeology and town planning have acted independently. The result has been the creation of urban reserves of sacrosanct ruins, or the systematic and silent destruction of the archaeological heritage, at best accompanied by salvage of information. An important step forward in archaeological resource protection in Europe was the introduction of planning requirements in most jurisdictions to conduct surveys to locate archaeological sites prior to development and to assess and take into account their value as part of the processes of decision making. Archaeological remains within a city need not be sacrificed to development. They can be the tool of town planners rather than "the rock on which development founders."

The APPEAR (Accessibility Projects: Sustainable Preservation and Enhancement of Urban Subsoil Archaeological Remains) Project—a multidisciplinary cross-national and cross-organization project sponsored by the European Commission—aimed at developing ways of facilitating this outcome (see www.in-situ .be/A_pres_overview.htm). In a position paper that formed part of this project Martí asserts that archaeologists working with urban planners can produce better cities that reflect the past and augment future development and well-being. A key issue is therefore the need to create an analytic tool that allows archaeologists to establish (and clearly justify) in what circumstances it is desirable to preserve historic remains

and to determine which archaeological relics warrant conservation for their value to the contemporary community. Martí proposes potential parameters and criteria, including singularity, monumental value, legibility and capacity to communicate historic value, symbolic value, and capacity for interpretation, as well as impact on other urban value.

All European cities are settings in which human activity constructs and reconstructs new urban landscapes on a daily basis. The old scenes go on to become just another part of the jigsaw of people's memories, historical documents and municipal archives, and of the urban spaces and architecture of the city itself. Thus, monuments, urban settings, and individual architecture and architectural remains represent material evidence *in situ* of urban life: its various phases of grandeur and decadence, the contributions of different cultures and peoples, the superimposing of artistic styles, public and private ways of life, different organisation of work, power relationships and the capacity for economic renewal. Indeed, this historical dimension of the urban landscape gives many cities an added value which acts as a mechanism for social cohesion and shared identity among citizens, but also as a mechanism to attract new activities and new visitors.

From the point of view of this historical dimension and their role as a new motor for economic activity, archaeological projects in urban settings are a fundamental factor in the complex process of urban planning. The driving factor behind archaeological projects in modern European cities increasingly goes beyond the simple scientific interest generated by an analysis of the historical past. Archaeology has become an instrument in urban planning capable of providing information vital to our working with respect for the environment and planning a city for the future in harmony with the past. Urban archaeology should increasingly be moving towards the planning and assessment of urban development and architectural projects before they are implemented, rather than engaging in excavation programmes without clear scientific planning. Within this framework, urban archaeological projects are conducted as a result of town planning projects affecting areas of archaeological interest, turning archaeology into a sort of project feasibility test. Problems arise where archaeological remains turn out to have sufficient historical-cultural value for their preservation to be proposed, thus altering said architectural and town planning projects. The key, then, lies in establishing criteria for whether or not archaeological remains need to be preserved.

The Framework of the Debate

Traditionally, attention has been given to the technical problems associated with developing archaeological heritage sites, as is only proper, and should continue to be the case. Nonetheless, such operations beg a prior debate. Without embarking upon an in-depth analysis of all the problems involved in the management

of urban archaeology, we must reflect on the role of technical consultants in the decision-making process concerning the conservation, or elimination (following documentation), of archaeological remains found during excavations in an urban area. This is not a trivial question, as urban archaeology inhabits the epicentre of what has become known as the urban conflict, the nerve centre where highly diverse interests collide (financial capital, real estate, the collective interests of architects, archaeologists and other professionals, etc.). Archaeology faces a delicate situation in which too often it is seen as the factor which causes the problem, whether in terms of finance, town planning, execution deadlines, social disparity caused by lengthy archaeological interventions, etc. Faced with this situation, we technical consultants, who are responsible for the management of urban archaeology, must act with considerable caution and responsibility, using technical criteria which are at least to some extent objectifiable, analysing the problem as a whole with an open mind.

Public attention has recently been drawn to various cases which have highlighted the conflicting interests of archaeology and certain concepts of urban development in Europe, underlining the troublesome coexistence of past and future. The final solutions are themselves subject to a wide-ranging public debate involving not only heritage and archaeology experts, but politicians, architects and engineers, business groups and local civic associations. This process must also allow us to gauge public opinion about what is, beyond our professional boundaries, the management of heritage in an urban setting. The various solutions put forward must also be subject to a debate concerning what we are to preserve of our urban archaeological heritage, and how, which inevitably means asking ourselves what technical criteria should be used when evaluating this heritage and proposing that archaeological remains be preserved or destroyed. Such shared and common criteria are essential if the decisions we take are to be scientifically, professionally and politically justifiable, whether before our profession or before the general public.

Basic Premises

First of all, I believe it is important also to consider certain premises concerning the nature of archaeological heritage which, although they might strike us as truisms, will assist us in establishing a general framework for the evaluation and use of heritage in urban contexts.

Archaeological Heritage Is a Cultural Category

Archaeological sites are important sources of scientific information on our common past. In the first place, scientific archaeology allows us to understand the tiny details of history, and to provide material evidence to compare with historical documents and turn historical interpretations into plausible arguments. Secondly,

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where archaeological traces are visible, both to the public and to the scientific community, they become historical phenomena, in other words, we acknowledge them as fragments of episodes which transcend our current societies and become known as "heritage". The study and conservation of this archaeological heritage then takes on a scientific and social interest of the highest order.

This transcendence and this identity of archaeological heritage beyond its scientific value leads us to state that heritage itself takes on a life of its own, beyond its historical dimension. Indeed, what we call a "heritage site" is a human construct affected by two circumstances; that of the designator (the one who confers this status) and that of the value (that which is conferred). We therefore reach the conclusion that heritage and the evaluation thereof is a cultural construct: it exists to the extent that it is defined and valued by society, and more specifically according to the cultural values of that society.

Archaeological Heritage Comprises Non-renewable Assets

The old image that archaeological heritage is destroyed as it is excavated is not a lyrical and intellectual metaphor of the profession, but a harsh reality which should make us think not only of the motives for excavation but also of the excavation techniques we employ (see below), and which should go beyond the act of excavation itself. That archaeological heritage is a non-renewable asset is a reality which we must never ignore. In managing archaeological heritage in urban settings, the exhumation of archaeological remains in order to facilitate urban planning projects involves the inevitable loss of an historical document of scientific interest and also of an aspect of cultural heritage of potential value to the public.

This perspective of protecting a non-renewable heritage also includes the question of opening it up to the public. The flow and frequency of visitors, as well as their active (vandalism or careless) or passive (moisture and heat) influence are key factors in its conservation. The use we make of it must be closely tied to its conservation, and this involves certain limitations which we must take on board, as we are dealing here with historic places which cannot subsequently be replaced, however much restoration work may be undertaken. And so, at this point of heritage management we must seriously consider the sustainability of archaeological heritage, both as instruments of cultural identity and as strategic assets for economic development, in the present and for future generations.

Archaeology and Urban Growth

One of the great challenges of the present and of the future is to reconcile this need to preserve our archaeological heritage with the growth and renewal of our cities. Traditionally, both sectors (archaeology and town planning) have acted independently, going so far as to turn their back on one another, and focusing on their

own collective interests. The result has been the creation of urban reserves of sacrosanct ruins, or else the systematic and silent destruction of our heritage. In the words of La Regina and Querrien,[1] the solution lies in *studying the traces of the past, establishing which can still 'live' and choosing, in an informed manner, the model for their survival: artificial, within a museum, or organic, within the modern urban fabric. Better still, the city of the present and of the future may be planned (. . .) on the basis of the urban and social data of the past. This remains a difficult task, as it requires politicians, administrators, architects and archaeologists to devise a joint urban project.*

The appearance of a third player, cultural tourism, has thrown into even sharper relief the need to establish a consensus between archaeology and urban growth. An archaeological heritage which is preserved and accessible to the public represents a source of profit in terms of cultural tourism. These days many cities with great tourist potential see their archaeological heritage as a new source of income. The conservation and presentation of this heritage offers new forms of cultural tourism and provides cities which have a cultural legacy with new tourist attractions. The success, then, of any project to manage and develop urban archaeological heritage will depend on the proper reconciliation of archaeological needs, the interests of tourism and the urban planning of cities.

The Mechanism of Control

The circumstances described above lead us to consider an essential professional reality. Those of us who work as professionals in the cultural heritage sector must maintain a very firm ethical position and improve the instruments we use for describing and evaluating archaeological remains, in order that those responsible for taking decisions at each stage of the process should have all the necessary information available.

The process, then, is clear. In the first place it is vital that we should have instruments to describe our urban archaeological heritage (inventories of sites, archaeological maps, etc.). Secondly, we should work closely with town planning departments in order to offer information and suggestions in terms of town planning solutions. And finally, these processes should tackle boldly the business of planning cities for the future which integrate their past with intelligence. Even so, any project which could affect archaeological remains must be inspected, and serious and detailed excavation is required in order to extract the maximum information. Once the excavation has been concluded, the team of archaeologists must produce a report on the remains and the scientific information which they offer. The next step falls to the relevant technical committees, which produce evaluation reports on the importance of the remains. Finally, it should of course be our political leaders who take the ultimate decision as to the future of the archaeological remains.

Although the administrative process is simple, and has an incredible bureaucratic logic, the questions always arise within the decision-making process, in other words, when a feature of archaeological heritage is granted the status of a shared cultural place which should or could be preserved. This decision involves a process of evaluation, of establishing the qualities which make the site valuable in terms of the social and cultural standards of the society to which it belongs, and thus a candidate for preservation. However, this also involves establishing which sites do not have such status, and which are thus destined to be documented and subsequently destroyed. John Carman,[2] echoing the thoughts of Foucault, expresses the roots of this conflict well: *Heritage management manipulates archaeological objects in a highly singular manner: it converts a material phenomenon of the past into a symbolic phenomenon of the present.* In other words, it fills it with a significance similar to that in the past, but that which makes sense today. Heritage (which is, let's not forget, what we have catalogued as being worthy of cultural value) clearly becomes an icon not of the past, but of the present: through the decision to preserve it (or not) and to exhibit it to the public we show what we believe should be expressed of the past; specifically that which has a meaning in terms of understanding our present or constructing our future. Heritage thus becomes each society's cultural "visiting card" for presenting to the Other and, at the same time, a powerful tool for reinforcing identity within the community itself.

So heritage management, in the task of giving meaning to archaeological heritage, has not only to balance the titans of urban growth, but also consider another difficult equation: that of the subjective nature of evaluating heritage and deciding what is "heritage-worthy". And this is not a futile question, since even when operating with professional ethical standards and rigorous procedures, the subjective nature of the decision always leads [to] shadows of doubt and opinion appearing, since there are still no definitive standards regarding what should be valued as archaeological heritage, and why.[3]

Evaluation of Archaeological Remains

As cultural heritage professionals we believe that the preservation of monuments has a social benefit. Heritage provides us with the intellectual and emotional mechanisms by which we understand our identity and our cultural continuity: it is a reminder of where we come from, of who we are and of what we wish to be. Furthermore, it informs other communities of these cultural conditions, and thus contributes (or at least should do!) to the promotion of tolerance among cultures and individuals. But the evaluation of heritage is not simply an intellectual pursuit, full of good intentions. Evaluation is an exercise in defining interests and attitudes concerning cultural heritage, with clear scientific, economic and social implications, the results of which will determine the management and use we give to this

archaeological heritage. Three general criteria should therefore govern this process of evaluation:

- in the first place, absolute transparency and public disclosure of the entire process of analysis and evaluation,
- secondly, the absence of vested interests in the project on the part of all those responsible for evaluating its feasibility,
- and finally, the development of indicators and a methodology which may be used in all cases and which thus offer us a more objectifiable comparative analysis.

Concerning this final aspect, in Barcelona we are working towards defining a series of indicators which have already been applied to the most recent major urban projects. This involves analysing archaeological remains with respect to the following indicators:

- **Singularity:** this is a case of evaluating whether the archaeological remains are sufficiently outstanding in the context of their cultural environment or, if not, despite their scientific interest, other similar remains have already been preserved. In other words, we must evaluate whether the remains uncovered are of relevance as the sole example of a period, a style of architecture, a culture, etc., for a genuine interest in preserving them to be adjudged to exist. The El Born site, for example, involved the documenting of evidence of certain events for which, although the subject of ample historical documentation, there were no remains to serve as physical evidence thereof, or to allow a perception of the magnitude of their significance;
- **Monumental value:** the degree of monumental value is assigned according to the degree of preservation and the intrinsic aesthetic values of the site. In other words, it is not the same thing to consider the preservation of remains which have been razed to little more than their foundations as that of sites where a considerable part of the architectural structures still exist, as in the case of the Roman theatre in Saragossa;
- **Legibility and capacity to communicate:** archaeological remains may be of great importance, but not intelligible for a lay public, or simply refer to very specific and incidental historical episodes. It is important to consider that conservation is not simply a professional exercise, but also plays a role in explaining history to the public at large, based on the interpretation of evidence of the past. In order for this process not to be excessively complex, it is desirable that the remains should, *a priori*, offer good visibility, as this will facilitate the subsequent process of museum interpretation;
- **Historical value:** this is the potential of the archaeological remains to cast new light on our historical knowledge of an event or era. Archaeological excavations reveal countless pieces of historical evidence, but not all of these

have particular historical significance. Sometimes they document events which were already known, as is the case of El Born in Barcelona; on other occasions, new historical circumstances are determined, as is the case of the Arab quarter in Saragossa. An evaluation must be made in each case of whether conservation would allow the historical relevance in question to be highlighted;

- **Symbolic value:** this involves establishing whether the remains refer to some element with considerable symbolic significance for a particular society. It refers to the capacity of a site to stimulate or maintain the cultural or social identity of the community within which it is to be found, and which is directly connected with the site. For example, the Acropolis of Athens, in addition to its inherent historical and artistic value, also symbolises the values of classical Greece and, therefore, of European democracy;
- **Capacity for museum interpretation:** the feasibility of a museum project and public visits, in areas such as management, conservation, etc. Opening up a site not only involves production costs, but above all the knowledge that this must be maintained and managed as a cultural product: preventive conservation, marketing and communication, renewal of interpretative products, educational programmes, public management, maintenance of the premises, monitoring of the public, etc.;
- **Environmental impact:** an analysis of the impact in socioeconomic and landscaping terms on the immediate context of the archaeological site. Opening up an exhibition at a site could revitalise the social and economic dynamic of an urban area, just as it could also exert a negative influence if consideration is not given to integrating this within the urban fabric of the neighbourhood. The case of the Complutum and its School-Workshop, in Alcalá de Henares, is a model example of an archaeological project directly involved in the society and professional life of the city.

In summary, we may state that urban archaeological heritage management is not simply a question of administrative factors. Management is deeply involved in taking decisions about what we are to preserve of our archaeological heritage, and how. As in any decision-making process, it is advisable that we should have an analytical tool which allows us to establish (and clearly justify) in what circumstances it is desirable to make an effort in our town planning to preserve our historic remains as a cultural heritage, no longer of the past but looking to the present and future. A series of indicators have been presented here, designed specifically to perform this function within the decision-making process of making decisions concerning archaeological heritage and its evaluation. There are others which may be added to or help improve these. What is beyond doubt is that we should develop these indicators collectively in order ultimately to devise a tool which will give archaeology an authoritative voice on how to preserve our archaeological heritage.

The indicators described here are an initial suggestion to be debated in order that they may be expanded on or refined. There are, however, certain circumstances which oblige us to consider our position as heritage managers. In the first place, the increasingly clear need for archaeology also to be understood as a tool of town planning, not as the rock on which building projects founder. In this regard, we should exert pressure to see that archaeology works closely with municipal town planning departments in developing interdisciplinary projects, together with town planning engineers and architects. In order to achieve this, we should develop instruments to produce an inventory of our archaeological heritage and a GIS database to facilitate all these tasks. Secondly, we must be aware that not everything which we decide to preserve has to be exhibited, and must therefore try out other formulas of conservation, including archaeological reserves or the integration of archaeological projects within new alternative uses.

Notes

1 La Regina A. and Querrien M. 1985. Comment vivre dans une ville historique? Que faire du patrimoine archéologique?, in *Archéologie et projet urbain*, De Lucca Editore, Rome, pp. 15–16. [See reading 16 in this volume.]

2 Carman L. 2002. Archaeology and Heritage. An introduction, Continuum, London, page 194.

3 Carman L. 2002. op.cit. – Stanley-Price N., 1990. Conservation and information in the display of prehistoric sites, in *P. Gathercole et D. Lowenthal (eds.), The Politics of the Past. One World Archaeology*, 12, Unwin Hyman, Londres, pp. 284–290. – De la Torre M. and Mac Lean M., 1997. The archaeological heritage in the Mediterranean Region, in *de la Torre M. (ed.), The Conservation of Archaeological Sites in the Mediterranean Region*, The Getty Conservation Institute, Los Angeles. pp. 5–14. – Mason R. and Avrami E., 2002. Heritage values and challenges of conservation planning, in *Teutonico, J. M. et G. Palumbo (eds.), Management Planning for Archaeological Sites*, The Getty Conservation Institute, Los Angeles. pp. 13–26.

Reference

Castellet J. et ALII (coord. editorial). Plaza del Castillo. Una lección de democracia ciudadana frente a la destrucción de 2000 años de Patrimoine, Pamiela, Pamplona-Iruña.

Acknowledgements

Sean Williams

PPG 16: The Paper That Rocked British Archaeology (2009)

British Planning Policy Guidance 16 (PPG 16) is a powerful tool that promotes early intervention to conserve archaeological sites and provides strong incentives for archaeological site protection. Adopted in 1990, PPG 16 recognizes that archaeological remains are a finite resource and a fundamental part of the nation's significant historic landscape. PPG identifies archaeology as a material consideration for new development and requires that care be taken to avoid destruction of substantive archaeological material. The latter objective is to be achieved by in situ conservation where possible or, alternatively, through salvage and recording. Williams's succinct blog provides a useful summary of the content of PPG 16 and a reflection on its impact on both the archaeological resource and the archaeological profession over nearly two decades.

'Planning Policy Guidance 16: Archaeology and Planning' doesn't lend itself to snazzy headlines. Nor does it make any discoveries, dig up mummies or make new theories. But it may just be the most important paper to hit archaeology since the Dead Sea Scrolls. PPG 16, as it's known in the trade, deserves to be better known. It's saved some of Britain's most iconic archaeological treasures, and has revolutionalised the way we can hold on to our hidden past. Here's a quick look at the policy, and some effects it has had since its inception in 1990.

PPG 16 started life thanks to the British public. The 80s were in full swing, with rampant development changing the face of the nation everywhere, not least London. Yet all this ferocious building was taking its toll on the city's subterranean secrets, and developers went a step (or ten) too far when they proposed the destruc-

tion of the 16th century Rose Theatre, London's fourth ever, famous for staging William Shakespeare's masterpieces during the Tudor Era. The public cried out in dismay: how could such a precious artefact be lost? The government heeded its people's worries, heading to the printers to usher in PPG 16, replacing the Circular 8/87 bill many saw as ill-focused and out-of-touch.

But what does PPG 16 say? Here's a brief summary:

- The historic landscape is a fundamental part of the government's commitment to environmental stewardship.
- Archaeological remains are a finite and non-renewable source, and must be a *material consideration* when applying for new plans. That is, considering an environment's archaeology is a necessary step in the planning process. This may be in the form of desk-based analysis, or field work like trial trenching.
- Care must be taken to ensure substantial archaeological material is not destroyed by development.

The last point needs a bit more explaining. The paper basically offers two ways of 'caring' for archaeological remains. Firstly, if possible the artefacts should remain *in situ* (where they are), with foundations of any new development changed to go above them, atop made ground. If this can't be done, PPG 16 allows archaeologists to be brought in to record items and remove them. This is a contentious issue: after all, when is development so utterly vital that it can justify the second method? Many feel even PPG 16 is too soft in this respect.

What effect has PPG 16 had almost 20 years after its birth? There are arguments on both sides, but most archaeologists agree it has opened Britain up to archaeology in a way never seen before. PPG 16 shifted responsibility for archaeological work into the hands of the developer, meaning they could pick private firms or individuals. An explosion of field work thus followed, leading to a wealth of material and knowledge of Britain's rich past. This has led to more people being able to forge a career in archaeology. Who knows—the Carters and Petries of tomorrow might owe their greatest discoveries to a piece of paper?

Yet PPG 16 isn't without its critics. Some argue the explosion in archaeology commercialised the profession too much, leading to poorer quality digs and haphazard handling of precious artefacts. Intense competition for work, and the fact developers frequently view archaeology as little more than an annoying cost to their plans, means many archaeologists are chronically underpaid compared with other professionals. Some argue this has also brought the standard of work in Britain down.

PPG 16 isn't even law. Ultimate control rests on the discretion of the Secretary of State, and archaeological consultancy is usually carried out by a County Archaeologist, who some feel may have more than a slight conflict of interest where development projects are concerned. Archaeological remains still aren't allowed the same protection as, say, endangered animals.

PPG 16 may have its doubters, but there's no denying it has changed the face of British archaeology forever. Now ruins which may have been bulldozed by unscrupulous contractors are protected, allowing more of the country's past to survive. It might not catch many headlines, but British heritage has got a lot to thank PPG 16 for. You might want to say a little thanks next time [you] see a British story here on Heritage Key.

Mat Davis

A Study into the Mitigation of Construction Impact on Archaeological Remains (2004)

Improved construction technologies and the value of urban real estate have simultaneously threatened archaeological remains and created opportunities for their incorporation into new development. European legislative advances have accorded greater status to consideration of the value of archaeological remains in planning regulation and urban development. Davis describes both the great destruction caused to archaeological sites by construction activity and changes wrought in Britain through the advent of Planning Policy Guidance (PPG) 16. He reports on an English Heritage study of the mitigation of construction impact on archaeological remains. The paper outlines both direct and indirect threats to archaeological sites from construction and suggests mitigation solutions, some of which are summarized in a chart in another paper, also published by Davis in 2004, presented in reading 33, which immediately follows. Positive management and sympathetic engineering designs can achieve good outcomes, notwithstanding the perception from the property industry that archaeology creates uncertainty and therefore incurs extra cost.

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Introduction

Many engineering operations employed during the course of a construction project have the potential to seriously impact in a negative way on important archaeologi-

cal remains. The impact, which may be physical, chemical or biological, can damage the archaeological remains directly and indirectly. Indirect impacts occur if the construction impact is on the site's burial environment, which is promoting the continuing *in situ* preservation of the archaeological remains. Impacts from construction have long been recognised and hence archaeological considerations have been incorporated into engineering programmes for at least two decades, though usually with the emphasis on removal of the archaeology through excavation and preservation by record. For a variety of economic, scientific and social reasons this approach to archaeology underwent a significant shift 11 years ago with the publication of PPG16 (DoE 1990).

This guidance document places great emphasis on the physical preservation *in situ* of important archaeological remains by the use of positive management and sympathetic engineering designs. However, in following this policy approach it has become increasingly apparent that the overall impacts of construction on archaeological remains are not fully understood. As a consequence, decision-making to agree [on] acceptable engineering designs to mitigate against impact on the archaeology is seen as difficult, costly and time consuming. The urgency to address this gap in our knowledge is illustrated by the Monument at Risk Survey which revealed that road building and construction (property development and urban expansion) accounted for 36% of observed cases of wholesale archaeological monument destruction (Darvill and Fulton nd). This figure does not take into account demolition and building alterations, which account for a further 20% of all monuments destroyed. As a step towards addressing the knowledge gap, English Heritage commissioned in 1998 a study of the mitigation of construction impact on archaeological remains (Davis et al 2003). This paper presents an overview of the study, together with a summary of the suggested key good practice approaches necessary to achieve the successful mitigation of construction impacts on *in situ* archaeological remains.

Drivers for Change

In 1992 the revised European Convention on the Protection of the Archaeological Heritage was signed by representatives of 20 member states of the Council of Europe. It was accompanied by the publication of *Charter for the protection and management of the archaeological heritage* (ICAHM 1995), which sets out the principles and guidelines to preserve *in situ* or by record archaeological remains found either in research or development projects. This Charter and its convention endorsed in the remit of PPG16 which, coupled with *The management of archaeological projects* (English Heritage 1990; its revision in 1991 now commonly known as MAP 2), brought about a revolution in the concept, planning and management of archaeological projects of all kinds. The Charter was directed at local and central government planning authorities and developers, with the aim of producing com-

mon links and routes to achieve a successful balance between economic development or scientific research work and the preservation of the archaeological heritage for future generations. The archaeological profession therefore helped drive the change because, with the adoption of the Charter and the publication of PPG16, the process for preserving archaeological remains *in situ* as part of mitigation strategy for a development became a necessary part of the management repertoire of archaeological curators in England.

Prior to the publication of PPG16, developers were already very familiar with the drive by policy makers and others for them to contribute to the sustainable management of finite and non-renewable resources. For example, because land is a finite resource the application and then enforcement of planning guidance now strongly encourages developers to use brownfield (ie previously developed land) rather than greenfield sites (ie agricultural land or similar). Therefore, the concept assertion in PPG16 that 'archaeological remains should be seen as a finite and non-renewable resource' is already understood by developers. However, in seeking to conform to the requirements of PPG16, developers are often confounded at the outset of their projects by the current paucity of detailed archaeological information in public databases that could assist in delimiting areas of significant or known archaeology, and initiate the early use of avoidance measures. Therefore, developers and their consultants have also pushed for a change in the approach to archaeological site management. Their reasoning can perhaps be most directly linked to the financial implications of encountering important archaeological remains on their site. That said, economic considerations should also unite all professionals involved because the cost of change increases greatly during a project, such that the unplanned incorporation of an engineered mitigation strategy into the construction phase of a project may be financially disastrous. For example, massive cost overruns occurred on the Rose Theatre site in London, where the developer spent an estimated £11 million funding both a six-month excavation and subsequent alterations to their building design (Ove Arup 1991).

Overview of the Four Stages of a Construction Project

The development of a site generally comprises four stages of construction activity, each of which will involve a wide variety of potentially ground disturbing (archaeologically damaging) engineering operations. Though construction impacts may be physical, chemical or biological, this paper gives particular attention to disturbances that result in physical movement (excavation, displacement, compaction, heave and stresses, etc) and water regime changes (retention or exclusion, flow patterns and rates, quality and temperature, etc). This is because it is these two parameters which are thought to most significantly change the character of the burial environment, as well as impact directly on specific archaeological remains.

For example, ground movement can physically damage archaeological remains, physically move the remains and so alter their site context, and structurally alter the deposits in which the remains are preserved. Impact on archaeological remains by the absence or presence of water can be physical (eg abrasion, solution and volume changes), chemical (eg universal catalyst and an electrolyte), and/or biological (eg favours anaerobic or aerobic microbial populations, Thompson 1997). Finally, though regularly reported, it is worth repeating that in England the presence on a site of waterlogged and anaerobic burial conditions often gives the greatest preservation of organic artefacts and environmental remains.

Stage 1: Pre-construction Ground Investigation

The pre-construction ground investigation generally commences with a desktop study in which documented information relating to the site chosen for development and its immediate vicinity is compiled and evaluated. Because the information will influence the early stage of a project it is vital for archaeological input to the project team by this time. To ensure the input is effective there must also be good communication between the developer, engineer, archaeologist and the main contractor team.

Following the desktop study a variety of ground intrusive geochemical, geotechnical and archaeological investigations may be required. Each investigation is undertaken by the relevant specialists who will follow their own professional design specification. For example, the geotechnical engineer may conduct the investigation in accordance with British Standard Institutions *Code of practice for site investigations* (BS5930 1999), a geochemical specialist may design their investigation with reference to the British Standard Institutions *Investigations of potentially contaminated land* (BS10175 2000), and an archaeologist may refer to the Institute of Field Archaeologists *Standard and guidance for archaeological field calculations* (1994).

Each specialist is therefore selecting the investigation technique and sampling protocol that will provide the information they require for their own specific project needs. This can range from information on the depth through 'made ground' (eg fill material) to solid rock for foundation design, the chemical composition of buried industrial waste materials or the extent of waterlogged archaeological remains. Unfortunately, all the investigations are likely to employ their own specific engineering operations that will be ground intrusive and therefore potentially destructive to the *in situ* archaeology. Mitigation of the impact will require communication and joint planning between the different specialists, perhaps to the extent that the use of boreholes and trials pits is undertaken jointly and at the same location (ie geotechnical borehole at the base of an archaeological/geochemical trial pit).

Stage 2: Pre-construction Activities

Before construction of a new development can commence a certain amount of site preparation is usually required. Conducted as part of the main construction contract, or let as a separate 'enabling works' contract, the engineering operations used may range from simply clearing away areas of surface vegetation to a major operation involving soil stripping and *in situ* remediation of land contamination. The site preparation activities also involve mobilisation of personnel and equipment (plant) to be employed on the third and main stage of a construction project.

Providing the good practice suggested for the first stage of a development project has been followed, the archaeological sensitivity of a development site should largely be known. The importance of early archaeological input and the establishment of good communication between all members of the project team is again vital because it can be possible to mitigate impact of the engineering operations used during this phase of a project by careful zoning of the site. Zoning involves reaching agreement on the types of engineering operations permitted in each part of the site in order for construction impact to avoid areas of archaeological sensitivity, eg the careful routing of access roads across the site and the above ground placement of service lines (power, communication, drainage) to offices on the site. Zoning need not be purely 'place specific' as it can also involve the creation of operating windows for certain engineering operations. For example, the traffic of heavy machinery on parts of the site can be prohibited during the wet winter months when soil conditions are more susceptible to damage by surface rutting and compaction.

Stage 3: Construction Activities

The operations employed during the main phase of construction activity generally have one of two purposes: those connected with earthwork construction and, those concerned with the construction of structures and buildings.

Earthworks are most likely to be carried out on highways contracts, reservoir contracts and, in a minor way, landscaping contracts for other developments. The term earthworks describes the excavation of soil to form cuttings, usually with side slopes but occasionally within retaining walls, and the placement of compacted soil in layers to form embankments. The potential impact on *in situ* archaeology can be severe and therefore the design of a mitigation strategy will not only require the close liaison between all parties in the project team, it may also require the knowledge of various specialists (eg conservators and soil mechanic experts). There is frequently a need for innovation and an acceptance by the developer that any mitigation strategy will be very site specific. It may be necessary to draw upon experience from other countries and from areas of knowledge beyond the construction

industry. For example, a number of construction loading experiments are reported from projects in America (Matthewson and Morris 1995)

During the construction of structures and buildings, the engineering operations that can potentially create the greatest impact on archaeological remains are those connected with the construction of foundations and services. Foundations can be defined as that part of a structure which directly transmits load to the ground, and they can be either shallow or deep (Cole 1988; Tomlinson 1995). As a guide, shallow foundations often extend to depths of less than 2.0m but may be as much as 5.0m (excluding the special case of deep basements), and deep foundations can be taken as being more than 5.0m deep. If a basement is to be constructed then all soil to the full depth of the basement will be removed by excavation, and additional foundation elements may then be installed below the basement's base.

Shallow foundations are those which generally transfer loads from a building to the near-surface soil. Under normal soil conditions, shallow foundations (ie strip footings, pads and rafts) will yield greater settlement and lower load carrying capacity, and cost less than deep (ie piled) foundations. Therefore shallow foundations tend to be used on lower cost projects, where foundation loads are low in comparison to the allowable bearing capacity of the soil, or where settlement (and differential settlement) criteria are not too onerous. Deep foundations tend to be used on projects where foundation loads are high in relation to the allowable bearing capacity of the surface soil (settlement criteria are stringent) or construction factors (such as a high water table) make shallow foundations less economic due to the difficulties in making the necessary excavations.

By the construction stage of a project the overall mitigation strategy to avoid, reduce or remove the impact of engineering operations being employed by the developer should already form part of the approved engineering design and contractor's method statement. The mitigation strategy may range from specific measures to limit the impact from a single engineering operation (eg low pressure tyres and load spreading plates on an item of heavy machinery) to a fully engineered solution (eg sand backfill and geomembrane covering system below a raft foundation). In practice a mitigation strategy will need to incorporate a range of individual and possibly very detailed mitigation measures that together achieve an agreed and acceptable level of construction impact reduction. The specific mitigation measures may include the enforcement of good working practices (eg trained operators using appropriate equipment), protection of ground surfaces (eg placement of load, spreading geotextiles on soft ground), selection of low impact engineering operations (eg mini-piles), and modification of techniques (eg reuse of existing piles).

Broadly speaking a site specific mitigation strategy can be viewed as following one or both of the following approaches.

Avoidance Mitigation Strategies

An avoidance mitigation strategy may be adopted in which all archaeologically damaging engineering operations are excluded from an area of archaeological sensitivity, ie avoidance of ground disturbance and therefore removal of the threat of construction impact on *in situ* remains.

A total avoidance strategy is most often achieved by zoning a site to create 'open' areas in which no (or restricted) construction activity is permitted. Each designated area will contain the archaeological remains and most probably a surrounding buffering zone. The size of buffer zone depends on, among other factors, the fragility of the remains, character of burial environment, and the type of construction impact affecting them.

On a large site, avoidance mitigation strategy may be viewed as the most cost effective mitigation strategy; for example, the design of mineral extraction sites may permit avoidance (ie sterilisation) of an area of mineral in order to achieve preservation *in situ* of archaeological remains. However, avoidance as a mitigation strategy has two disadvantages[;] for the developer it is financially undesirable to exclude areas of the site from the development proposals, and secondly, it may not be possible to effectively exclude all construction impacts from the *in situ* archaeological deposits. This second point particularly applies when a complex or fragile burial environment surrounds the archaeological remains. For example, saturated deposits in which organic remains are preserved within an anaerobic environment are very sensitive to remote changes in the water regime of the site, as would be caused by dewatering operations used during ground improvement and stabilization. On such a site, an avoidance strategy would not be sufficient to remove the construction impact of dewatering and consequently, an engineered mitigation strategy may also be needed as part of the overall management plan for the site.

The redesign or relocation of an element from a construction project can also be viewed as an avoidance mitigation strategy. For example, the relocation of below ground petrol interceptors away from areas of archaeological sensitivity or the movement of car parking areas from a below ground basement onto the roof top of a new development.

Engineered Mitigation Strategies

Engineered mitigation strategies generally incorporate mitigation measures, which reduce the impact of specific engineering operations on the ground containing the *in situ* archaeological remains. The measures generally involve modification of the engineering operation to limit the surface extent or depth of its impact on the ground (eg load spreading devices and modified piling rigs).

Alternatively, engineered mitigation strategies may adopt measures to isolate the *in situ* archaeology from ground disturbance caused by engineering operations. The measures will generally require either a containment system or a covering system. A containment system involves the installation of a bund, membrane or similar barrier around the undisturbed ground containing the archaeological remains. On appropriate sites the archaeological remains and their surrounding burial environment are preserved within the enclosed ground despite disruption of the surrounding ground during site development.

However, the isolation of undisturbed ground by a containment system may remove it from the natural soil processes which are responsible for its specific burial environment (eg the input or water to maintain saturated conditions). Therefore, an alternative approach to isolate the archaeological remains from the construction project is to contain them within or below an engineered covering regime. The aim of this approach is to actively maintain the burial environment conditions thought to be responsible for the *in situ* preservation of the remains, whilst still permitting development at ground level. Though a variety of different covering systems have been used on sites in England perhaps the most experience has been gained with the use of sands in site reburial (Canti and Davis 1999). The use of covering systems can involve the reintroduction of burial conditions that are thought to promote archaeological preservation. This may be necessary if construction activities have caused an unavoidable or accidental disturbance of the ground, such as a loss of surface cover or lowering of the water table. Though the reintroduction rather than maintaining of a burial environment is on the whole undesirable, it can be a valid objective of an engineered mitigation strategy.

Stage 4: Remedial and Maintenance Activities

In addition to producing new developments, the construction industry is responsible for maintaining, improving and adapting the existing stock of buildings, roads, etc. The engineering operations associated with these maintenance activities are often very similar to those used during the first three stages of a construction project. Therefore, the good practice suggested earlier in this paper should also apply to this stage of a project. Hence, the early involvement of an archaeologist in a maintenance project team and the agreement of mitigation measures to form an overall mitigation strategy should ensure construction impacts on *in situ* archaeological remains are minimised.

An extra consideration when undertaking maintenance activities is that an earlier archaeological mitigation strategy may have been developed for the original construction project. Any maintenance operations must not therefore compromise the integrity of the earlier mitigation strategy. For example, open areas retained on a site may form part of an avoidance strategy and therefore, any remedial drainage or landscaping works on these areas may need to be modified to ensure the archae-

ology continues to remain undisturbed. Equally, if a covering or containment mitigation system exists on a site, any underpinning works on a building's foundation will need to ensure the membrane or other device used in the mitigation strategy is not damaged.

Therefore, the importance of good record keeping to document the mitigation strategy implemented on a construction project cannot be stressed enough. Finally, because the remedial and maintenance activities do not always require planning permission, the role of management agreements should be considered a part of the mitigation strategy. The agreement may need to include a programme of monitoring to verify the continuing integrity of the mitigation strategy once the construction project has been completed.

Conclusions

A mitigation strategy usually comprises a coordinated sequence of measures aimed at avoiding or minimising the impact of construction activities on the *in situ* archaeological remains at a site. When the measures are managed together the overall mitigation strategy will be based on either an avoidance or engineered approach, or possibly a combination of both.

The generally smaller size of development projects, high land prices and the possibility of external disturbances occurring during the redevelopment or surrounding sites puts a bias on the adoption of engineered mitigation strategies in urban locations. It is also the urban locations that have seen the greatest adoption of innovative mitigation strategies, for example, the use of novel piling solutions (Chapman et al. 2001). The development by specialists, and then adoption by developers and decision makers, of innovative and novel mitigation strategies is important because it is contributing to a reduction in conflicts that can exist between 'the need to preserve nationally important archaeological remains and the need to allow our towns to thrive and develop' (Wainwright 1993, 418).

Conflicts between different parties has been one of the drivers for English Heritage commissioning the study into the mitigation of construction impacts on archaeological remains. It is without a doubt that the evaluation of archaeological 'problems' during the early stages of a development project results in a more cost-effective construction programme in which archaeologically sympathetic redesigns or modifications enable a more direct and trouble-free path to development completion than might otherwise be the case. Therefore, the successful design, installation and maintenance of an archaeological mitigation strategy is achieved through early and continuous communication between the developer, engineer, archaeologist and the main contractor team.

Whichever mitigation strategy is adopted, it should have a design life that will ensure its effectiveness for the life span of the new development. To create confidence in the successful adoption of a mitigation strategy it may be necessary to

incorporate a programme of monitoring before, during, and after the construction project. The monitoring requirements will be both site and project specific and as a minimum will need to focus on ensuring the correct installation of the mitigation strategy, and its protection during the construction phase of the project. In some cases the monitoring programme may need to be extended to verify the continuing operating performance of the mitigation strategy for a period after completion of the construction project.

Bibliography

BS10175, 2000 British Standards Institution, *Investigation of potentially contaminated land — code of practice*, London.

BS5930, 1999 British Standards Institution, *Code of practice for site investigations*, London.

Canti, M G and Davis, M J, 1999 Tests and guidelines for the suitability of sands to be used in site reburial, *J Archaeol Sci* 26, 775–81.

Chapman, T, March, B, and Foster, A, 2001 Foundations for the future, *Civil Engineering* 144, 36–41.

Cole, K W, 1988 *ICE works construction guides: foundations*, London.

Darvill, T, and Fulton, A K, nd [1998] *MARS: the monuments at risk survey in England, 1995 main report*, Poole.

Davis, M, Gdaniec, K L A, Brice, M, and White, L, in prep *Study of the mitigation of construction impact on archaeological remains*.

DoE, 1990 Department of the Environment, *Planning policy guidance note 16: archaeology and planning*, London.

English Heritage, 1991 *Management of archaeological projects*, London.

ICAHM, [1995] International Committee on Archaeological Heritage Management, *Charter for the protection and management of the archaeological heritage*, [London].

Institution of Civil Engineers, 1996 Planning and control or construction, *Civil engineering procedure*, 5 edn, London.

Institute of Field Archaeologists, 1994 *Standard and guidance for archaeological field evolutions*, Birmingham.

Mathewson, C C, and Morris, L E, 1995 Intentional burial of two archaeological sites below a highway in Montagu County, Texas: analysis of dynamic loading during construction, *Proc symposium on engineering geology and geotechnical engineering* 31, 260–75.

Ove Arup, 1991 *The York development and archaeology study*, Manchester.

Thompson, G, 1997 The impact of engineering on buried archaeological artefacts in the UK, unpub MSc thesis, Imperial College, Univ London.

Tomlinson, M J, 1995 *Foundation design and construction*, 6 edn, Harlow.

Wainwright, G J, 1993 The management of change: archaeology and planning, *Antiquity* 67, 416–21.

Mat Davis

Summary of Mitigation Strategies (2004)

Building on his analysis of the threats to archaeological sites posed by construction activities (reading 32), Davis summarizes a range of mitigation options and their intent in this simple and very useful chart format. The techniques described may apply concurrently. In addition to considering appropriate approaches for the total archaeological site, it is desirable to implement more detailed mitigation strategies that may reduce or avoid potential impacts from individual engineering operations.

Table 1

Mitigation of Impact from Engineering Operations

Mitigation option	Purpose
Round-table meetings and good communication between all professional groups involved in the project	Involvement of archaeologist, engineer and contractor in the mitigation strategy. Improved quality control in project
Documentation with scale drawings and site plans	Detailed methodology for mitigation strategy and standardisation of terminology where possible
Comprehensive desk-top study, followed by a staged ground investigation, possibly using non-invasive techniques	Improves the assessment of the site's archaeological sensitivity, before extensive ground-intrusive investigations are undertaken
Evaluation of all options that are available for construction to achieve a design of 'least impact'	Economic selection of engineering operations that will create the least construction impact on archaeology, possible use of novel designs, eg Styrofoam raft

(continued)

Table 1

(*continued*)

Mitigation option	Purpose
Modification of standard foundation designs (eg pile type, diameter, depth, spacing, or depth of shallow foundation)	Limit disturbance of archaeologically sensitive areas, eg avoid close spacing of pile clusters and use single but larger-diameter piles on a wider-spaced grid
Supervision of engineering operations by professional archaeologist	Archaeological watching brief during excavations to avoid accidental loss of archaeological remains
Locate ground-intrusive operations on previously disturbed areas or those demonstrably archaeologically barren	Disturbance limitation, eg reuse of existing foundations and services trenches
Route services, footings and foundations above ground	Avoids and reduces ground disturbance
Creation of a buffer zone above ground by importation of material	Avoids surface rutting, high point loads and contamination, eg geogrid or construction of a piling mat above undisturbed ground
Containment or disposal facilities for unwanted water and arising/spoil	Avoids contamination of ground, eg if groundwater encountered during borehole drilling
Use of impermeable membranes	Isolation of archaeology from construction impacts, eg dewatering and liquid contamination
Evaluation of different backfill and construction materials before their use	Avoids introducing materials that may be aggressive to the archaeology, eg soil to backfill excavations and concrete to form foundations
Allowance for unsuitable weather or ground conditions	Avoids rutting of ground by careful timing of machine movements to avoid wet conditions
Use of load-spreading devices on equipment and ground surfaces	Avoids rutting and compaction of ground from engineering operations, eg geogrid laid below road
Use of trained operators in well-maintained equipment that is suitable for the task specified	Limits excessive ground disturbance and avoids accidental overdig of trial pits, ground contamination with oil, etc
Use of specialised equipment/contractors that cause minimal ground disturbance	Not necessarily developed for archaeological sites but examples include 'no-dig' repairs of buried services
Adaptation of equipment to allow for the protection of ground conditions and potential archaeological remains	Avoidance or reduction of ground disturbance, eg low-pressure tyres and load-spreading plates on excavator

M a r t i n   C a r v e r

On Archaeological Value (1996)

Carver observes that archaeological heritage management continues to give priority to protecting the known resource, whereas archaeological research should give priority to exploring the unknown. He argues that heritage sites are currently valued for what he terms their monumental value rather than their potential research value. Monuments reflect what has been established from past research, not what may be revealed by future research. So the paradox is that the point of archaeology is to know more, but the resource on which it depends is managed so as to favor what is already known. This is demonstrated by English Heritage's criteria for sites accorded the highest protection—those of national importance. Carver rejects the notion of the irreplaceability of archaeological sites that underlies this system. The real challenge is not to preserve more monuments but rather what to do about the greater part of the corpus: "the archives of the undiscovered." Carver asserts that rather than monumentality, research should be the principal way of valuing archaeological heritage and, in an approach that runs counter to much accepted practice, urges a change of emphasis in ways of managing the archaeological heritage.

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With the political changes that have occurred in Europe during the last few decades, many of the values that were previously taken for granted have been challenged, or have at least been exposed to public debate, and the values of the past are no exception. Many archaeologists who have dedicated their lives to creating or protecting the perceived permanent assets of the past, have been disturbed to be told that material culture does not offer objective evidence or that we are not

objective observers (Hodder 1982; Shanks & Tilley 1987; Carver 1989). The new values implied by these theoretical positions, and by the contemporary politics which inspired them, are slowly but inevitably affecting the business of heritage management too. For much of archaeology's scientific history, the audit and control of archaeological resources has been the business of states, and decisions about the fate of an archaeological site have been the responsibility of officers of the state, guided by legislation. This of course remains largely true in Europe; but the current mood is towards deregulation of state functions towards the market-place or the forum of opinion. Decisions which would once have been taken by experts on behalf of the state are now to be taken as a result of public debate or competitive pricing. Rightly or wrongly, this is seen as a democratizing process.

Such deregulation has already penetrated the archaeological community in the United States and to some extent in Britain, where we have seen project funding, developer funding and competitive tendering in fieldwork, and the intended liberation of the national resource management programme by moving it out of a government ministry into a quasi-independent agency, English Heritage. The fate of archaeological sites is no longer the exclusive preserve of an inspector, but has come to depend on the outcome of a debate between several groups of players—developers, planners, community taxpayers, and academics. This debate is informed by, indeed reliant upon, the predictive value that each party can put on a piece of land. So the science of evaluation is born, as the basic brief with which archaeology fights its corner. It is possible, although not of course inevitable, that the value-debate will replace the state archaeological service as the method of delivering archaeological resource management in central and eastern Europe and beyond. If so, it would be worth examining some of the issues involved.

The purpose of this paper is to propose a definition of archaeological value which can serve the debate on behalf of archaeologists. Briefly, it is a definition which seeks to champion the archaeological resource primarily as a research 'asset', and suggests that it would be more appropriate to store this 'asset' in the form of deposits rather than monuments. Legislation providing protection for a pre-selected group of monuments should accordingly give way to one based on the continually negotiated 'exploitation' of deposits. There is a conflict of approaches here, but it should not be exaggerated; even if they are proposed as unsatisfactory as a sole method of storing resources, monuments obviously have a role as the shop window of the subject. The making of monuments should rather be seen as one possible outcome which may result from evaluation.

Introducing the Value Debate

In a seminal paper in 1984, W. D. Lipe suggested that the business of managing cultural resources in the future would emerge from different interests compet-

ing with each other, rather than a set of principles imposed from above. In Lipe's scheme, cultural resources have four different kinds of value, of which only one, called the *informational*, concerns research, while the other three are values to be considered by every type of manager: *economic*, that is price in the market, *aesthetic*, that is 'of contemporary appeal', and *associative*, meaning that it can be valued through sentiment, familiarity or association with other values. Archaeology can contribute to all or any of these values, insofar as it has an ability to enhance economic, aesthetic, associative or informational values.

In a perfect world, such values would reinforce each other, but they are often kept from doing so by other interests; thus research, the search for new knowledge, is confined in a ghetto (informational) on the grounds that it has no immediate effect on people or profits. It can also be noted that the cultural resources that Lipe has in mind comprise artifacts, sites, monuments and historic buildings, but not the great bulk of the archaeological resource which consists of uncharted underground deposits. These, particularly, can only score as 'informational value' (Lipe 1984: 6).

Those that have followed Lipe in trying to analyse the weapons on archaeology's battlefield have drawn similar contrasts between the different values and influences inherent in cultural resources. In his inaugural lecture (1993), Darvill addresses the problem of 'Valuing Britain's archaeological resource', by compiling a grand list of categories and leaving us to draw our own conclusions about their relative merits. The first major heading, *Use value*, has no less than 9 sub-headings of which active archaeology is represented by two: 'archaeological research' and 'scientific research'—although not many practitioners would accept that these two are academically (rather than administratively) separate. The others are also more imaginative and detailed variants of the Lipe value-cohort, and include some eccentric old soldiers such as 'the creative arts'—the value of a monument in providing 'inspiration'.

Most of Darvill's list can be applied with much less strain to monuments and buildings than to the basic raw material of archaeology, but two major headings may well refer to archaeological strata. *Option value* appears to concern the value that something might have in the future; but since future value is *ipso facto* unknowable (unless it is the present value in disguise), the most sensible verdict on Option value is probably Darvill's own: 'What future generations will make of their heritage is anyone's guess.' The last heading is *Existence value*: 'the value of the resource to people who may never expect to use it but who derive pleasure and satisfaction from knowing it exists. This is something known as the '"feelgood" factor.' This allows for the conservation of something which exists and does not have to be given a reason for existing. An example from another type of resource would presumably be the whale: we might not be able to predict what use a whale will be, we only know that we shall want our children's children to see one.

Lipe was a ground-breaker, and Darvill is a pioneer, because they have recognized that *different* values are at work. But they do not tell us how these values compete with each other, and they do not tell us how they compete with other values, values which society might altogether prefer to cultural resources. It is also doubtful that many of their variables are actually independent, at least in their intellectual origins, and before arming archaeology in its battle for the use of land it might be as well to close ranks. Archaeologists would not now view Lipe's 'traditional knowledge' or 'art' or 'education' or 'legitimation' as coming from some source independent of knowledge about the past in general. Neither would 'information' be accepted by modern archaeological theorists as a description of what they provide. Archaeologists provide a story designed to bring the past alive; this story is constantly changing as field archaeology provides it with new dramas and stage props. The past cannot be 'known' but only 'modelled'. Archaeology therefore *creates* both aesthetic and traditional values, as well as new models ('knowledge'). A case could be made that all the values listed by Lipe and Darvill, even the recreational, the touristic and the monetary, derive in the end from archaeological research. They may turn round and fight their begetter, but without archaeological research the other values would not have entered the value-forum at all.

The New Value-Forum

Let us therefore attempt a new map of the battleground, in which archaeological research meets, confronts and competes with the other imperatives and desires of society, whether or not some of this opposition was once archaeology's own progeny (Figure 1). This analysis concentrates on the values championed by the main players competing for the right to exploit (i.e. change) a piece of land. Each value stands for groups of interested parties with their own agendas, and I make no judgement on which of them makes the greater contribution to society or to its future, or is more deserving of the reader's sympathy and support: that is for the battle to decide.

The three groups of values listed in Figure 1 are competing on a different basis, are very differently armed and are very differently measured. Those who champion *market values* have at least three ways of realizing the value of land: they may keep it for a while and then sell it at a capital profit, rent it out, or operate on it for retail, agriculture or other business. The measure of the success of each will be the size of the profit in money. *Community values* are those intended to benefit society more widely and more generally, for example the provision of a public swimming pool, the construction of roads, parks, sewers, schools or hospitals. The success of such amenities can also be measured in money, at least partly; more crucially their perceived benefits are measured in votes. A local authority that persists in erecting sports centres as public amenities when the political mood is

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ON ARCHAEOLOGICAL VALUE

market values
capital/estate value
production value [including agricultural, mineral extraction, etc.]
commercial value
residential value

community values
amenity value [provides something to be shared by the community]
political value [a vote winner]
minority/disadvantaged/descendant value [wins the support of the disaffected]
local style value (rather than aesthetic, which is unknowable) [wins the support of the elders]

human values
environmental value
archaeological value

Figure 1
Competing values in the struggle for the use of land.

against the concept will eventually be voted out of office. This will mean that the definition of the 'public good' is being altered by the people themselves, and that, in theory at least, there is a mechanism for doing so.

None of these tangible gains or comparable measurements apply to the third, most vague and most difficult category, *human values*, the one in which we have to place archaeology, side by side with the environment. Good archaeology does not (unfortunately) sell better than bad, nor does it win more power through the ballot box. Whereas nine citizens out of ten, eight farmers and even half a dozen mayors would say that archaeology was a worthy factor in the competition, none would be able to put a price on it, or suggest how an intelligent referendum might be mounted. The persuasion in this case relies not on the prospect of profits or votes, but on grounds of a generalized morality. The argument has been well developed by the environmental lobby, and relies in part on enlightened self-interest—a 'better' environment means 'better' health for those living in it. But only in part: the main burden of the argument depends on the notion of a dwindling resource. Ever since the blue ball of the world was seen from space, its vulnerability has been plain: its ecosystem, its woods, marshes, cliffs, birds, mammals, fish, insects are all under threat of extinction from the voracious, prolific and profligate human race. Who can fail to support, or would not wish to support, the most rigorous measures for their protection?

The advocates of environmental conservation have been outstandingly successful in this half-century. Small wonder that archaeology has tried to steal some of the magic, by promoting the idea of its own assets as some sort of endangered

species. But a moated site is not a greater-spotted woodpecker, and a Bronze Age pit is not a Koala. It is not merely the fact that archaeological sites fail to be cuddly, or give out engaging chirrups when you film them; archaeological deposits, sites and monuments are invented, in all senses of the word, by humans. Without humans they would not have existed and would not be recognized now; this is not true of the woodpecker, which is firstly alive and secondly indifferent to humans, except perhaps as a potential enemy. In this of course lies its charm. Although there are useful analogies between the two, and both occupy the same remote position in the hierarchy of social action, simply constructing a value system for archaeology as though it was a kind of an environmental asset, is a mistake: at the end of the day, archaeology simply cannot deliver the natural, non-human benefits that are the reward of environmental protection.

How May Archaeological Value Be Defined?

Let us draw up a specification for the value we would need in order to serve archaeology's interests in an increasingly deregulated world. The platform that archaeology must argue from must cite moral rewards and human benefits, and do so with such persuasion that the community is willing to suspend its normal basic desire for profit and allow archaeologists access to the land instead. It must be able to cite a large, supportive clientele. And it must be able to specify exactly why this piece of land, rather than another, has a scientific character which is worthy of its preservation or investigation. Its case must be professionally made and professionally presented. It must be able to 'document' the value it awards a particular site or

ANTICIPATORY
PROFESSIONAL
DEMONSTRABLE
AUTHORITATIVE
GLOBAL

Figure 2
Specification for
a definition of
archaeological value.

landscape. It must be able to demonstrate 'authority' for its value, if not consensus, within the profession. It must be able to do this in advance, i.e. when the debate about the proposals for a piece of land is actually happening, rather than make claims for it retrospectively when the archaeology has been destroyed. It must insist on the 'global' (not national) character of its definition and the universal nature of its clientele and thus, like the environmental lobby, legitimately claim that it represents the interests of the largest but least influential constituency of all, that of the unborn (Figure 2).

Following this specification, how, then, can archaeological value be defined, and armed, to make it an effective protagonist in a world of increasing competition for diminishing resources? When we move inside the archaeological profession in order to address this question, we find ourselves obstructed by a major theoretical controversy. It is problematic, if not altogether unexpected, that humans cannot agree what to value about themselves, or even how the components of value shall be defined. The situation is complicated, because the different approaches depend on how archaeology is itself perceived—itself of great variety from place to place and generation to generation.

All the players agree that old buildings and the strata beneath them really exist, and every attempt at defining value must depend on this in some way. After that, we can pick out two principal antagonists:

- FIRST: within the profession, the principal lobby is provided by the 'empiricists', who do believe that all archaeological remains can exist independently of human beings, in the same way as mountains and whales. We do not know and cannot know what we want from this 'resource' in the future, any more than we know why we shall want to be able [to] see a whale in the year 3000. But we do know we want to keep it. The empiricists tend to be drawn from the ranks of those working in the non-academic sectors of the archaeological profession or the heritage industry.
- SECOND: the smaller but more vocal force is provided by the 'researchers', who believe that whereas the remains of human and other activities most certainly exist, they do not become a 'resource' until defined as such by researchers. Deposits only become archaeological when they are declared to have a research potential. Otherwise they remain mud. Conservation is fairly irrelevant since research redefines its objectives every few years. The 'conserved resource' is simply a redundant pile of yesterday's ideas. What counts is individual research action now; the real resource which needs the investment is research itself.

There have been a number of attempts to referee this understandable but unproductive confrontation (e.g. Carver 1989, 1990, 1993). Let us begin by examining briefly the positions of the main contenders. Dalwood (1987: 104) has made one of the clearest attempts to map the battle lines, which he labelled as belonging to a 'professional' and an 'academic' ideology in conflict with one another. In this case the 'professional' means those who work for government agencies, archaeological contractors and the newer 'heritage industry'. They deal with an asset that must be tangible, so that it can be protected, threatened, bought and sold: in brief, a monument or something that could become a monument. In the 'professional' philosophy, there is apparently no difficulty in recognizing the existence of these assets; in their unseen form, they are still 'data' and can be 'retrieved' or destroyed depending on the success of heritage control and management. These data are not only at the mercy of developers, but, more insidiously, of their rivals inside the profession—the researchers whose interest in them is often perceived as wanton and self-indulgent. This arrogant 'research interest' can be classed with that other traditional enemy of the professional, 'political interest': Since every age has its own conception of what is important and since science is constrained by its own history and by the limits of methodology, protection should never be assessed on the basis of research priority or on political considerations' (Kristiansen 1989: 27). The belief apparently being exposed here is that archaeological sites and monuments (not to mention deposits)

have some existence independent of knowledge or politics. To give an example of the contrasting view, Ole Klindt-Jensen (1975: 34) showed many years ago how the resource was continually being redefined by research. Thus its protection, the law itself and all administrative action derived from it was rooted in and driven by research: archaeology can only be what research says it is.

Schaafsma (1989: 42) also apparently believed that 'data' exist in the ground, should be conserved there and should never be sacrificed in the interests of a mere research programme. Where choice is inevitable, he relies on the concept of 'relevance' to guide it, but is contradictory about how to act: 'We are always confronted with archaeological materials which are not immediately relevant to some research problem,' he says. But at the same time, he urges the collection of 'all classes of archaeological remains for which there is presently any relevance' (1989: 45). This is presumably all of them, since they cannot exist without also being relevant to someone. He quotes Hempel in support of his idea that research selects from pre-existing data (1989: 40). But this is surely wrong in its emphasis: a research agenda does not just decide 'which data are to be gathered'. It decides which entities *are* data, and then normally tries to gather all of them. Research, and research relevance, do not just make selections from a pre-existing data-set; they bring the data into existence in the first place. *Definition of the data* is the first stage, that is, the definition of what measurable entities within the corpus of mud and stones can be persuaded to have meaning. Other choices and decisions follow, conforming to other selectivity criteria, until the archaeologist, like any other scientist, has defined and decided upon which answers to which questions are likely to bring most benefit to communal knowledge, now (Carver 1990; a procedure also seemingly embraced, if not explicitly, in English Heritage's *MAP* 2). At this point the suggested benefits of intervention can be exposed, and ideally published, in a research design, so that the research choices and priorities can be monitored, corrected and augmented by the community as a whole.

This view of data, which is the normal scientific one, is by no means accepted by the archaeological community as a whole. Deeply embedded in the heritage procedures embraced by the empiricist is the notion that the archaeological record exists independently of thought, is diminishing in size and variety and that the only selectivity allowable is that which results in the conservation of a representative corpus of assets (e.g. Mayer-Oakes 1989: 55). None of these assertions really stands up. The heritage is essentially man-made, and membership of this illustrious and privileged archive depends entirely on contemporary knowledge and political will. Moreover, far from diminishing, the resource is actually *increasing* at present both in size and variety. New deposits are being created physically by modern society (cinemas, old car tips): and the parts that are valued as archaeology are also increasing, as research allows more and more of the past's rubbish to be significant. An English example here would be the Lavenham gasworks, recently created a 'monument' and accorded protection on the grounds that there are few of this type

of gasworks left. This criterion could hardly be treated as a sufficient and necessary condition for conservation, otherwise the whole country would congeal in a general cultural embolism. The reason for its preservation is not because it is the last one; it is rather that it has become interesting to research. The problem is that research criteria are very hard to gather, to prioritize, to agree, to tie down, and to apply in systems of pre-emptive curation. Such systems, which require specific pieces of land to be taken out of the public domain for visible reasons, are very much easier to manage using the concept of the monument.

Monumental Value

Behind the concerns and definitions, laws and regulations adopted by virtually all countries for the care of their 'archaeological heritage' is a belief that the past is composed of 'monuments', the value of which is self-evident and could not be changed. Many of these monuments are still underground where they remain as cultural assets that await exploitation. For the 15th Convention of the UNESCO General Conference (1968), 'cultural treasures are the result and manifestation of various traditions and they therefore represent one of the fundamental factors which determine the specific identity of a given people' and a people is 'in this way able to consolidate its consciousness of its own worth' (quoted by Herrman 1989: 35). 'Historical monuments . . . teach every man reverence for the creative genius, which unites the nations and generations on a plane above their conflicts' (Sites and Monuments [UNESCO] 1970: 9). Monuments, it seems, have an absolute global value, which, once achieved, [is] irrevocable. They are seen less easily, as the researcher would, as being political experiments and individual overstatements: the material survival of past political strategies which were applied unevenly in certain types of social context over a relatively short archaeological time-space. That the legislation should favour the concept of the monument is hardly surprising, since legislation is made by governments for whom monumentality is also a fundamental good. This viewpoint is enshrined in the legislative history of very many countries, and is a feature of their current methodology. Britain offers an excellent example; its inaugural Act of 1882 has been succeeded by eight others, each referring to 'Monuments' (Breeze 1993). The most recent still cites 'monuments' in its title, while extending the concept to 'Archaeological Areas' which however depend on the same notion of 'cultural treasures' (in this case aggregated in scrambled form beneath a modern town). This assumption, that monumentality is the only way that the value of archaeology can be defined, is implicit too in current British attempts at self-regulation following the creation of the government agency, English Heritage, in 1983; for example the 'Archaeologists and Developers Code of Practice' (British Property Federation 1986) and, above all, in English Heritage's own strategies, which seek to define the assets of the nation in increasingly sophisticated bundles of criteria (Figure 3; see also Groube 1982; Grenville 1993). These criteria

1983 (after Thomas 1993)

1. survival	2. period	3. rarity
4. vulnerability	5. documentation	6. group value
7. potential		

1987 (Darvill *et al.* 1987)

characterization criteria	*discrimination criteria*	*assessment criteria*
period	survival	condition
rarity	association value	fragility
diversity [form]	potential	vulnerability
representativity	documentation	
conservation	cluster value	
	diversity [feature]	
	amenity value	

Figure 3
English Heritage monument evaluation criteria.

are designed to apply to identified sites, for which such attributes as 'date' and 'rarity' can be assigned, rather than deposits which are still unseen. They are also more useful in discriminating between the virtues of one site and another, rather than in comparing *archaeological* value with others that might compete with it. The net effect of such scoring systems is thus to arm the competition of one archaeological site against another, rather than arming archaeology against the other pressures of society.

Given their empirical roots, it is not surprising that these methods try to score value without recourse to an overt statement of a particular research potential. Ranking the value of a site for *the future* is dependent, understandably and ingeniously, on a set of measurables visible on the surface, which in turn depend on what is recognizable. A reasonable score of such measurables allows a site to join the ranks of the protected, or at least to justify its inclusion or retention. The way to increase the assets of archaeology is to make the portfolio larger by increasing the number of protected sites, a venture known as the Monuments Protection Programme (MPP; Darvill 1988). At the same time, the application of the ranking criteria is intended to make the portfolio more representative, or at least more representative of what is already known.

The likelihood is that the archaeologists of the future will be in permanent debt to the MPP. But the question being addressed here is this: will such an approach be as appropriate or successful in the future, if society continues to deregulate? Will it satisfy the demands of future research? The suggestion being made here is that the concept of the monument and the ways used to define monuments contain a built-in obsolescence, because both tend to endow the future more liberally with examples of the identified, rather than the unidentified archaeological resource. Research, in contrast, favours the unknown.

Naturally the pull of research in management issues is not unfelt and has always provided a background, if not a context, for many practitioners. For some years, research has been deemed to be a factor in the acceptability of publicly funded rescue operations, and the production of a 'research design' has often been a condition of grant (Thomas 1993: 139). In this context, the 'research design' is not itself the basis of the decision to intervene, nor of the way in which contractors are selected, nor are such research designs published. They should perhaps be more properly termed 'research specifications', since they are intended primarily to support a plan already drawn up between contractor and client. There is an increasing awareness of the need for *pre-existing* mission statements, that is 'local', regional and national 'frameworks for research', such as are outlined in English Heritage's *Exploring our past*. Such frameworks offer a precedent for the fora in which, given a dedicated consultancy structure, research agendas could eventually be debated and decided. Research demand is also beginning to influence the implementation of management projects. Startin's 1993 paper showed that confidence in the old methodology dedicated to ranking monuments was beginning to weaken (1993: 185).

> To explain assessment we cannot, as is often done, use the word 'important' without supporting argument. The *principal* [my italics] reason why archaeological remains are important is for the information they contain about the past. Within archaeological resource management this can be termed 'academic value' since the remains will require examination and interpretation before their value can be made apparent to a wider audience.

The implication is not merely that 'examination and interpretation' are required to establish value. The implication is rather that both examination and interpretation should be continuous: the moment of an unequivocal, neutral 'monumentality' will not and cannot ever arrive. Startin's paper, an important contribution to the debate, attempts further escapes from the shackles of the 'monument'; it recommends that the ascription of value should be a matter for professional judgement and discusses the way these are made in professions other than ours. Startin does not tell us the basis for making professional judgements in archaeology, only that 'the ability to argue persuasively, on the basis of well-marshalled consideration of the data is an essential skill of the archaeological resource manager' (1993: 195).

Indeed, but who is to say which the data are? For the researcher, only research can determine which is monument and which is muck. The thunderstones of one generation become the flint axes of the next. They had no archaeological value as stones; once upon a time, and not long ago either, nor had pottery, animal bones, pollen or insects, before research at a certain moment declared them to be interesting.

Monumentality *versus* Research

All this legislation therefore, all these principles and procedures, and all the struc-
tures of state archaeological services ultimately result from the assumption that
what the past bequeaths to us are monuments and other 'cultural treasures' which
are immediately recognizable, even if buried, and whose value is not in doubt to
any average voter or visitor. These monuments and cultural treasures are deemed
(by these organizations on behalf of their people) to have value because they act
as diplomatic and, to a lesser extent, economic assets. The language of monu-
mentality is an international language, designed to encourage mutual respect on
the one hand and tourism on the other. The UNESCO document already quoted
recognizes this.

But supposing that monumentality was not the only, or even the principal
subject of archaeological value—and it is *archaeological* value we are trying to
define here. Suppose that archaeology was a science which embraced all cultures,
even cultures which in modern judgement were monumentally inept, and used
it to try and understand the long troubled itinerary of the human race and its
use and abuse of the planet? Supposing that its agenda were global rather than
local or national? There could be no guarantee in such a science that insight and
knowledge would come exclusively from those things now designated as monu-
ments or treasures. In this philosophy, for which the laws of no country currently
cater, archaeology is not a series of acts of discovery which increase the corpus of
a nation's treasures; it is rather a continuous campaign of exploration on behalf of
all nations. And, as with other explorations of uncharted regions, territorial, mari-
time or in outer space, the value of the unknown greatly exceeds that of the known.

That is not to say that the monuments already defined by an earlier gen-
eration have no value—far from it: they are works of reference for our current
knowledge, the point of departure for the new exploration. For the acquisition of
knowledge to be worthy of social attention, funding and public management, we
must believe that it is cumulative; that the discoveries brought within the public
framework of knowledge by one generation will stay there in the next; that society
has and will continue to have a memory. In this sense a monument is a memorial
to knowledge won, and its criterion for curation could be as a form of 'publication'
for research, not as an icon of modern government. But here we are mainly con-
cerned with how *new* archaeological work done will win social support, how it will
be valued; and the case being advanced is that we are on safer ground adding to
knowledge than acquiring monuments, and that these two strategies are different
in both policy and practice. Monuments are supposed to represent the consensus
of a given national history. Research is supposed to represent the aspirations of all
mankind; it is concerned with the new and rates the new idea more highly than
the old consensus. When governments perform their roles as research sponsors,
this is acknowledged, and indeed insisted upon. It is the novelty of the proposed

research, the new ground that will be broken by it, the new insights that will be offered, which provide the criteria by which public money is released for research purposes by research councils.

Here then is a paradox; the point of archaeology is to know more; but the resource on which it depends is managed so as to favour what is already known. Archaeological research gives priority to the unknown; archaeological heritage management to the known. One set of criteria is appropriate for research applications, another to management applications, even when the site is the same. Where does the correct prescription of value lie? The attempts at *listing*, *scheduling* and the general eligibility of sites for protection through ranking and scoring, while valid according to their own terms of reference, deal with an important but rather small part of the whole archaeological heritage: the archive of what has already been recognized. But the real challenge for humanity is not how to give governments more monuments to play with, but what to do about the greater part of the corpus: 'the archive of the undiscovered'. This fluid, elusive asset is the despair of bureaucrats. Unlike monuments, which are defined by governments and stay monuments, the undiscovered archive is redefined by every generation of archaeologists. They are constantly enlarging it through scientific inquiry and conceptual imagination. Even sites which are already monumentalized, like Stonehenge and Avebury and the Tower of London, cannot apparently lie quiet; they suddenly turn out to have been recaptured by the champions of the new knowledge.

Attempts have been made to accord protection to the unknown deposits as well as the known sites by extending the concept of the monument to apply to arbitrary areas: everything in a certain valley, a 'hinterland', a National Park, an urban area of archaeological interest, or the Conservation Areas favoured by continental municipalities. This kind of preemptive sampling must increase the extent of undisturbed ground to which future research can be applied—and we should be grateful for it. And is there really any alternative? How can protection be accorded other than by pre-designation? Only in that way can monuments be created and resources saved. Protection by research priority, it can be argued, would be catastrophic: too little, too late, too partial, too personal and quickly out of date. And yet if we do not attempt to 'arm the unknown' we risk throwing away the only real cultural asset of any lasting importance.

In 1989, in the wake of the spectacle of moral confusion presented by the Rose fiasco (Carver 1993: 10), English Heritage, ever the leader in management matters, initiated two studies in parallel, which in the best British traditions arrived at two different conclusions. The first of these studies was the dialogue which generated the document finally issued by the Department of the Environment as Policy Planning Guidance Note no. 16 (PPG 16). While restating the criteria for the selection of sites for protection, PPG 16 nevertheless acknowledges that a site under threat could not assume a value, but must be evaluated afresh. The science of evaluation itself thus received a massive, if belated boost. The

assignation of value was not defined, but there was a concept cited as 'National Importance' which was assumed to merit conservation and to be routinely recognizable.

At the same time, a project was initiated which was intended to redefine the criteria and the procedures for intervention in towns, using the City of York (which had itself not been immune from the occasional archaeological fiasco) as a case-study. The York Archaeology and Development report (*York Archaeology* 1991) had much in common with PPG 16, as was only to be expected since influential English Heritage officers were active in both. It inherited ideas on the modelling of urban deposits developed in the West Midlands (Carver 1987), where the underground topography was predictively mapped in three dimensions to show where the physical assets, the legible strata, were likely to have been trapped. To this mapping exercise were added studies of the state of archaeological research, and how local intervention might enhance it, together with the creation of the planning protocols designed to allow this research without inhibiting investment in the fabric of the modern city. Among the conceptual innovations of this study was the assertion that the assessment of the physical character was *necessary*, but not *sufficient* to arrive at a definition of value. The arguments developed led to the conclusion that a value assigned independently of research was an illusion; that the research which should be done was as important as the research which had been done and the research which could be done at that particular place and at that time.

A New Definition of Archaeological Value and Its Implications

A new definition of archaeological value was thus *inherent*, and argued for, in the York study, and can be restated here. *Archaeological value* derives from the *character of the deposit* on the one hand and the *research agenda* on the other: what we can know out of all that we want to know, at a particular place, now. In other words, the *archaeological value of a piece of land is obtained by matching the deposit model to the research agenda*. This definition had nothing to do with monuments, and everything to do with research. The value was not perceived as permanent, to be enshrined in a schedule. Like other land values it was to be assessed and re-assessed according to the social and theoretical criteria in force at the time, whether physical (as in the deposit model) or conceptual (as in the research agenda).

PPG 16 and the York report both recommended protocols to be followed in response to a site becoming available to the archaeological community. Both stressed the importance of assigning a value to the hidden deposits and considering them in the planning process. The differences lay in the way this value was to be realized on behalf of society. For the government, a site of high value was one of 'National Importance' and such a site should be preserved. The definition of a site of National Importance is (presumably) broadly the same as that for a monument:

it scores in terms of survival and rarity. The *evaluation* in this case is driven by seeing how far a deposit is likely to match the criteria for National Importance. The corollary, a site of low value or of an importance which is not 'National', can be disposed of with a rescue excavation or a watching brief at the developer's expense. Developers are thus invited to participate in research, albeit only in the research of the second rate.

In the York perception, a site of high value was one that had immediate research interest to the community now; it was one where the research agenda could be addressed because the deposits were particularly appropriate. The specification of *evaluation* in this case is driven by matching the deposits to the broad research agenda. Where the value is found to be high, that is because it is deemed productive for research according to our current criteria (we cannot use future criteria, since if we did, they would be current). It follows that the correct response to such a site is to research it now, that is, to excavate it now using a research strategy. The corollary (assuming the deposit has not been completely eliminated) is provided by a site where the value is not yet clear. This does not mean the value is low: we can either judge the value to be high, or we cannot assign a value, because we have, neither in our minds, nor in the wallets at our back, the information, the 'understanding', nor the questions of the future. It follows that the correct response here is to conserve the deposit, until such times as its research interest can be defined.

For PPG 16, therefore (paras. 25, 28), the strategy is straightforward: the sites of National Importance are to be *preserved*, and the rest can be *rescued* or released for destruction. For the York report, the strategy is equally straightforward, but different: the sites of high research value should be *dug*; the rest *conserved*. The York project's engineers went on to demonstrate how a site which contained conserved archaeological deposits could also be built on, within acceptable limits of attrition. Although there are understandable fears about how benign such foundations actually are (Biddle 1994: 8–14), given sufficient ingenuity, virtually any deposit can be built on and conserved for future research. The deposit can also be built on and made available to current researchers, so that the owners are drawing revenue from their rents, from which they can help pay for the archaeological excavation which continues under the ground floor of their tenants. Such a symbiosis also offers to developers the *opportunity* to participate in the most important research investigations of their day.

In future, therefore, *all* archaeological deposits could be preserved through the planning process, *except* for the ones we wish to investigate now. The planning process becomes the reconnaissance agent of archaeological research. Scoring and pre-designation of monuments become redundant. The whole of a nation's land becomes an archaeological asset, one big scheduled site, parts of which are released for other uses as a result of a value debate fed by evaluation and carried out in the forum provided by the planning system. In this debate, the National

Importance of a *monument* is displaced by the International Importance of a *research project*. Needless to say, a possible outcome of such a research project could be a new monument.

Such an approach would not even require new legislation at Scandinavian levels of severity. The relevant legislation has, actually, already been drafted and not only enacted but accepted as law in Great Britain; it is the European Environmental Impact Assessment legislation which brought us into line with the United States and came into force in the European Community on 1 July 1988. The application of this legislation in both letter and spirit would deliver a vivid present, and secure future, for the archaeological resource which promotes the definition of value proposed here. The necessary protocol of a research-friendly conservation system is also virtually in place. It implies:

- Advance mapping of deposits in town and country.
- Advance preparation of research agendas for every unit of resource management.
- Evaluation of each and any site which becomes the subject of a planning application or its equivalent.
- Assignment of 'archaeological value' by matching the current research agenda with the deposit model of the site.
- Where value is high, every effort is made to give researchers the opportunity to investigate; i.e. to dig where this is the appropriate data-acquisition strategy. The outcome of such an intervention may occasionally include the creation of a 'presented site' and accorded the status that monuments now have.
- Where the value is unknown, or uncertain, the deposit is conserved with or without development, the engineers being required (in the mitigation strategy imposed by planners) to employ benign foundations which cause measurable and acceptable levels of attrition to the deposit; it becomes a 'conserved site' and will have, like all other deposits in this system from the moment they are located, the measure of protection that is currently accorded to the small sample of 'scheduled monuments' now.

If the definition of archaeological value proposed here is acceptable, it implies that our current political programme should include a rapid transition from a system driven by culture-as-treasure to one driven by culture-as-knowledge. Provided that the English legislation is regarded as subsidiary to the European (for some, a bitter pill to swallow), the archaeological resource, that is the located deposits of the whole island, would be automatically protected, and their release would be negotiated through informed debate between conflicting values hosted by the planning system. Certain (thoroughly researched) sites, let us call them 'display sites', increasingly managed by local government or private owners, would provide the shop window of the subject and the principal point of access for the public. A central archive (such as Petrie dreamt of in 1904: 133–4) would provide

the national audit and memory. The whole system would be driven by research and result in knowledge, the dissemination of which through publication in every kind of medium would empower archaeology in the value debate, and thus would form the main preoccupation of the profession in its new structure.

Our understanding of the past, like most subjects which involve exploration in unknown geographical, chronological or conceptual territory, is in a state of continual redefinition. As soon as this stops, the subject will be dead. The 'territory' to be explored is under our feet in the towns, encapsulated in the buildings, and lying thinly under the ploughed fields and the heather of the uplands. Knowing this, it is hard to be content with a strategy which invests heavily in the preservation of a relatively small group of previously recognized sites, as opposed to concentrating all our efforts on the exploration and explanation of the unknown. It is time to put aside those ancient laws which assume that all we want are 'monuments' and to recognize the ubiquitous character of archaeology and what it could offer the communities that 'value' it.

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References

Biddle, M. 1994. *What future for British archaeology?* Oxford: Oxbow. Oxbow Lecture 1.

Breeze, D. 1993. Ancient monuments legislation, in Hunter & Ralston (ed.): 44–50.

British Property Federation. 1986. *British Archaeologists and Developer Liaison Group Code of Practice*. Printed in *Field Archaeologist* 8 (1988): 118–19.

Carver, M. O. H. 1987. *Underneath English towns*. London: Botsford.

    1989. Digging for ideas. *Antiquity* 63: 666–74.

    1990. Digging for data; archaeological approaches to data definition, acquisition and analysis, in R. Francovich & D. Manacorda (ed.), *Lo scavo archeologico: dalla diagnosi all'edizione*: 45–120. Firenze: All'insegna del giglio.

    1993. *Arguments in stone: archaeology and the European town in the first millennium* AD. Oxford: Oxbow.

    Forthcoming. *La valuta e la valutazione nell'archeologia*. Rome: La Nuova Italia Scientifica.

Cleere, H. (ed.). 1984. *Approaches to the archaeological heritage: a comparative study of world cultural resource management systems*. Cambridge: Cambridge University Press.

    (Ed.). 1989. *Archaeological heritage management in the modern world*. London: Hyman Unwin.

Dalwood, R. 1987. What is professional archaeology?, *Field Archaeologist* 7: 104–5.

Darvill, T. 1988. *Monuments Protection Programme: monument evaluation manual* Pt I/II. London: English Heritage.

    1993. *Valuing Britain's archaeological resource*. Bournemouth: Bournemouth University.

Darvill, T., A. Saunders & W. Startin. 1987. A question of national importance: approaches to the evaluation of ancient monuments for the Monuments Protection Programme. *Antiquity* 61: 393–408.

Grenville, J. 1993. Curation overview, in Hunter & Ralston (ed.): 125–33.

Groube, L. M. & M. C. B. Bowden. 1982. *The archaeology of rural Dorset: past, present and future*. Dorchester: Dorset Natural History and Archaeological Society. Monograph 4.

Hermann, J. 1989. World archaeology—the world's cultural heritage, in Cleere (ed.): 30–37.

Hodder, I. 1982. *Symbols in action*. Cambridge: Cambridge University Press.

Hunter, J. & J. Ralston (ed.). 1993. *Archaeological resource management in the UK: an introduction*. Birmingham: Institute of Field Archaeologists.

Klindt-Jensen, O. 1975. *A history of Scandinavian archaeology*. London: Thames & Hudson.

Kristiansen, K. 1989. Perspectives on the archaeological heritage: history and future, in Cleere (ed.): 23–9.

Lipe, W. 1984. Value and meaning in cultural resources, in Cleere: 1–11.

MAP 2. 1992. *Management of archaeological projects*. London: English Heritage.

Mayer-Oakes, W. J. 1989. Science, service, and stewardship—a basis for the ideal archaeology of the future, in Cleere (ed.): 52–8.

Petrie, W. F. 1904. *Methods and aims in archaeology*. London: Methuen.

Schaafsma, C. F. 1989. Significant until proved otherwise: problem versus representative samples, in Cleere (ed.): 38–51.

Shanks, M. & C. Tilley. 1987. *Social theory and archaeology*. Cambridge: Polity Press.

Startin, W. 1993. Assessment of field remains, in Hunter & Ralston (ed.): 184–96.

Thomas, R. 1993. English Heritage funding policies and their impact on research strategy, in Hunter & Ralston (ed.): 136–48.

York archaeology = Ove Arup & Department of Archaeology, University of York. 1991. *York: development and archaeology study*. York: English Heritage & York City Council.

Christopher Judge

The South Carolina Heritage Trust Program: Fifteen Years of Archaeological Site Acquisition and Management (2008)

Conservation of the archaeological resource for posterity is inextricably linked to issues of land use and public sector reservation systems. Judge describes the efforts of the South Carolina Heritage Trust Program to conserve a representative sample of archaeological sites through the purchase of land. After review of the corpus of sites in the state, the sites were prioritized for potential protection based on their research potential, integrity, rarity, threat, other special elements, and educational value. The description and evaluation of these criteria and the failure to reach agreement on their revision vividly illustrate the complexity of decisions about conserving a representative suite of sites with future research potential. Judge outlines the limited but significant success of the program and suggests other ways by which significant sites may be protected. He observes that rather than pursue an archaeological reserve system, as begun by the South Carolina Heritage Trust Program, the state government's effort has been directed at the conservation of a representative sample of undisturbed land. The issue is whether this more general program fulfills the same aims as the Trust Program. Judge argues in the latter's favor that the lands reserved invariably contain archaeological sites and can therefore form part of a total representative sample. Furthermore, such a conservation regime has the important advantage of conserving sites in their natural environments.

Introduction

Without sites there are no artefacts. Lacking artefacts there can be no archaeological data. In the absence of archaeological data there is no explanation. Without explanation we are left with unanswered questions. Therefore it is of vital importance that archaeological sites remain intact and preserved in the ground for the future when funding, techniques, and committed professional researchers are available to study these sites carefully and to answer questions about them. It is critical that the artefacts and other information at sites should be left at the sites. Artefacts, ecofacts (pollen, animal bones, and carbonised seeds), and features (posts, fire pits, trash pits) form the database that allows archaeologists to answer questions about the past. Often the nonprofessional search for artefacts destroys ecofacts and features and the undisturbed context of those entities. Each year more and more sites are lost to development. Some of these sites are studied in a limited manner, but the vast majority receive absolutely no investigation. There are 23,576 known sites in the state of South Carolina and about forty archaeologists. That means 589 sites in the state per archaeologist. Professional archaeologists must enlist the public in protecting sites from destruction (McManamon 1991, 2000; Sabloff 1996; Smith 1993 [. . .]). There are many ways to enlist this protection and one important programme dedicated to site preservation through the purchase of land, the South Carolina Heritage Trust Program.

The South Carolina Heritage Trust Program of the South Carolina Department of Natural Resources (SCDNR) was formed more than thirty years ago by landmark legislation in 1976 when Governor John C. West formed the Heritage Trust Advisory Board by executive order. At the time, South Carolina was the first state in the United States to establish a programme to protect its cultural and natural sites by acquiring properties and establishing a system of Heritage Preserves. The General Assembly stated in the Heritage Trust Act (51-17-117) that

> It is necessary and desirable that portions of the State's rich natural and cultural diversity be set aside as Heritage Preserves and Sites and protected for the benefit of present and future generations, for once disturbed they cannot be wholly restored. Such areas and features are irreplaceable as laboratories for scientific research . . . and as living museums . . . and as areas for study and enjoyment as examples of the lands, structures, and related artefacts which represent significant parts of our historical and cultural heritage.

The Heritage Trust Advisory Board (HTAB) is made up of the heads of state agencies: SCDNR; Archives and History; Museum Commission; Parks, Recreation and Tourism; Forestry Commission; Commerce Department; and Institute of Archaeology and Anthropology, as well as six citizens appointed by the governor. The HTAB approves by a majority vote of its membership all preserve acquisitions and

management plans. In order to acquire a property the following entities must also approve with a majority vote: the State Budget and Control Board, the Joint Legislative Bond Review Committee, Archives and History Commission, the Legislative Delegation in the county in which the property occurs, and the DNR Board. In addition, HTP staff must obtain an appraisal establishing fair appraised market value, obtain a favourable environmental assessment, conduct a professional boundary survey to produce a recordable plat, and hire an attorney to conduct a title search, produce a title opinion, obtain title insurance, and prepare and record the deed and two additional documents—a trust easement and dedication agreement. This process can take anywhere from eight months to several years.

The Heritage Trust Program staff, land purchases, and management are funded by state revenue including a small percentage of the documentary deed stamp tax (a real estate transfer fee), the sale of Endangered Species vehicle license tags, limited state appropriated funds, plus donations from the public, who can send a tax deductible gift or give a donation by placing a check for Endangered Species on State Income Tax Forms each year. Members of the public can donate significant lands to the programme. Currently the Trust receives about $3.5 million per year to accomplish these numerous projects. In addition, the HTA's staff coordinates active stewardship committees and groups of volunteers that assist us in our mission by monitoring sites, picking up litter, building trails, leading tours, or speaking to school groups. The future of the Heritage Trust hinges on identifying additional sources of funds as the price of land in South Carolina continues to increase each year. In other words, the future of the past will be shaped by decisions and actions made in the present.

Acquiring and Managing State Preserves

In 1987, HTP acquired its first cultural preserve, Nipper Creek site, a multicomponent prehistoric site in Richland County followed in 1988 by Snee Farm, a late 18th-century plantation in Charleston County. Department of Natural Resources (DND), Archives and History, and the Institute of Archaeology at the University of South Carolina funded a study in 1990 to develop a set of criteria to evaluate, prioritise, and list potential sites for protection using the HTP programme. Following on Lipe (1974: 227), this process was designed to allow for a 'representative sample of archaeological resources to be protected'. The South Carolina criteria were the outgrowth of two previous attempts at developing site selection criteria specifically for the Heritage Trust Program. The first effort by James L. Michie in 1988, Considerations for the Significance of Cultural Resources: Potential Criteria for the Heritage Trust, was developed to rank two site types[:] Mississippian Mounds and Late Archaic Shell Rings. Second, Albert C. Goodyear and Bruce Rippeteau (1987) developed Criteria for Selection of Archaeological Sites as Cultural Areas or Features. Since 1991, when a list was established, the Trust has acquired sites

nominated to that list. Sites nominated to the list must be considered to be critically significant as defined below:

A critically significant site is one that exhibits some or all of the following attributes:

1. It must contain archaeological integrity, that is, it must be at least partially intact, having survived some or all of the post-depositional processes affecting sites. The site must have intact architecture, features, deposits, and/or living surfaces that can help archaeologists better understand past behavior in a static (archaeological) context.
2. It must have produced, or have the potential to produce, significant scientific data towards understanding past cultures. That is, a site must be important enough to produce information to answer anthropological questions posed by problem-oriented research. Here potential is used in the same regard as when evaluating 'significance' for the National Register of Historic Places.
3. It may also be a site that is a rare site type, or the best preserved site of a specific type, or the only surviving example of a once numerous type. It may also contain deposits or features that are considered to be rare or unique by the professional community.
4. It may be a site that is currently, or potentially, in an area that is threatened by urban expansion or rural development, or is subject to vandalism or looting. A site possessing this attribute alone, however, would not make the list.
5. It may reflect special interests of the public, or be a site of ethnic or historical importance, such as a church associated with the civil rights movement.

After a site is nominated to the list it is evaluated and ranked using a points system. This system provides a quantified assessment of the site in relation to other archaeological properties, something of great use to the Heritage Trust Program. Also, the ranking provides the much needed prioritisation of the sites to focus the efforts of the Cultural Areas Committee, a subset of the HTAB. Each site nominated is rated by a professional archaeologist familiar with the site. The sites are then ranked according to their final score.

The ranking system includes five criteria categories, with some subcategories. Sites acquire points based on how they were evaluated against these categories. The maximum points a site can obtain is 400.

In our initial application of this procedure, to achieve a representative sample of the state's culture history, the system was used to evaluate sites within and across each major, traditionally accepted cultural period: Paleo-Indian, Archaic, Woodland, South Appalachian–Mississippian, Proto-historic, and Historic. Within each of these cultural periods the following general categories were used: (1) Rarity — 75 points; (2) Threat — 75 points; (3) Integrity — 100 points; (4) Research Value — 100 points; and (5) Educational Value — 50 points. Subcategories were

used to refine the points system and to focus or narrow the particular value (category) being judged by the archaeologist. To further refine the system and to eliminate as much subjectivity as possible, the following categories and subcategories were broken down into a "very high to low" points system.

Rarity. Sites in this category were evaluated using a total of 75 points. A nationally unique site (or which had a major role in the national or world system) received 75 points. A site of state uniqueness (or [that] had a statewide impact or influence) received 50 points, and a site locally unique received 25 points. A site could receive only one of four possible scores, 0, 25, 50, or 75, when scoring under this criteria.

Threat. Under this category, sites received a cumulative maximum of 75 points. Subcategories included: (A) Development and Vandalism; (B) Impending Natural Processes; and (C) Current and Future Land Use. Subcategory Development and Vandalism gauged the potential future disturbances to the site, if protective measures are not taken soon. It included both direct impacts and indirect impacts, like increased danger of vandalism due to easy access or increasing local population. Impending Natural Processes affecting the site were evaluated including natural erosion, or the effects of simple neglect. Current and Future Land Use measured the effects of human activities occurring presently, like ploughing. It also rated possible future land use changes. Each site was evaluated in all three subcategories based on the following point breakdown: (a) Very High, 25–21; (b) High, 20–16; (c) Medium, 15–11; (d) Fair, 10–6; and (e) Low, 5–1.

Integrity. Sites rated in this category received a cumulative maximum of 100 points based on the following subcategories: (A) Site Structure, with a maximum of 50 points; (B) Disturbance, with a maximum of 25 points; and (C) Clarity, with a maximum of 25 points. The category Integrity gauged the current physical condition of the site as it related to an archaeologist's ability to interpret the site. Most important was subcategory Site Structure, a measure of the quantity and variety of the site's physical characteristics such as architecture, stratigraphy, features, and midden. A site with a large quantity and variety of intact features was assumed to have great interpretive value. This subcategory's points breakdown was: (a) Very High, 50–41; (b) High, 40–31; (c) Medium, 30–21; (d) Fair, 20–11; and (e) Low, 10–1. Disturbance was a measure of the degree to which post-depositional natural and cultural processes have disarranged the site. Here, the point breakdown was reversed—that is, a heavily disturbed site received fewer points: (a) Very High, 1–5; (b) High, 6–10; (c) Medium, 11–15; (d) Fair, 16–20; and (e) Low, 21–25. Clarity measured the quality of the site's physical structure in regard to an archaeologist's ability to read the archaeological components of the site (Glassow 1977: 415). The point breakdown for this subcategory is the same as for the subcategories under the category Threat.

Research Potential. Sites received a cumulative maximum of 100 points in this category. Each subcategory, with a maximum of 25 points, was also further bro-

ken down into the high to low point system described under the Threat category. Subcategories were: (A) Chronology; (B) Lifeways; (C) Process; and (D) Heritage. This category assessed a site's potential to produce significant, new information about past societies that could be used in the reconstruction of human behaviour. The Chronology subcategory was based on the ability of a site to alter, build on, or improve existing cultural chronologies, or construct new ones. Lifeways was defined as the ability of the site to contribute information about the daily life of the occupants, such as subsistence, technology, or economy. The subcategory Process measured a site's potential to produce significant information concerning the change through time of past cultures or to aid in an understanding of regional archaeological issues. Heritage evaluated a site's ability to provide information on state heritage, ethnicity, status, style, or other issues important to heritage interpretation. Chronology and Heritage were a method of balancing the differences between rating historic and prehistoric sites. The authors recognised that some very important historic sites were likely not to score high in the subcategory Chronology. Balanced against that, prehistoric sites were not likely to score high in the subcategory Heritage.

Educational Value. In this category, sites received a cumulative maximum of 50 points. Again, sites received up to 25 points in each subcategory, broken down into the high to low point system described under the category Threat. Subcategories were: (A) Interpretive Value; and (B) Display Value.

Within the subcategory Interpretive Value, sites were evaluated based on their potential to be interpreted by a nonarchaeologist onsite through walking tours and signs. Examples would include high visibility sites like a South Appalachian–Mississippian temple mound or a plantation complex with a number of visible ruins. This was measured against a site without surface expression. Display value was the ability of a site to produce material culture that can be used to construct museum exhibits for public understanding.

[There was a] limited amount of time for executing the site ranking tasks, and in most cases, sites were ranked by only one archaeologist. This was probably the project's greatest weakness, and it is highly recommended that users of the system have more than one archaeologist rank each site and then some consensus be reached between the different scores. A consensus score would provide a greater degree of reliability and would eliminate the possibility of a single archaeologist overrating their favourite site.

A key to an accurate ranking was knowledge of the integrity of the archaeological site. This characteristic is particularly important because it is the potential for future research at the site, following the National Register of Historic Places significance criteria, that mainly establishes a site's overall value. Several sites in this project probably received a lower score because their archaeological component was poorly understood. While this will always be a problem with archaeological evaluation systems, because only rarely does an archaeologist know a site

completely, the system will work best if all sites are ranked only after they are test excavated. Thus the value and reliability of the system should improve as the number of sites on the list is ranked based on solid, complete data. Undoubtedly, the order will change as a result. As such it is appropriate here to state that any list developed will not be the final word on 'critically significant' sites in a state or region. Rather it will reflect the current state of knowledge. However, this effort has resulted in providing the South Carolina Heritage Trust with a starting point, based on the known resources in the state. The list is flexible and will continue to change.

Evaluation

The future of the Heritage Trust Program's acquisition of additional archaeological sites is uncertain at the time of this publication. The Governor of South Carolina and the powers that be within the Department of Natural Resources have made land acquisition/protection a top priority. However, the emphasis is on large, river corridor tracts of land between 2,000 and 25,000 acres with an emphasis on natural resources protection, such as working forests and lands for recreational pursuits, mostly hunting and fishing. Ancillary to the primary effort will certainly be that some archaeological sites are protected, but it would be better to continue the directed programme of archaeological site acquisition.

Recent efforts to reevaluate and update the criteria for cultural site selection by the Heritage Trust Program were unsuccessful due to a lack of consensus by archaeologists on two key points: how to go about the process and the variables to include in such an endeavour. Once again weighing apples and oranges is not a fruitful path to decide how to spend limited funds. In reality, the most important variable for purchase/acquisition of a culturally significant site is a willing seller. The SCHTP does not have and should not use the power of eminent domain to acquire properties. Any opportunity to acquire a site from a willing seller should be considered by a wide group of scholars, agency personnel, and those ultimately responsible for managing protected properties in perpetuity. The feasibility of effective management of acquired archaeological sites over time should also be an important part of site acquisition especially in times of an unstable economy.

Via a deed tax, SCHTP currently receives $8 million per year and, a similar programme, the Conservation Bank receives about $18 million per year from the same deed tax source. A number of acquisitions have been made by partnering these two funds with other entities. Unfortunately, these partnerships have not targeted, specifically, cultural resources; rather they have been utilised to purchase large timber/paper company properties. Only a small portion of lands protected under this programme have included cultural sites. 'In two and one half years we have committed right at $55,000,000. The average annually would be $18,000,000.00 give or take. We have conserved 323 acres of historical/archaeological lands but in

truth there are a lot of forestland/wetlands that we have conserved that for sure would have archeological sites' (Marvin Davant, Executive Director, State Conservation Bank, personal communication 2007). At least preservation efforts are being attempted, the overlap of archaeological resources with natural resource conservation is recognised, and some very important archaeological sites have been protected.

Currently, sixteen of our sixty-nine Heritage Preserves (totaling 80,919 acres) are cultural, protecting forty-three archaeological sites. The sites have been dedicated for protection in perpetuity under the terms of the Heritage Trust Act. In addition, we have protected forty-one archaeological sites by conservation easements and registration agreements protect three additional sites. These sites are located across the state and total some 3,000 acres. On other DNR lands some 300 archaeological sites have been recorded!

The Trust has protected 12,000-year-old Native American camp sites, 4,500-year-old shell rings and soapstone quarries; a unique Mississippian period shell enclosure; early low-country plantations; the oldest tabby structure in South Carolina—the 1730s era Fort Frederick; Snee Farm, the home of CC Pinckney who signed the Declaration of Independence; early 19th-century Edgefield pottery kilns where African and Euroamerican potters made alkaline glaze pottery; and Civil War forts in Georgetown, Charleston, and Beaufort Counties.

A total of eighty-one state owned sites and properties are listed on the National Register of Historic Places (NRHP) in South Carolina. [. . .] The DNR owns 265,000 acres of land with nineteen archaeological and historical sites listed on the NRHP and one HRHP district (Kenneth Prosser, Assistant Coordinator, Heritage Land Trust, personal communication 2006; John Sylvest, Statewide Survey of Historic Properties, State Historic Preservation Office, personal communication 2007). Many additional sites are clearly eligible for this designation.

Once dedicated as Heritage Preserves these properties must be managed in order to protect the resources in perpetuity. Management of sixteen cultural Heritage Preserves located across the state is a daunting task to say the least and takes diligent monitoring and maintenance in order to juggle public access with resource preservation. A single staff person is assigned to the day-to-day management of these sites and is doing a tremendous job.

Conclusion

Often dedication is not the only technique to highlight the importance of a site that in turn leads to stewardship. One significant property we plan to dedicate as a Heritage Preserve in the future is the Fig Island Shell Ring complex, a 4,200-year-old example of monumental architecture from the Late Archaic period. In an effort to bring wider attention to this resource we worked under a cooperative agreement in 2006 with the National Park Service's Southeastern Archeological Center to

successfully nominate this site as a National Historic Landmark. This is an initial step towards nomination of the resource as a World Heritage Site. In the same vein, the education of landowners to the significance of the resources, encouraging them to be archaeological site stewards, may in certain cases be better than government acquisition.

The once rural South Carolina is rapidly urbanising, with a million additional citizens projected to live here in the next decade or so. The quality of life is good and cultural tourism is the number one industry in our state. Our unique and extensive archaeological and historical past plays a substantial role in that equation. But urban and population expansion ultimately will alter the look and feel of South Carolina and therefore time is of the essence in regards to site protection. Land values are soaring and the places to live now were also the places people lived in the past. Preservation and development are competing for the same shrinking open spaces, and some places have been lost. High profile preservation projects such as [the] coalition to save Morris Island in Charleston County, where an important Civil War battle took place on 18 July 1863, expose the public to the issues of site protection. This battle was popularised in the movie 'Glory'. Much money will be needed to wrestle this property away from developers, but a high profile campaign is underway.

When we celebrated the 25th anniversary of the Heritage Trust Program in 2001 we felt as if our job really was just beginning. We estimate that we have only protected about 10% of a representative sample of the most important archaeological and historical sites in South Carolina. We wonder how many people are familiar with the Heritage Trust Program. The future of archaeology in South Carolina is ultimately tied to the preservation of sites as our state continues to grow and prosper. The Heritage Trust Program is a vehicle by which a representative sample of our rich cultural and natural heritage will be preserved into the future and opened to the public for recreation and education, and available to scientists to [carefully] document and record these sites. Here we think nationally and act locally as we also think locally and act nationally.

References

Glassow, M. 1977. 'Issues in evaluating the significance of archaeological resources', *American Antiquity* 42(3):413–20.

Goodyear, A. C. and B. Rippeteau. 1987. 'Criteria for selection of archaeological sites as cultural areas or features in the South Carolina Heritage Trust Program'. Manuscript on file. Columbia: South Carolina Institute of Archaeology and Anthropology.

Judge, C. and S. D. Smith. 1991. *Acquiring the Past for the Future: The South Carolina Heritage Trust Statewide Assessment of Cultural Sites*, Research Manuscript Series 213. Columbia: South Carolina Institute of Archaeology and Anthropology, University of South Carolina.

Lipe, W. D. 1974. 'A Conservation Model for American Archaeology', *The Kiva* 39(3–4):213–45.

McManamon, F. P. 1991. 'The many publics for archaeology', *American Antiquity* 56(1):121–30.

———. 2000. 'Public education: a part of archaeological professionalism'. In K. Smardz and S. J. Smith (eds.), *The Archaeology Education Handbook: Sharing the Past with Kids*. Walnut Creek, CA: AltaMira Press, 17–24.

Sabloff, J. 1996. 'The past and future of American archaeology', Distinguished Lecture presented at the American Anthropological Association annual meeting, San Francisco.

Smith, B. D. 1993. 'A new goal for academia', *Archeology and Public Education* 3(3):1.

Smith, S. D. and C. Judge. 1992. 'The South Carolina Heritage Trust ranking system for archaeological site acquisition', *Southeastern Archaeology* 11(2):140–48.

J O S   D E E B E N   A N D   B E R T   G R O E N E W O U D T

Handling the Unknown: The Expanding Role of Predictive Modeling in Archaeological Heritage Management in the Netherlands (2005)

A key issue in the conservation of the archaeological resource is the widespread occurrence of unknown sites that are particularly threatened by their very invisibility. Deeben and Groenewoudt, using the situation in the Netherlands as a case study, describe predictive modeling as a potentially effective and powerful tool for managing this aspect of the archaeological resource proactively. Distribution maps of the archaeological record for the Netherlands had significant misrepresentations and gaps. Deeben and Groenewoudt sought to rectify this, initially focusing on issues of assessing archaeological significance—to define parameters for predictive studies—and then assessing a range of approaches for predicting the unknown resource. The archaeological resource in the Netherlands is mainly subsoil, and while sampling may be effective, it is impractical on a large scale. Predictive modeling was carried out inductively, based on an analysis of known archaeological locations plus other factors such as analysis of geomorphology and palaeogeography. Testing of results was an essential part of the process. This modeling has been shown to have accurate and useful results and to be an effective planning tool. Further research and refinement of the approach are in progress. Deeben and Groenewoudt note that neither knowledge nor significance is objective and unchangeable and that the conundrum remains that we cannot know what key questions and issues lie in the future. They argue, however, that as many opportunities to interrogate the past as possible must remain open and that predictive analysis (albeit itself subjective to some extent) can play an important role.

Introduction

In this paper, we focus on two central themes that are of major importance to archaeologists and heritage managers both in the Netherlands and further afield. The first deals with the Dutch government's views on archaeological significance, valuation, and selection, and how these views are put into practice. The second theme, reflected in the title of our paper, concerns some approaches to assessing what we do not yet know about the nature, distribution, and significance of the archaeological record; that is, sites that are currently unknown. Predictive modeling plays an important role in both of these contexts.

The availability of distribution maps, and an overall understanding of the archaeological record, is a precondition for significance evaluation and for selecting sites and archaeological landscapes for preservation. The ARCHIS (Archaeological Information System) center of expertise, established in Amersfoort in 1989, marked the beginning of systematic work to provide these frames of reference in the Netherlands (Roorda and Wiemer 1992). Since that time, a number of new projects have been implemented to provide continued support for these initiatives, both at a regional and national level.

Owing to a variety of factors, the documented distribution of archaeological sites in the Netherlands is still characterized by a number of misrepresentations and continues to conceal major gaps in our knowledge, gaps that exist in time as well as space (Brandt et al. 1992; Groenewoudt and Lauwerier 1997). The rapid reorganization of the Dutch landscape in recent years poses a particularly acute threat, especially to the unknown (and probably best-preserved) portion of our archaeological heritage.

The discussion below will illustrate how subsoil sampling and predictive modeling can be used to make the unknown archaeological resources more manageable and, a more prominent consideration, in the development of our environmental planning policies. One pragmatic example of such an approach is the *Indicative Map of Archaeological Values* (IKAW) for the Netherlands, presented by Deeben et al. (1997, 2002). This article describes the state of affairs in 1997. The text was updated slightly in 2002.

Dutch Archaeology: A Subsoil Heritage

In a densely populated country like the Netherlands, the archaeological heritage is subjected to major and ever-increasing impacts. It has been estimated that one third of the Dutch soil "archive" has been destroyed since 1950 (Groenewoudt and Bloemers 1997: 119). Land has become such a rare and valuable commodity in the Netherlands that it is difficult to adequately protect and maintain archaeological sites. In many cases, economic interests far outweigh archaeological ones, and

attempts to protect and conserve heritage. As a result, choices are being made continuously with respect to both archaeological protection and research.

A major obstacle to adequate archaeological valuation and selection is the considerable lack of knowledge about individual sites, as well as of the archaeological heritage as a whole. In areas where major sedimentation has occurred, such as in the western and northern parts of the Netherlands, the tasks of understanding the existing cultural record and developing responsible strategies for protecting it are made that much more difficult. To a large extent, Dutch archaeology is subsoil archaeology. One of the major, and at the same time the best-preserved, parts of the archaeological heritage is buried under natural deposits or anthropogenic soils, such as the plaggen soils associated with Pleistocene upland areas.

However, when mapping buried sites in the Netherlands, various methods of subsoil sampling have been applied successfully and on a large scale. For various reasons, simple techniques such as coring have proven to be more effective than, for example, more sophisticated geophysical and geochemical methods. Nevertheless, it is clear that the systematic mapping of all subsoil sites and relic landscapes would be prohibitively labor-intensive and expensive. Furthermore, the question must be asked whether finding hidden archaeological sites is the most efficient way to protect them. The answer is, probably not. It seems to make more sense to outline a management policy that not only takes into account known cultural resources but also, and perhaps even particularly, considers the unknown portion of the archaeological heritage (fig. 1). To do this, predictive modeling is essential. In the discussion below, we outline a number of examples of how this type of modeling can be employed successfully. One precondition, of course, is that we are able to define what is valuable and what is not. For this reason, we shall briefly discuss the concept of "significance" and the way in which the process of valuation and selection is organized in the Netherlands (for more detailed information, see Deeben et al. 1999).

Value and Valuation

The concept of "value" and the qualifiers "valuable" and "valueless" derived from it are by definition clearly relative. Archaeological value does not exist independently; it must be assigned to something. A significance statement is a social construction and can never be absolute or objective. These determinations depend on the way in which the concept of significance is applied, so the dividing line between "valuable" and "valueless" is arbitrary.

Two factors have an important influence on significance statements concerning a site or a relic archaeological landscape, that is, the criteria used and the frame of reference applied to measure the results. Rarity, for instance, greatly depends on the geographical scale within which it is assessed. Using criteria of this kind
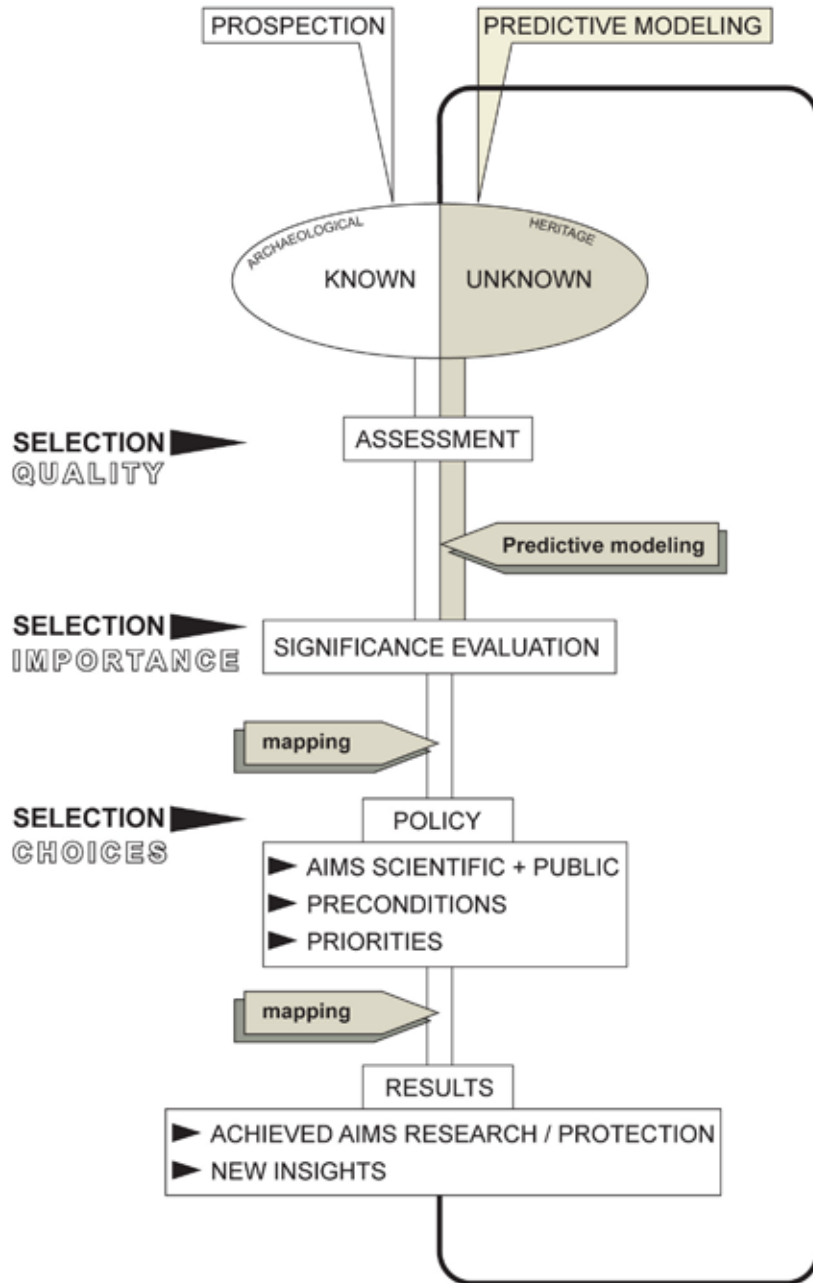
Figure 1
Predictive modeling
integrated into the process
of valuation and selection.
Courtesy Jos Deeben.

also makes valuation a dynamic process because new research results influence our ideas about rarity.

To decide whether something is rare or significant, one needs standards, but each quantitative standard is debatable and should be regarded first of all as something of a heuristic device to facilitate dealing with a certain problem at policy level. As mentioned before, an objective assessment of "significance" is unthinkable. What is possible, however, is to base significance determinations on the application of standardized data-collection strategies and a set of explicitly described and verifiable criteria. In this way, valuation at least becomes transparent.

The Valuation and Selection Process

A phased system of valuation is used when sites and relic landscapes are considered important enough to merit protective measures or excavation (Deeben et al. 1999). This iterative system is discussed in more detail below.

In the first place, a site is judged on a basic level, that is, with respect to its "physical quality." To a great extent, the physical characteristics of archaeological remains determine the amount of information that can be extracted from them. It is important that this part of the evaluation be independent of trends to which both scientific perspectives and public perceptions of the cultural landscape are subject. Because the Dutch landscape is highly cultivated, field monuments are scarce; therefore, it has been decided that all clearly visible field monuments are worth preserving as they stimulate the public appreciation of archaeology and archaeological heritage management. The selection of high-quality sites requires information, and in order to acquire this information, a fixed procedure is followed.

The starting point is an overview of all known archaeological resources within the area covered by a specific development, the Standaard Archeologische Inventarisatie (Standard Archaeological Survey, SAI). The basis for this overview is the national database of archaeological sites (ARCHIS and the Centraal Archeologische Archief; National Archaeological Database, CAA). Linked to this overview is a prediction concerning the presence of as yet undiscovered sites; expert judgments, as well as predictive modeling, play a part in this process (see below). A field survey, the Aanvullende Archeologische Inventarisatie (Additional Archaeological Survey, AAI), follows if it appears that the available data are in some way distorted. In general, this fieldwork consists of a combination of field-walking and coring.

The next step is to select sites that are expected to be well preserved. If doubts remain, a field evaluation, Aanvullend Archeologisch Onderzoek (Additional Field Evaluation, AAO), is carried out to verify the physical quality of the site and to judge its management needs. A field evaluation may consist of intensive coring, digging trial pits, and specialist research, into, for example, the preservation of organic materials.

During the AAO phase, a standardized checklist is completed. It consists of a large number of parameters: conditions and phenomena which make it possible to assess the physical quality of the archaeological remains. Subsequently, an assessment is made in terms of a number of criteria. At this stage, sites are evaluated on the basis of their "scientific importance." The valuation criteria used are rarity, research potential, context or group value, and representativity.

The final result is a valuation: a judgment that makes clear whether or not a site is classified as "worth preserving." Underlying this judgment is the application of a quantitative valuation system (see Deeben et al. 1999, table 2). This quantitative assessment subsequently lays the foundation for a selection proposal that allows the responsible authorities to decide which sites qualify for legal protection or excavation.

The last phase of the selection process involves two main steps: "policy considerations" and choices in the form of "priorities." At this stage, explicitly formulated objectives are the principal aim. This process attempts to take account of not only scientific interests but also the social basis for archaeological heritage management. On a national level, four major categories of heritage have been established (Groenewoudt and Bloemers 1997). These are

- wetlands: areas with well-preserved archaeology in the wet coastal areas;
- limes: the Roman frontier in the central Netherlands river area;
- *essen*: old, archaeologically rich, arable lands on sandy soils; and
- ships: a coherent analysis of the large number of ships that have been excavated in the past.

Predictive Modeling

This far we have focused on problems of prospection, as well as the valuation and selection of what little we know. In the next part of this paper, we deal with the unknown part of the archaeological heritage. In "handling the unknown," predictive modeling has a key role to play. To rural planners, predictive maps make more sense, and have proven to be more useful, than the traditional archaeological distribution maps. In addition, the use of these maps illustrates the parallel development of academic archaeology and archaeological heritage management. In both fields, more landscape-based approaches have gained favor. Maps predicting the unknown part of the archaeological resource are constructed on several spatial levels, including municipal and regional levels, and for the country as whole. Examples illustrating the importance of these predictive maps are provided below. Before discussing them, however, we would like to address a few issues pertaining to theory.

Predictive modeling in archaeology has been defined as a "simplified set of testable hypotheses, based either on behavioral assumptions or on empirical correlations, which at a minimum attempts to predict the loci of past human

activities resulting in the deposition of artifacts or alteration of the landscape" (Kohler 1988: 33).

Predictive models are mainly expected to map data which are in fact not yet available, from as yet undiscovered archaeological sites and relic landscapes. Predictive modeling can be carried out in a deductive, as well as in an inductive, way. In the Netherlands, most predictive modeling is undertaken in an inductive way, so models are based primarily on analyses of known site locations within an area. The established correlations between these locations and aspects of the physical landscape, such as soil type, geology, geomorphology, and distance to water, are then extrapolated to areas where no or few sites have been discovered to date. In the western or Holocene portion of the Netherlands, the inductive approach is combined with paleogeographic analyses, that is, reconstructions of the landscape carried out with the help of geological data. One example of this type of approach would be to define an area that could have been occupied during a specific period, but where archaeological remains have yet to be found.

The National Level

In 1997, the first generation of a national archaeological "sensitivity" map, known as the *Indicative Map of Archaeological Values* (*Indicatieve Kaart van Archeologische Waarden*, IKAW), was completed (Deeben et al. 1997) (fig. 2). This map was produced to obtain a systematic synthesis of all known archaeological site locations, and to thereby assist Dutch archaeologists to participate in cultural-historical policy making and environmental planning as [. . .] fully competent participant[s]. The starting points for producing the map were the so called "archaeo-regions," archaeological regions defined on the basis of landscape-genetic and environmental features as well as by their occupational history (Groenewoudt 1994; see also Deeben et al. 1997, 1; Groenewoudt and Bloemers 1997, 12). For each archaeological region, a geographical information system (GIS) (Geographical Information Systems) was used to check whether or not relationships existed between site locations on the one hand and soil types and groundwater classes on the other. On the basis of the total area with a specific combination of soil type and groundwater class, the expected number of sites was established. In addition, the observed distribution of sites was calculated. On the basis of the ratio of the observed to the expected number of sites, "indicative" archaeological values were grouped into three classes: low, medium, and high. In general, in areas with low values, the ratio is 0.5 or less, and in those with medium values, the ratio is between 0.6 and 1.5. In areas with the highest values, the observed number of sites will always be greater than 1.5 times the expected number of sites.

This rather physically deterministic approach provides an indication of the relative density of archaeological resources in a relatively simple and quick manner. Soil maps (at a scale of 1:50,000) were chosen mainly for practical reasons, principally

because they cover the whole country and are available in digital form. Since soil maps of the Netherlands are based on corings no deeper than 1.2 meters, the IKAW refers only to the top 1.2 meters of the soil. Clearly, to evaluate the presence of more deeply buried archaeological remains, sources other than pedological data will have to be taken into consideration.

Testing predictive models like the IKAW is essential. Therefore, the results of large-scale excavations and trial trenching are used to validate it. This is especially important in areas where scarcely any archaeological data are available. In addition, specialist knowledge is used to improve the map.

In 2001 a second-generation IKAW was completed (Deeben et al. 2002). This map also includes underwater archaeology. Especially, the parts of the map covering the Holocene western Netherlands and the central river area were improved. Because most of the archaeological remains within these areas are buried under thick layers of sediments, geological data were used. Although the IKAW is essen-

tially quantitative, no distinction is made at present between periods and site types. Nevertheless, distinctions of this type will be made in the near future with respect to major gaps in geographical knowledge (see below).

Our ultimate goal is to transform the IKAW into an advisory map, which clearly is something quite different. Advisory maps reflect not only (expected) archaeological resources, but also can highlight areas where archaeological heritage management might concentrate its efforts. Policy-based choices are inevitable if the map is to be used successfully in environmental planning.

The Regional Level

At a regional level, predictive maps are based not only on soil characteristics but also on topographic, historical, and geological maps. Because the scale of these maps is often larger, parts of the IKAW may be particularly detailed. Furthermore, it is possible to include small-scale disturbances. To select and delimit archaeologically important zones as precisely as possible, research into the archaeological characteristics of specific landscapes is essential. On a regional scale, predictive modeling is used, for example, to assess the archaeological consequences of the construction of new motorways and railways as well as nature development and water management activities.

The Local Level

On a local level, predictive modeling is used, for example, to discover and map sites. Particular emphasis is placed on the anthropogenic plaggen soils (*essen*) in the sandy Pleistocene deposits of the Netherlands. As the result of centuries of manuring, the well-preserved archaeological remains in these old plots of arable land are covered by a thick cultivated layer. This situation hampers the discovery of sites, but adequately protects buried sites and relic landscapes in *essen*. On the IKAW, nearly all plots of plaggen soil have a high indicative value and are therefore systematically investigated during field surveys. Debris related to settlement activities preceding the formation of the plaggen soils is easily detectable by core sampling. Recent research near the village of Heeten may serve as an example, and also illustrates how fruitful it can be to integrate core sampling, excavation, and predictive modeling within the framework of scientific research (Groenewoudt and van Nie 1995). Using a twenty-centimeter auger, the area surrounding a partly excavated Roman-period settlement was investigated. The lowest part of the plaggen soil was sampled and sieved, and the distribution of finds plotted. The distribution maps relating to each category of finds were subsequently developed into predictive models (for the method used, see Wiemer 1995). The results have proven to be essential for the interpretation of the site. Without the combination of core sampling and predictive modeling, the special characteristics and the size of the

site (including large-scale iron production activities) would never have come to
light (fig. 3).

Future Directions: Improving Our Frames of Reference

Knowledge and knowledge management are indispensable for optimum preserva-
tion of the soil as a unique source of knowledge about the past. They are also a
precondition for the further development of an archaeological selection and val-
uation policy. Knowledge and insight (as well as our information gaps) provide
the archaeological frame of reference for these selection and assessment policies.
Within the cyclical process of archaeological heritage management, new knowledge
continually leads to the redefinition of questions and of the way criteria such as
rarity and context value should be applied.

As we indicated earlier, the availability of distribution maps and a sense
of scientific and intellectual context is an important prerequisite for significance
evaluation and selection. Without such frames of reference, it is impossible to
effectively conserve our existing soil archive and the cultural remains contained
within it. Acquiring general insight into both quantitative and qualitative aspects
of the Dutch soil archive is one of the focal points of government policy concern-
ing archaeological heritage management. At the moment this overview is far from
complete. Pieces of the puzzle are in the minds of a large number of specialists,
and if the general trend towards specialization continues, those pieces will become
increasingly smaller and dispersed.

The creation of ARCHIS in 1989 marked an important beginning with respect to a national archaeological record in the Netherlands, as well as a more comprehensive, national understanding of that record. Over the next few years, considerable work will be directed toward building on these efforts, particularly with respect to the provision of better data, valuation criteria, and selection policies. Some of the most important contributions towards this goal are likely to be undertaken by means of the *Kennisatlas Projekt* (*Atlas of Archaeological Knowledge*). As part of this program, our present knowledge and the current state of affairs regarding the protection of archaeological sites will be "mapped" systematically. The aim of this project is to produce national and regional frames of reference in the form of overviews, that is, a series of formalized reviews created in conjunction with their future users. These future users include anyone who is involved professionally in the management of the archaeological heritage, including those who are primarily decision makers in the field of policy development involving archaeology as well as decision makers involved in environmental planning. These products resulting from *Kennisatlas Projekt* may take the form of maps or of summaries consisting of text or statistics, or a combination of these.

One noteworthy addition to ARCHIS in this context is a new set of data concerning all archaeological excavations that have been carried out in the Netherlands in the past. This record is meant to improve our understanding of the availability of archaeological information in different areas. Excavation data, for example, will be linked to specialized archaeobotanical (RADAR) and archaeozoological (BONE-INFO) databases, which will include both unpublished work and publications that are normally not easily accessible.

Recently a comprehensive inventory of our current knowledge was completed, both at a national level and for each archaeological region (Groenewoudt and Lauwerier 1997). Within this context, knowledge was defined as the availability of published or unpublished research data. These data have been brought together in three different ways: chronologically, thematically, and geographically. The follow-up to the general inventory will consist of describing existing information sources for each archaeological region and further analysis of the research potential within these regions. The IKAW will play an important part in this exercise. By comparing the national map with distribution maps of sites and overviews of systematically surveyed areas, this national review can also contribute to isolating geographical lacunae in our knowledge and focus efforts at filling in these gaps. Afterwards, steps will be taken to consider what options exist for knowledge acquisition within these gaps. In the final analysis, this exercise will help to define future priorities, both in terms of protection and research. It is our view that this information will be translated into research recommendations, such as the compilation of a national research agenda, for all the parties involved in the management of archaeological heritage and archaeological research in the Netherlands.

As we have stated before, neither "knowledge" nor "significance" are objective and invariable. The society of which we are a part clearly guides our thoughts and actions, and therefore the choices we make. It should be emphasized again that today's decisions determine tomorrow's options for research and knowledge acquisition, and therefore also the way in which people will be able to "create" their past in the future. Although we do not know what the questions of the future will be, we must try to make sure that all potential avenues of research remain open. To achieve this, we must learn to handle the unknown. In this context, predictive modeling may have some particularly valuable contributions to make.

Bibliography

Brandt, R. W., B. J. Groenewoudt, and K. L. Kvamme. 1992. An experiment in archaeological site location modeling in the Netherlands using GIS techniques. *World Archaeology* 24:268–82.

Deeben, J., B. J. Groenewoudt, D. P. Hallewas, and W. J. H. Willems. 1999. Proposals for a practical system of significance evaluation in archaeological heritage management. *European Journal of Archaeology* 2(2):177–99.

Deeben, J., D. P. Hallewas, J. Koolen, and R. Wiemer. 1997. Beyond the crystal ball. Predictive modelling as a tool in archaeological heritage management and occupation history. In W. J. H. Willems, H. Kars, and D. P. Hallewas, eds., *Archaeological heritage management in the Netherlands. Fifty years of state service for archaeological investigations*. Assen: Amersfoort. 76–118.

Deeben, J., D. P. Hallewas, and T. Maarleveld. 2002. *Predictive modeling in archaeological heritage management in the Netherlands: The indicative map of archaeological values* (2nd Generation), Berichten van de Rijksdienst voor het Oudheidkundig Bodemonderzoek 45.

Groenewoudt, B. J. 1994. *Prospectie, waardering en selectie van archeologische vindplaatsen, een beleidsgerichte verkenning van middelen en mogelijkheden*. Nederlandse Archeologische Rapporten 17. Assen: Amersfoort.

Groenewoudt, B. J., and J. H. F. Bloemers. 1997. Dealing with significance. Concepts, strategies, and priorities for archaeological heritage management in the Netherlands. In W. J. H. Willems, H. Kars, and D. P. Hallewas, eds., *Archaeological heritage management in the Netherlands. Fifty years of state service for archaeological investigations*. Assen: Amersfoort. 119–72.

Groenewoudt, B. J., and R. C. G. M. Lauwerier. 1997. *Kennisatlas. Stand van kennis en kennisleemten; een snelle inventarisatie*. Interne rapporten ROB 33. Assen: Amersfoort.

Groenewoudt, B. J., and M. Van Nie. 1995. Assessing the scale and organization of Germanic iron production in Heeten, the Netherlands. *Journal of European Archaeology* 3(2):187–215.

Kohler, T. A. 1988. Predictive locational modelling: history and current practice. In W. J. Judge, and L. Sebastian, eds., *Quantifying the presence and predicting the past: theory, method and application of archaeological predictive modelling*. Denver: U.S. Department of Interior, Bureau of Land Management. 19–59.

Roorda, I., and R. Wiemer. 1992. The ARCHIS project: towards a new national archaeological record in the Netherlands. In C. U. Larsen, ed., *Sites and monuments: new archaeological records*. Copenhagen: National Museum of Denmark. 117–22.

Wiemer, R. 1995. Another way to deal with maps in archaeological GIS. In G. Lock and Z. Stancic, eds., *Archaeology and Geographical Information Systems: A European Perspective*. London: Taylor and Francis. 301–11.

Brian Fagan

Looking Forward, Not Backward: Archaeology and the Future of the Past (2006)

Despite advances in archaeological conservation theory and methodology, it sometimes appears that archaeologists are more comfortable with investigating long spans of time in the past than planning for long-term conservation in the future. Fagan, in this provocative and entertaining paper, consults a shaman about the problems of conservation archaeology. The shaman is strongly of the view that while the destruction of the archaeological resource continues unabated, archaeologists tend to value the search for new discoveries more than the conservation of the resource. He warns that Lipe's conservation model is still not taken seriously in the United States, with poorly documented salvage work predominating. The disciplines of academic archaeology and archaeological conservation are often separate, with lip service paid to the acknowledgment of archaeology as the disturbance of a finite resource and conservation coming a poor second. Graduate students learn little of conservation. The shaman, citing Lipe, urges a move from the reactive practices of cultural resource management to a proactive conservation ethic and methodology.

> Scientists have it within them to know what a future-directed society feels like, for science itself, in its human aspect, is just that.
> —C. P. Snow, *Science and Government* (1961)

I am a rare breed in an archaeological world of increasing specialization—a generalist. This means that I work with a broad canvas and appreciate more than many

people what a grim future archaeology faces. There are powerful lessons behind the destruction that surrounds us, but I often despair of bringing them to a wider audience. Thus it was that some months ago I fell into a profound depression about the future of the past, which lingers still. I needed a dispassionate observer who would help to point the way ahead. There was no one, until I thought of Kent Flannery's "Master," an Eastern wise man who resided in Antelope Springs, Oregon—but he was unavailable (Flannery 1986). As Flannery had feared, the local populace had fed him into a belt-driven International Harvester shredder.

So I decided instead to consult that most fashionable of individuals in contemporary rock art circles—a shaman. As it happened, I knew one, a former graduate student with supernatural powers, but had lost touch with him. One summer evening I called on him high in Southern California's Santa Ynez Mountains.

The shaman sat motionless by a smoldering hearth, his countenance wreathed in swirling tobacco smoke. He gestured at a place in the dirt by the fire. I sat down gingerly, brushing aside the detritus of several meals.

"So you've come at last," he remarked. "Depressed are we? Well, I'm not surprised. You archaeologists live in a never-never land."

"You can't say that," I exclaimed. "Look at the spectacular scientific advances since you left graduate school—the Lords of Sipán, the Ice Man, and dozens of other discoveries."

He cut me off with a gesture. "Discoveries, discoveries—that's all you talk about! Nothing's changed since I left graduate school.

"So many archaeologists, and so many of them in pursuit of the trivial, their papers full of pretentious theory, and so specialized. Everyone seems to be wearing intellectual blinkers. And in the academic journals, hardly a word about conservation. Where are your priorities? Have you forgotten what Petrie, Pitt-Rivers, and others said over a century ago? Who reads Petrie's *Methods and Aims in Archaeology* [1904] today?"

I admitted that I had never read it.

"There you are!" he said. "At least some of your forebears had some ethics behind their study of the past. Do you teach your students ethics today? You certainly didn't in my time."

"Of course we do," I replied defiantly. "They're fundamental to any archaeological course. I've taught them to college freshmen for years."

"Ah, but do you teach graduate seminars on ethics? They're the future professionals."

I had to admit that courses on ethics were virtually unknown in graduate schools and barely mentioned in passing in any seminar.

The shaman pounced at once.

"Discovery, discovery—that's all you people seem to think about! Why? What's going to happen in a generation or two, when there is less and less to discover, to dig up? What about conservation? What does 'conservation' mean to you?"

"Petrie's conservation strategy was straightforward," I responded. "Excavation and yet more excavation, with careful attention to the smallest object, and, above all, prompt and full publication. But he was no paragon of archaeological virtue. He recovered many objects by paying his workers for them, lest precious finds ended up in a dealer's hands."

"True," said the shaman quietly. "But what about today? All this talk about cultural resource management? Isn't that more of the same philosophy?"

I started to explain that cultural resource management was all about legal compliance and management of a finite resource, but he waved aside my words.

The cave was now pitch-black, save for some flickering candles and the smoldering hearth. My host resumed his discourse.

"Mention the word *conservation* to most archaeologists, and they'll regale you with their minor triumphs in the field—such as lifting a delicate infant burial or piecing together a clay pot. In most archaeological circles, conservation means conservation of artifacts, or of buildings, rock art, or other tangible remains.

"I'm amazed how most archaeologists are blissfully unaware that archaeology and conservation are closely intertwined. Conservation encompasses a much broader field of endeavor than only the care of objects!"

"We all know that," I remarked sharply. "It's commonplace. Look at the work done by the Getty, by English Heritage, and by dozens of other organizations."

"Ah yes, but do you academics place conservation at the very center of your research, as an integral part of the project? In most cases, you don't."

I defended my colleagues and myself. "Of course fieldwork and conservation go hand in hand. We all know we are disturbing a finite archive."

"Yes, yes," replied the shaman testily. "But you're just paying lip service. Do you plan conservation as part of your research design on a non-CRM project? Almost invariably, you don't. Look at the number of academic archaeologists who are out there surveying and digging even today without regard to conservation. Many of them go out summer after summer and just go digging, with no regard to the long-term future. They have a question to answer, important or trivial, have students to train, who also act as their labor, and data for publications to acquire. Often they never publish a final report. People have been doing this with impunity for years."

"We are encouraged, nay begged, to publish," I pointed out. "Haven't you heard of publish-or-perish? Believe me, it's a reality!"

The shaman pounced once more. "What I am talking about is *final* publication that puts a site on permanent record. That's one of the most fundamental aspects of preservation, quite apart from building conservation strategies for now and the future into your research."

I pointed out that antiquities laws in most countries carefully define ownership, protection, and permit requirements for excavation.

"Yes, they do," said the shaman, as he lit still another cigarette. "In many nations, tight regulation surrounds any form of fieldwork, and so it should. In fact, in some countries, the notion that conservation comes first, archaeology second, is commonplace. The United States isn't among them."

I agreed with him.

"But what about people who choose to work overseas because it's easier and they can avoid bureaucratic regulation and conservation requirements?"

The shaman's eyes narrowed. "Such people deserve our utter contempt," he snapped. "When will they realize that conservation is a deadly serious issue that affects all stakeholders in the past—not just archaeologists?"

To that there was no reply.

"You seem to take a long-term view of conservation," I observed.

He agreed. "So many people talk about conservation as if it's instant gratification. You can't just preserve a site and walk away. There are all kinds of issues: the long-term future of the site, the changing roles of stakeholders, the potential impact of tourism, and so on. You should be conserving for eternity."

"That's a very different perspective that looks far beyond a few years," I remarked. "I doubt if many archaeologists think this way."

"No, they don't, because they're obsessed with short-term goals and their careers. They don't think about the long-term future."

"Somewhat like the debates over global warming," I said. "We have great difficulty making decisions that affect our grandchildren rather than ourselves."

"Right. And this is where archaeologists need to change their thinking profoundly. The irony is that they're comfortable with long spans of time in the past—and ignore the implications of their work for the long-term future. All this quite apart from the issue of stakeholders."

"Stakeholders? Why are these important'"

"Who owns the past? You don't! Does the local archaeologist you may or may not work with? Does a landowner, the merchant, or tour operator who runs people to Stonehenge? Do indigenous people? For years, you archaeologists have assumed that you were the only game in town. You talk of linear, scientific accounts of human history, of restoring history to people without writing or history? Well, you're not the only game in town. Stakeholders are an integral part of conservation. They have as much right to be consulted as you do."

"This is too much," I snapped. "So far you have insulted archaeology, implied that we ignore conservation, and accused us of living in a never-never land! Why are you so angry?"

There was a long silence. The shaman drew a blanket around his naked shoulders.

"I'm afraid for the future of the past," he whispered. The fire flared up, casting his face in deep shadow. "Why am I angry? Because your value system is flawed.

Your priorities and ethics stink! That's why I'm trying to make you uncomfortable! In the competitive world of museums and research universities, archaeology is a science of discovery: survey, excavation, laboratory work, and peer-reviewed publication. Wrong! It's so much more. Look at the social pyramid of archaeology— academics and discovery at the summit, then CRM, teaching, curating collections, public archaeology, and administrative roles in descending order. Conservation doesn't figure in the hierarchy at all, except as a generally accepted, and ill-defined, basic ethic, which is taught in virtually no graduate programs.

"What you don't realize is just how firmly you're stuck on an endless treadmill of survey and excavation, publication, then more fieldwork and yet more publication. Your life's driven by a constant search for research money, by the guidelines of university promotion committees. Deans urge you to think constantly of national rankings, as if academia were a football game."

"You can't judge archaeology, or its practitioners, by the excesses of the publish-or-perish world," I responded.

"Oh yes you can! Look closely, and you'll see a fundamental reason why conservation is on the margins—the treadmill of the social values of archaeology and academia generally."

The shaman lit another cigarette and inhaled deeply. "I think it's safe to say that most of you would rather excavate and write stimulating preliminary reports than undertake the laborious, time-consuming work of a final report. And few agencies give grants or summer salaries for writing up research."

"Yes, publication is definitely archaeology's dirty little secret. We're really lax about it."

"Just look at biblical archaeology. Look at all those people digging away every summer and ignoring their publication responsibilities. Have they no ethics, no care to leave a permanent record behind them? All they are leaving are devastated sites."

The shaman looked at me shrewdly. "Feeling bad?" he asked.

"Yes, and, like Kent Flannery, deeply depressed. You make me feel a failure."

He smiled maliciously. I sensed we had come to the moment of truth, that my mentor had been clearing the decks. He turned the pages of a battered southwestern journal, the *Kiva*, lying on a nearby boulder.

"When I knew you were coming, I reread Bill Lipe's "A Conservation Model for American Archaeology" from back in 1974. A shrewd man, Lipe."

"I know Bill and his work. He's written a whole stream of important papers on conservation. The *Kiva* article is a very perceptive contribution. It's required reading in a lot of graduate programs," I added triumphantly.

A loud snort echoed around the cave.

"Yeah, they just get to read that and then go back to academic theory and culture history—what they call 'the data.' How many graduate programs take conservation, heritage, and CRM really seriously?"

I agreed with him for once. "Last time I looked into it, precious few. I read somewhere that some of the first-rate programs said they were 'too busy' and understaffed to teach such things."

"Remember what Lipe said: 'We are now beginning to realize that all sites are rather immediately threatened, if one takes a time frame of more than a few years'" (Lipe 1974:214).

"True," I said. "But he also talked of 'leisurely salvage'—'when we know the date at which the site may be lost.' I think that a lot of academic archaeologists would say they work on such sites."

"But he said something else, remember. 'If our field is to last for more than a few decades, we need to shift to a resource conservation model as primary.' I think history will judge this as one of the more influential papers of late-twentieth-century archaeology—I wager it'll be cited longer than any of Binford's pronouncements."

"Why?" I asked.

"Because Lipe talked about managing the past, about putting conservation right in the center of our world, and not at the side. He stressed that basic research kept the field healthy, but there was another priority as well."

"Conservation?" I said. "So we are good guys after all."

The shaman shook his head. "Lipe's paper was successful in that he drew attention to the basic strategies for managing the past, the Big Book, and advocated it as a priority. It's still not a priority in much of the academic world."

"So he was one of the founders of CRM!" I retorted. "And look how that dominates archaeology in most parts of the world. He certainly made us think about conservation."

The shaman shook his head. "Call CRM a success if you will, but, in the final analysis, it's a highly sophisticated extension of the Flinders Petrie philosophy: dig it up before someone else destroys it. Undeniably there are triumphs where discoveries have been snatched from the jaws of bulldozers, then published thoroughly. Europeans have done some wonderful work this way. So have the Chinese and Japanese. CRM is often the only strategy to employ as sites vanish. But all too often there's a chasm, and antipathy, between the academy and the CRM world."

I had to admit that there was some truth in what he was saying. Only last week, I heard a graduate student lamenting her summer spent doing CRM.

"Look at the job opportunities in archaeology these days. Almost all of them are in CRM, and more and more of them in private sector companies, who do archaeology for profit. CRM's an attempt to salvage as much information as possible with the time, money, and methods available. In some respects, it indeed represents the successful implementation of part of Lipe's conservation model. Yet many academics denigrate it as a potential career. They forget that if current trends continue, archaeology will soon become a profession focused almost entirely on managing the past."

"Nonsense," I retorted. "Academic archaeology is alive and well. Look at the opportunities compared to even thirty years ago."

"You've missed the point. There'll be academic jobs all right, but will the candidates for them have the conservation-based training that brings CRM activities and basic training together? We can't afford snobbery, or overproduction of academic researchers."

"Your point about overspecialized researchers and too many of them is well taken," said I. "After all, it's easy to train clones of oneself. But it sounds as if you're talking about a new type of academic archaeologists who place conservation at the center of their work and take the ethics of placing the archive on record very seriously."

The shaman nodded. He cast a glance behind him, at his bulging library on crude shelves at the back of the cave.

"You can see one problem there," he remarked. He gestured at rows of what appeared to be mimeographed reports.

"The gray literature?"

"Yes. Reports of limited circulation, or in cyberspace, which, despite efforts to the contrary, are effectively inaccessible to most people."

"Here you go again, generalizing without thinking," I retorted. "Haven't you seen some of the wonderful, intellectually sound monographs that are coming out of CRM? Haven't you heard of the research of [I mentioned a series of names]? They're on the cutting edge."

The shaman shrugged. "Sure, I generalize. But, you know, I'm right. Yes, some CRM folk expiate archaeological sin. But look at all those dreadful limited-circulation reports that are purely descriptive, all too often inadequate, and supervised by bureaucrats who are interested merely in legal compliance."

"The point is this," he added. "CRM is reactive. Integrating academic archaeology and conservation will be proactive. That's the priority, and something that happens only rarely."

I heard the shaman sigh. Then he said, "You people have played while Rome burns. When are you going to wake up?"

"Fine," I said. "Let's assume you are right. What do you suggest we do to make conservation part of the central fabric of archaeology?"

He sat back, clutched his blanket, and inflated his chest as if making a pronouncement.

"First, reorient graduate training and exercise serious population control in the number of newly minted academic specialists, many of whom end up in the CRM world and hate it. These are the last people who should be salvaging the past. Start some serious training in conservation as a mainstream part of archaeology."

"How do you do this?" I asked, knowing just how hard innovation is in academia.

"Remember all the academic debates about early states, the center and the periphery? You don't have to confront anyone. Work at the periphery."

The suggestions came fast and furious.

"Start a debate between academic archaeologists and conservation folk about curriculum. Is this happening at the moment? Hardly. Stand-alone conservation programs aren't enough. As part of this, integrate conservation into the very academic research, the powerful notion of stewardship of the past as a fundamental responsibility."

I stopped him in full oratorical flood. "But how do we do all this? It's all very well just talking—"

"My dear sir, shamans are talkers. We use our supernatural perceptions to show the way forward. All I can give you are ideas:

- Foster intensive research into—and development of—nonintrusive archaeological methods to minimize excavation in the future.
- Require that all dissertation proposals make conservation a centerpiece of the proposed research.
- Stop insisting that every Ph.D. dissertation involve fieldwork. That's nonsense in these days of huge unpublished collections. Encourage grant-giving agencies to insist on conservation plans as part of all funding proposals, as the first priority.
- Decouple archaeology from the publish-or-perish culture, and reward conservation projects with the kudos given basic research.
- And what about a series of highly prestigious prizes or awards that give prominence and prestige to archaeological conservation?"

"Stop!" I cried. "Are you seriously suggesting that we give up basic research altogether?"

He laughed. "Of course not. It's the lifeblood of archaeology. But you need to look far beyond the transitory gratification of a new discovery, or of a peer-reviewed paper published in the pages of *Science*—to the long, long term. We don't need more mindless, overspecialized fieldwork that culls a diminishing inventory of undisturbed sites.

"Nor do we need an archaeology with dozens of desperate, unemployed, overspecialized academics. What about some redirection and some population control in graduate programs? If this doesn't happen, then academic archaeology really will become irrelevant.

"Enough said," he said with finality. "I want you to look at the future without such redirection. Take this." He threw me a fragment of desiccated mushroom, which I eyed with apprehension. His eyes dared me to swallow it.

The bright sparks triggered by the hallucinogen intensified in dazzling showers. I found myself in a nightmare archaeology of the future . . .

High season along the Nile. Egypt's Valley of Kings fenced off as hundreds of tourists press for a glimpse of just a tomb entrance. Inside, the tomb walls are devoid of paintings, eroded by the sweat and humidity of thousands of visitors.

The Petén rainforest in Guatemala—except almost all the forest has gone, swept away in the accelerating global deforestation of the twenty-first century. Crumbling Maya cities stand out against a landscape of stunted grasslands and rocky outcrops, looters' trenches on every side. They are naked to inexorable forces of destruction. No archaeologists monitored the deforestation.

Then I find myself in a university library back in the United States in late evening. A weary graduate student labors over her dissertation research. She searches in vain for final reports, for detailed accounts of the data recovered from now-destroyed sites. She abruptly leaves the room, looks up at the stars, and screams in helpless frustration. The Big Book is empty, the site gone, the published record merely a few preliminary reports. The archaeologist's stewardship had been found lacking . . .

I shuddered involuntarily as I returned to the real world. The shaman glanced across at me and raised an eyebrow.

"Ah," said he, stirring the fire with a stick. "Enlightenment at last. You've left your comfortable intellectual cocoon."

"I think Flinders Petrie was right," I said eventually. "Because he said, 'Has not the past its rights—as well as the present and the future?' [1904:112]. I think we have forgotten that, which is one reason we are in trouble."

"Petrie said that a century ago—I was forgetting," said the shaman, as he watched the sunrise.

"Well, go and do something about the future of the past . . ."

References

Flannery, K. 1986. *Guild Naquitz*. Orlando, Fla.: Academic Press.
Lipe, W. D. 1974. "A Conservation Model for American Archaeology." *Kiva* 39 (1–2): 213–43.
Petrie, F. 1904. *Methods and Aims in Archaeology*. London: Macmillan.
Snow, C. P. 1961. *Science and Government*. Cambridge, Mass.: Harvard University Press.

Physical Conservation of Archaeological Sites

Archaeology is an unparalleled tool for discovering aspects of the past; it reveals creations of great beauty and technical skill and in some cases previously unknown cultures. Increasingly it provides a sophisticated analysis of past societies and of key questions regarding the evolution and cultural development and diversity of humanity. Yet the archaeological excavation is a once-only opportunity that irreversibly changes data and the site itself. The moment of excavation is therefore both revealing and perilous as it can destroy the very data that the archaeologist seeks, along with other elements of the site's cultural values. There is much at stake in the decision-making process because sites are often rendered more fragile by excavation and therefore require a higher level of conservation intervention.

Part III comprises readings on site-specific physical intervention at archaeological sites defined in the broadest sense. The readings commence with a general methodological and philosophical discussion and are thereafter arranged according to a sequence that reflects the history of most archaeological sites: issues of conservation during excavation, decisions about in situ conservation, and issues relating to preparatory documentation and recording. The readings continue with decision making and planning for different types of intervention and move in sequence from methodologies and issues relating to minimal intervention to the most interventionist techniques. The final readings in Part III describe a range of interventions—site stabilization, reburial, sheltering structures, anastylosis and/or restoration, reconstruction, and replication—providing discussion and analysis of the relevant conservation methodology and a range of case studies.

A number of key issues flow through the readings. First, archaeological research and conservation are often seen as separate and unrelated, and archaeologists and conservators often perceive their roles in this way. Increasingly, however, there is recognition that conservation planning and implementation go hand in hand with archaeological excavation and should not be an afterthought. There

San/Bushman painting from Mocheka Cave, near Murewa, in Eastern Mashonaland, Zimbabwe. At center is a warthog, facing right. To its right is a female kudu antelope; above are two human figures; below is a baby elephant and part of a large python antelope. Pigments are ocher painted on granite outcrops using a plant gum or animal blood binder. Photo: David Coulson.

is inherent tension between the aims of archaeologists (who wish to discover and study all the information a site can produce, penetrating all layers to do so and destroying layers of occupation on the way) and the aims of architects and conservators (who wish to conserve in situ as many of the elements of the site as possible). Another key issue is the need for multidisciplinary cooperation both at the moment of excavation and during the conservation process—a topic discussed along with some of the problems that continue to make this worthy objective a challenge.

And third is the decision-making process regarding physical conservation interventions. Choosing an appropriate intervention that conserves the site and its cultural values is rarely straightforward and depends on many factors. The principle of respect for all the values of a site has played an increasingly important role in this decision making. As indicated in the Burra Charter, assessment of significance and of condition should precede any long-term conservation decisions. (Parts IV and V, on management and conflicting values, pursue in more detail the issue of values assessment and the application of this principle in a range of cultures.) Respect for all values and other principles, such as minimizing the intervention necessary for conservation, has been generally accepted. Yet such decisions are complex. The range of a site's cultural values, and the values that should be given preeminence in conservation, is often the subject of dispute among experts and other stakeholders. There may be tension between the concept of the minimal intervention necessary to conserve the site physically, the use of restoration to manifest the site's values, and the perceived imperative to attract visitors through heavy-handed interventions that can damage fabric and authenticity. The selected readings cover a range of options between the two ends of the spectrum, reburial and complete restoration.

Conservation interventions can never entirely preserve a site in its present state; its fabric will change, as will its values and its place in the community. In fact, any conservation intervention will itself inevitably change an archaeological site and can extensively damage it. In turn, further intervention may be necessary to repair the effects of earlier work. So intervention, like excavation, can be a perilous and complex exercise with as much potential for damage as for preservation. The readings that follow offer examples of such long-term interventions and the results, over time. The principles of reversibility, compatibility, and the use of tested materials and advanced methods have evolved in multitudinous efforts to minimize the damage done by conservation interventions.

Perspectives

[B]y conserving and interpreting archaeological remains, we modify physical and mental images of the past. This is inevitable. We impose the philosophy of our time and we look at and interpret the past through the eyes of our own culture. . . . [O]ne point is clear—whatever we do today to conserve and interpret archaeological remains, is going to be biased by our culture and our technology. Moreover we certainly don't have all the answers, and may actually be wrong on many counts. Let us not forget to leave enough original material for future generations so that they may improve on our research and interpretation. . . .

[R]egardless of the techniques used to conserve an object, an architectural component or a site, these entities are not eternal and have a life expectancy of their own which can be estimated more or less precisely. The field of conservation of the in situ archaeological remains will have to develop its own understanding and standards for life-cycle management. This will become more important as resources to conserve and maintain become more and more scarce.

> —François Leblanc, "The Second International ICAHM Conference, Montréal, 1994" (1996)

If life is difficult for the technologist or any production line, it is even more so in practical conservation. Many variables are involved in conservation problems and some of these lie out of the field of competence of any scientist (e.g. historic and aesthetic values). Even within natural science the disciplines concerned are so varied that the case in which a single scientist may feel competent over the entire field is rather the exception than the rule. . . .

The final result of conservation processes can be judged only after a long time; this means that the outcome of a prototype operation is not known when the production line starts applying the new process. Because it is so difficult to judge the results (criteria of evaluation are non-scientific and the time required is long), it is not surprising that not only the fittest but also the least fit survive among the tinkerers and that the quality of the work produced is quite variable.

> —Giorgio Torraca, "The Scientist's Role in Historic Preservation with Particular Reference to Stone Conservation" (1982)

Depending on the type of site and its material survival, the scientific informational value of many archaeological resources may be lost early on, immediately after

excavation and exposure. Conversely, long-term exposure of many sites, especially those with fragile built remains, may [cause] atrophy over time through gradual erosion or [. . .] collapse from sudden catastrophic failure. Although reburial is often a *post hoc* response to excavations many years old, reburial must be brought into the larger practice of preventative conservation, wherein site protection begins during excavation and ends with consideration of any number of stabilisation options including reburial.

—Frank Matero, Editorial, *Conservation and Management of Archaeological Sites* (2004)

Conservation is usually thought of as an exclusively on-site, post-excavation activity concerned with technical problems or remedial treatment. Few archaeological excavation projects have included conservation as an important component from the beginning, despite the fact that excavation without a professional conservator can result in irreversible damage. . . . On the other hand conservators are often reluctant to be involved in the cultural context of the site. . . . [L]acking the relevant cultural information they may treat the objects or sites with improper interventions. . . .

　　Conservation during excavation requires that conservators understand archaeology more deeply. It is a complex, systematic undertaking involving many disciplines and many communities. It is not the sole responsibility of one professional group to make decisions. Conservation and archaeology should be completely united during excavation. Both disciplines have to study the physical evidence of the site and its contents and the background and history of the deposits associated with human activities. The cultural context should be the basic common element that unites every method and discipline in order to preserve the site and its contents in a harmonious way.

—Xiaohong Wu, "Conservation during Excavation: The Current Situation in China" (2006)

The vicissitudes of the house of C Julius Polibius are . . . symbolic of the history of Pompeii and the different problems regarding the in situ conservation of the whole archaeological park. The house was excavated only a few decades ago. Excavation and restoration go back to the mid-60s and continued without interruption to the 70s. It is the most integral, systematic recent excavation inside the ancient town. It appears to be exemplary, being carried out according to exploration and conservation criteria whose end is an almost total recovery and resetting of the structure that has come to light. It was nevertheless abandoned during its last stage because of reasons never totally understood. Since then it has received no intervention at all. . . .

Since the excavation, the presence of a large metal covering conceived to be temporary, has remained for about 30 years. It was the main reason why there was damage to the structures and the wall paintings. The rainwater leaked through more than one point of the covering, favouring the development of moisture and micro climates. Also there was no efficient system to drain rainwater. A high degree of moisture coming from the soil, due to the presence along the east and north sides of the bank leaning against the external perimeter of the house, and corresponding to the limits of the remaining and unexplored part of the insula proved to be pernicious to the conservation of the adjacent walls on the opposite side, just inside the finest rooms containing the most precious wall paintings.

—Marisa Mastroroberto, "The House of C. Julius Polibius in Pompei: Reasons for Restoration" (1996)

[P]rofessionals have resisted adopting conservation in situ. This resistance is anchored in an entrenched mentality and other well-established models of intervention but also on widely held opinion that the results of in situ treatments have been unsatisfactory or negative. . . . When the decision is made to preserve a mosaic in situ, attention must be paid not only to the technical and operational reliability of the intervention in itself but to establishing a coherent and ongoing maintenance program. . . .

The scientific community as a whole cannot delay much longer in embracing sustainable preservation strategies. The threats to many important sites are increasing, and the gap between needs and resources is becoming larger. It is now urgent to adopt a policy of sustainable conservation based on preventative measures and maintenance programs that have a minimal impact upon ruins and that are economically feasible. The emphasis must be on prevention and recovery strategies. And even if prestige interventions on masterpieces or on artefacts of particular significance must be carried out at times (since sponsors are more likely to be interested in funding this kind of project), the majority of resources must be dedicated to maintenance and routine care.

—Alessandra Melucco Vaccaro, "Philosophies Favouring In Situ Conservation" (2003)

What are the real needs of threatened cultural sites, and how should they be assessed? These questions were explored during the Yungang training course, when participants were asked to report on the condition of some of the more seriously deteriorated painted caves and to assess their current conservation needs. Basic conservation surveys were made using photographs or baseline drawings superimposed with transparent sheets to record graphically the different categories of damage and decay. Exposed to severe weathering, the caves showed clear

evidence of salt efflorescence and crust formation, rock splitting and exfoliation, and pigment loss; and the initial consensus of opinion was that they required urgent physical interventions to stem these manifestations of decay. In the case of one of the grottos examined, the historic photographs were compared with the cave's present condition. The course participants were surprised that decay had not progressed in any major visible form over a period of about twenty years. [. . .]

These simple exercises highlighted the main assumptions and discrepancies in the way decay is frequently perceived by those who care for cultural sites. The appearance of decay is taken as proof of progressive or alarming deterioration demanding urgent attention. In turn, manifestations of decay are too easily linked to specific causes that in reality are complex and interrelated and that remain misunderstood even as decisions are made to undertake major physical interventions. Whereas many forms of natural decay are insidious and gradual, human actions that we often imagine as beneficial—conservation interventions, archaeological excavations—can cause dramatic and sudden alterations of far greater impact to cultural sites.

> —Stephen Rickerby, "The Role of Documentation in Defining Conservation Strategies at Grotto Sites" (1997)

Any radical alteration of the site within its natural environment is experimental. It is entirely impossible to perceive, much less calculate, the profound range of variables which come to bear upon the transformed conditions. The degree to which empirically derived predictions can be met becomes the degree to which planned changes will be successful. Only rarely is sufficient data available by which the impact of alterations can be measured. This is because the reasons for intervention on any major scale can themselves be highly complex, and quite often conditioned by factors entirely separate from the simply stated goals of conservation and preservation. To balance perceived physical needs with the art of architectural design, the crosscurrents of political interests, the availability of funding adequate to the best plan, personal and group ambition, the interests of the media, and the changes in nature itself is an act not suitable to the abilities of mere humans.

> —Paul G. Bahn, Robert G. Bednarik, and Jack Steinbring, "The Peterborough Petroglyph Site: Reflections on Massive Intervention in Rock Art" (1995)

[In the practice of anastylosis,] the restorer is expected to carefully and sensitively reuse a minimum number of fragments and/or the best preserved original material, and combine them, following integration with new material, with the ruin still existing in situ. This emphasis will create with adequate precision a new image of the ruined monument which, although never before witnessed as such, will render the monument's volumes more comprehensible and effectively secure its con-

servation. In order to accomplish this, the restorer must possess the knowledge, precision and experience of a specialised professional and the imagination and sensitivity of an artist. Executed unskilfully, anastylosis would falsify the monument, prevent the beholder from understanding the ruin's historical phrases or be reduced to a mechanical process—a heresy akin to reconstruction.

—Jordan Dimacopoulos, "Anastylosis and Anasteloseis" (1985)

Besides museums and publications . . . reconstructions of excavated structures are one way to communicate . . . to the public. [. . .] To a large number of visitors, reconstructions are a popular method to learn about the past because the past becomes tangible and legible. A site promises to establish close contact with original artefacts and materials. Archaeologists and architects who work on reconstruction know that the structure is a scale model of how structures, buildings, city walls, etc., may have looked. However this is rarely understood by visitors and attempts to communicate the hypothetical nature of this information to the audience is generally brushed aside. Usually the reconstructed buildings are taken at their face value. Frequently it is believed that the reconstructions are a perfect reproduction of the past or, even worse, *are* ancient structures. The attraction of reconstructions is both an opportunity and a threat. It is an opportunity to communicate the rightful interests of archaeology to the public and it is a threat that this medium of communication becomes its object.

—Peter Kienzle, Review of *Archaeologische Denkmaler in Deutschland. Rekonstruiert und Wiederaufgebaut*, by Hartwig Schmidtcs (2001)

Paralysed in their proper criteria of scientific verity, modern archaeologists refuse any idea of integral reconstruction for fear of committing even the most insignificant error. On the other hand, they do not hesitate to disfigure the sacred precincts with vulgar protective structures exiling the most noble works of art to such miserable huts of concrete and steel as the archaeological museums of Delphi and Sperlonga.

. . . [L]ike bad clock makers, they continue to take apart the clock, contenting themselves with classifying elements according to weights and measures. Having lost the plan of the clock, however, they doubt that the clock can ever again be used to tell the time.

—Leon Krier, "The Love of Ruins, or the Ruins of Love" (1983)

When any area of archaeological sites reaches the level of [visitor] saturation attained by Carnarvon Gorge [rock art site] in the late 1970s, a decision on the introduction of 'hard' conservation measures becomes inevitable. 'Hard' measures include a vari-

ety of options, applicable for a varying range of situations. These include low guidance fencing, high protective fencing, protective mesh screening or boardwalks.

Irrespective of the extent to which planning, care, taste or cost are introduced into these protective measures, it should be accepted that any form of 'hard' conservation must detract from the purist image of the unsullied site [in its natural setting]. Although regarded by most as a small price for preservation of the basic site content, the point is still a valid one, and ever present in the minds of the small percentage of visitors perhaps best termed as 'idealists'. This minority registers immediate disappointment at finding that even archaeological sites have been caught up in what they see as the 'supermarket' image of development. For numerous reasons, including this degradation of the setting, as well as unavoidable deterioration from increased visitation, sites chosen for development should, in all fairness, be considered 'sacrificial' sites.

> —Graham L. Walsh, "Archaeological Site Management in Carnarvon National Park: A Case Study in the Dilemma of Presentation or Preservation" (1984)

Maintenance. The very word conjures up images of scrubbing, polishing and dusting. Gone is the glory of architectural investigation and skilled craftsmanship. Here to stay, however, is the real preservation responsibility for the historic property. The fact that maintenance suffers from a low priority image to both the public and the building management does not diminish the true importance of this vital portion of any preservation program.

> —J. Henry Chambers, *Cyclical Maintenance for Historic Buildings* (1976)

In the past, conservation of archaeological sites, when considered at all, was done by archaeologists whose primary focus was on movable finds. Reported conservation of architectural features most often took the form of anastylosis, reconstructions, and occasionally site protection. Where architectural remains are prevalent, architects are often enlisted to record and stabilise large-scale features. Recently, there has been a greater degree of collaboration between archaeologists and architectural conservators and related professionals, such as historians, ethnographers, engineers and physical scientists. All have played critical roles in the process of investigation and research. The interdisciplinary nature of archaeological site conservation can be seen in the varied authorship of more recent sources found in the literature review.

> —Frank Matero, Kecia L. Fong, Elisa Del Bono, Mark Goodman, Evan Kopelson, Lorraine McVey, Jessica Sloop, and Catherine Turton, "Archaeological Site Conservation and Management: An Appraisal of Recent Trends" (1998)

John Ashurst and Asi Shalom

Short Story: The Demise, Discovery, Destruction and Salvation of a Ruin (2007)

Archaeology is a potentially destructive force when not carried out concomitantly with appropriate conservation. This illustrated reading provides a vivid example of how this might occur and sets the scene for many of the principles covered in this part. Ashurst and Shalom describe how a small building, part of an ancient settlement, was abandoned and neglected and fell into a ruined state. Regression and decay gradually slowed as the building became buried, and its state was relatively stable until it was excavated. Excavation revealed important information about the site's purpose and nature, significance, and construction methods and gave insights into the post-occupation history and decay. However, if the now-exposed remains were recorded and left exposed, the site's regression would rapidly recommence. Poor-quality interventions would exacerbate its demise, but intelligent conservation assessment could provide an appropriate conservation solution.

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Preliminary Survey

The preliminary survey must include not only remains showing above or just below the ground but also a wider analysis of the topography and climatic conditions in the area, such as changing heights, water movements and natural drainage, seasonal winds, naturally protected areas and a general assessment of rocks, soil and

vegetation over the site. Topographical and climatic conditions and the accessibility of the site were critical factors affecting its first settlement. These conditions must be appreciated and understood as a critical part of the analysis of the site and the history of its development.

The illustration [below] indicates the location of a small building standing high on the hillside above disturbed ground indicative of a medium size settlement. There was a backdrop of ancient terraced hillsides and the distinctive profile of an old volcano. At the base of the hill slope is a shallow lake navigable only to shallow draft boats.

Cult Temple

1   The Complete Building

A small cult temple was constructed high on the hillside above a small town located on the water's edge. It was constructed of the local limestone with composite walls 0.75 m thick. The internal space was covered with a stone vault capped with light-weight lime concrete and a pitched tiled roof. The internal surfaces were covered in plaster and richly painted. The floor was covered with limestone, ceramic and marble mosaic. The town and its temple were abandoned following a minor eruption of the nearby volcano and the silting up of the waterway which brought trade to the town.
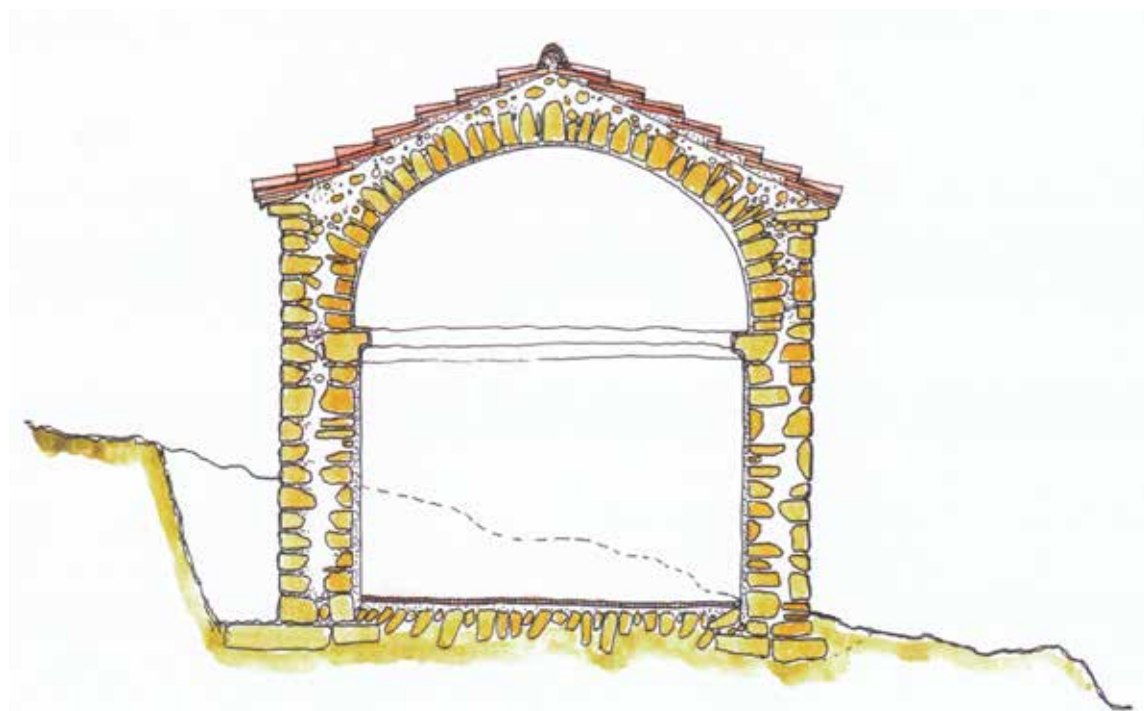
2   Phase One Deterioration

After a few years of disuse roof tiles become loose and fall. The weak fill of lime and tufa above the vault attracts soil forming plants, and their roots exploit fine cracks in the concrete and invade the joints of the vault. Externally, soil is gradually washed down against the upper retaining wall and is scoured from under the shallow foundation of the lower wall. Water begins to have access to the heart of the walls, moving between the tails of the stones and the core.
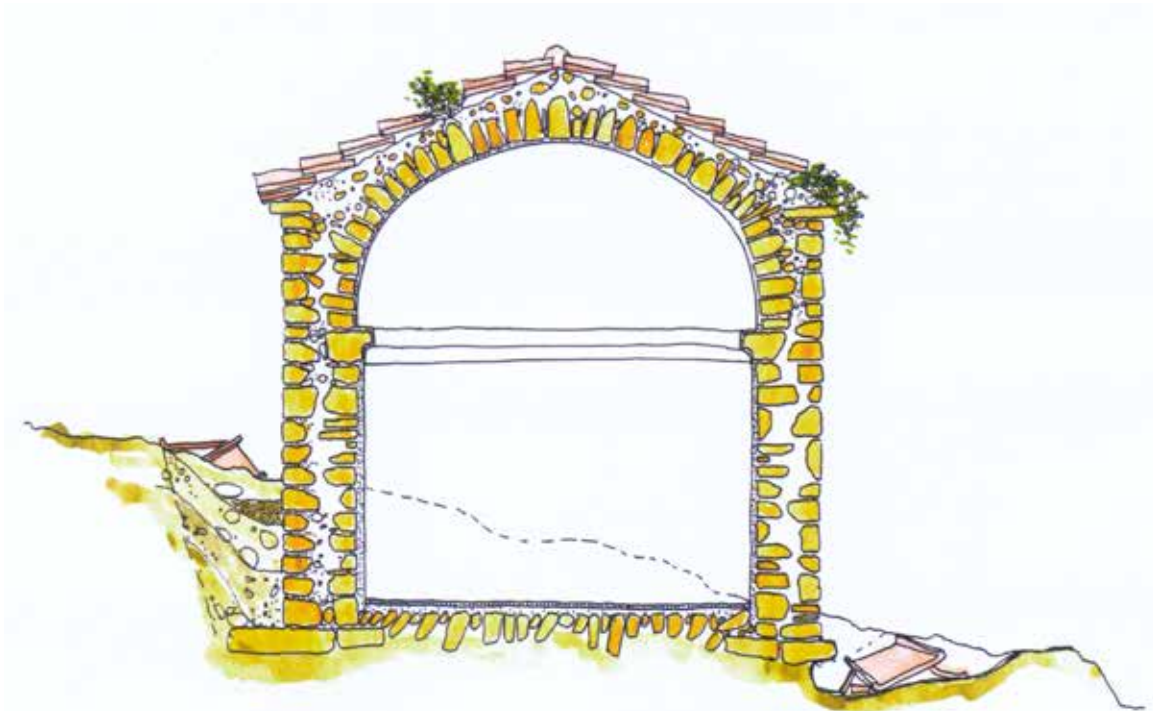
3   Phase Two Deterioration

Earth tremors cause the undermined low wall to lean forward and the unrestrained vault to crack along its length, causing many of the roof tiles to slide to the ground. This is followed by the collapse of the centre of the vault which allows large stones to fall, in places smashing the mosaic floor. Plaster at floor level becomes intermittently saturated, softens and loses its decorated surface. Water is able to pour through the open roof and settle over the floor area.
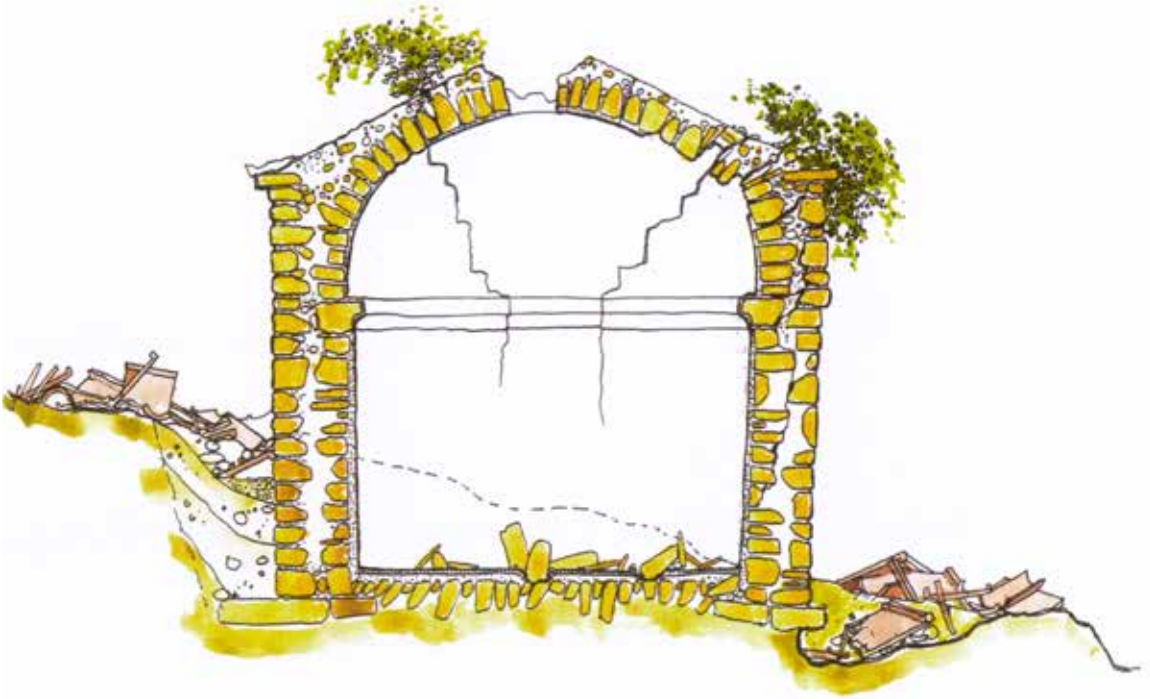
4   Phase Three Deterioration

There is now a progressive loosening of the vault stones, which depend now only on the adhesive qualities of the mortar to remain in position. Further collapse of the weakened vault creates piles of stone and debris on the floor. Water now has free access to the decorated wall plaster. Accumulation of soil and stone washed down from the hill above bring about the collapse of the top courses of the upper wall, adding to the accumulation of stone within the building. Some of the fallen stone carries with it the decorative painted plaster frieze.
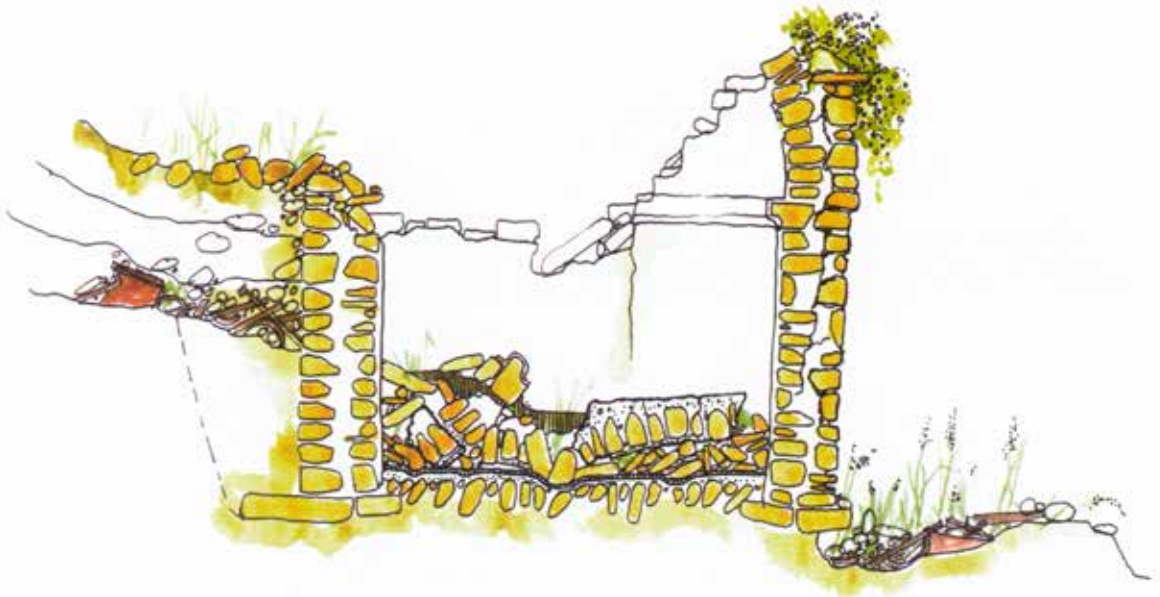
5   Phase Four Deterioration

There is now little more to fall. Accumulations of stone and soil create relatively stable conditions over the ruined temple. However, deep rooting trees and shrubs readily colonise the loose debris and, as they continue to grow, exploit the wall cores. Small mammals and reptiles occupy the site with its numerous natural cavities. This is the site in the condition found by the archaeological team. Priorities have to be established and time and cost estimates prepared for the work of uncovering and recording. A minimal budget is provided for temporary supports and partial back filling. The likelihood is that this small contingency sum will be spent during the excavation and nothing will be left for protection.

6   Archaeology as an Informing Force

The site is studied contextually and specifically, carefully recorded and systematically excavated. The stratification, construction, materials, artefacts and sequence of building and destruction become clear. After a period of further analysis reports are prepared and archived, perhaps suggesting a further season of excavation if funds are available. No money is left for any temporary protection, and it is confidently predicted that not much deterioration can take place in one year. The site is left in a dangerous condition and is regularly visited by souvenir hunters.
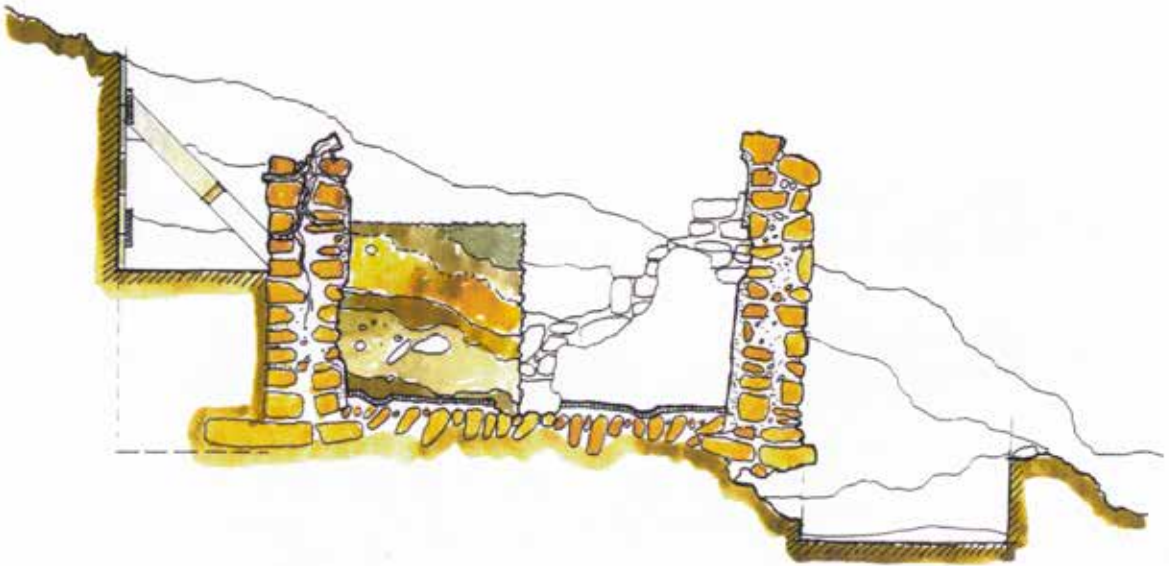
7   Archaeology as a Destructive Force

The site has provided all the information considered necessary for the historic record and is left abandoned. No money can be made available for further excavation and a period of neglect begins. Excavated material from the interior of the temple had provided a counterfort against the pressure of soil, loose rock and water moving down the hillside. Now the spoil has been removed, the rear wall collapses. Water ponds under the foot of the lower wall encouraging its subsidence. Water moving through the composite walls loosens the face work from its core. Water ponds on the mosaic floor and micro-organisms begin to colonise the painted plaster surfaces. Cut roots of vegetation growing on the wall begin to support new growth. Small mammals return to the site and begin to burrow into loose fill. The plaster is totally unprotected and detaches from the walls. Within a few years nothing significant will be left on the site for further study and re-appraisal.
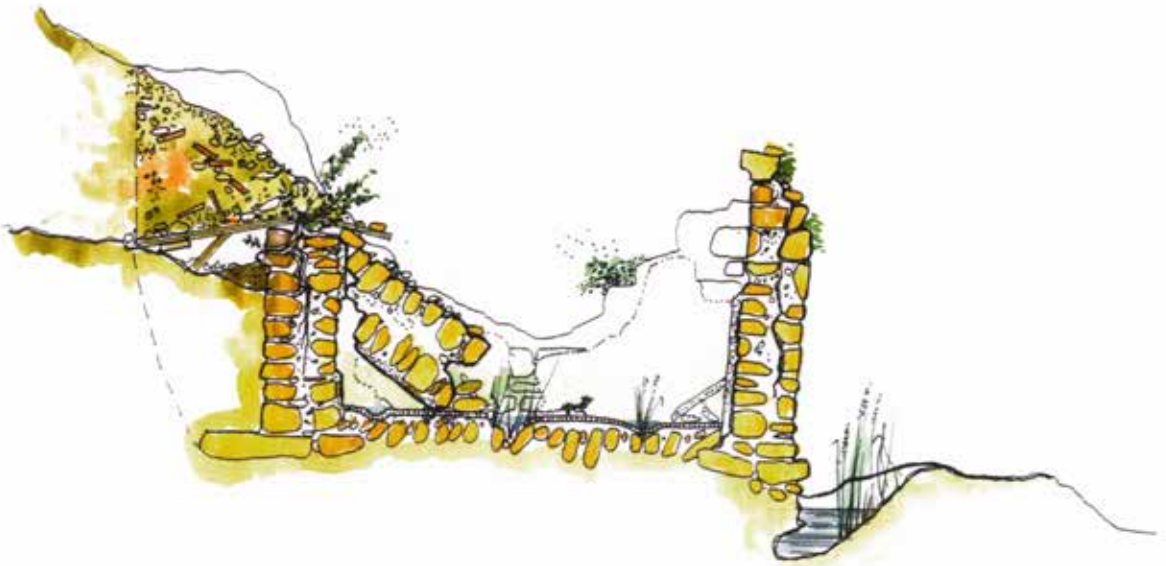
8   Ignorant Repair as a Destructive Force

In an attempt to consolidate the excavated building and leave it open to view, the responsibility for the site passes to a maintenance team with no experience other than general building repair. The walls are capped with cement based mortar and open joints are packed with cement grout and mortar. Fallen stones are picked up and set back on the wall heads with no understanding of their original provenance. Cement mortar is also used to form fillets against broken plaster edges and to patch lacunae in the mosaic floor. The plaster edges are painted with water soluble adhesive. The lower wall is underpinned with stone and concrete block. Water still collects in all the low spots of the site. Drainage channels are formed along the base of the walls and are lined in cement mortar. This kind of work not only completely confuses the surviving evidence of the original building but plays a real part in encouraging its destruction with the use of totally incompatible and inappropriate materials.
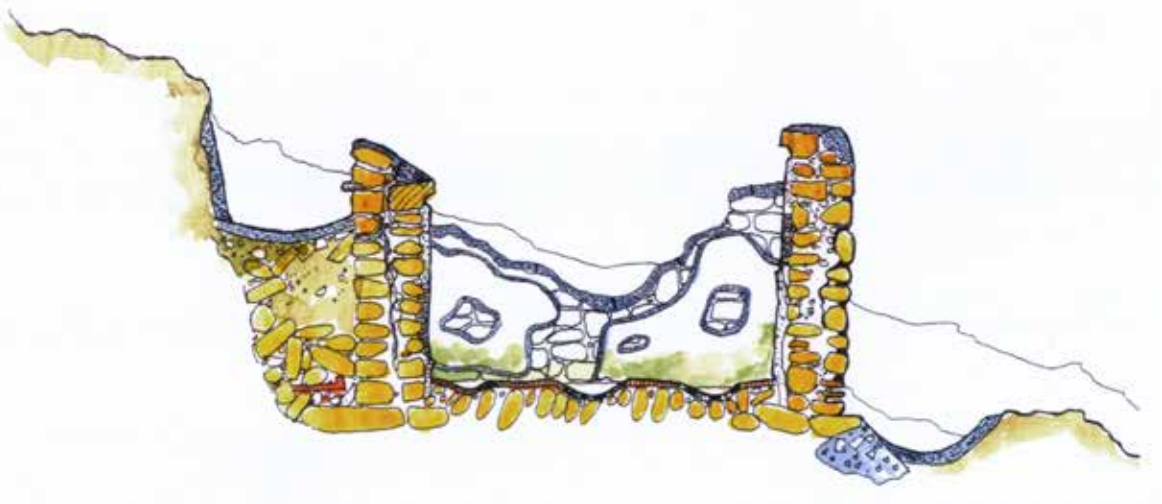
9   **Correct Conservation as a Benign Intervention**

If the site is considered important enough to leave open, perhaps because it is part of a tourist route, good conservation practice can be used to protect the excavated building, always providing there are adequate funds to carry out conservation maintenance for the indefinite future. Alternatively, the site may need to be temporarily consolidated because the archaeological investigation is not complete. Loose stones remaining in situ can be wedged with stone pins and a weak, compatible lime mortar. Small roots can be removed and large, woody growths cut back as close as possible to the surface of the masonry. Open joints and wall caps can be consolidated with compatible lime mortar, often a putty lime with ceramic powder. Water collecting hollows in the mosaic floor can be covered with geo-textile membrane and leveled with sand. Walls which are leaning or have inadequate support can be buttressed with sand bags. Decisions need to be made about who carries out this work. The archaeologists may need to carry out immediate emergency support works. Full conservation work needs to be carried out by trained conservators.
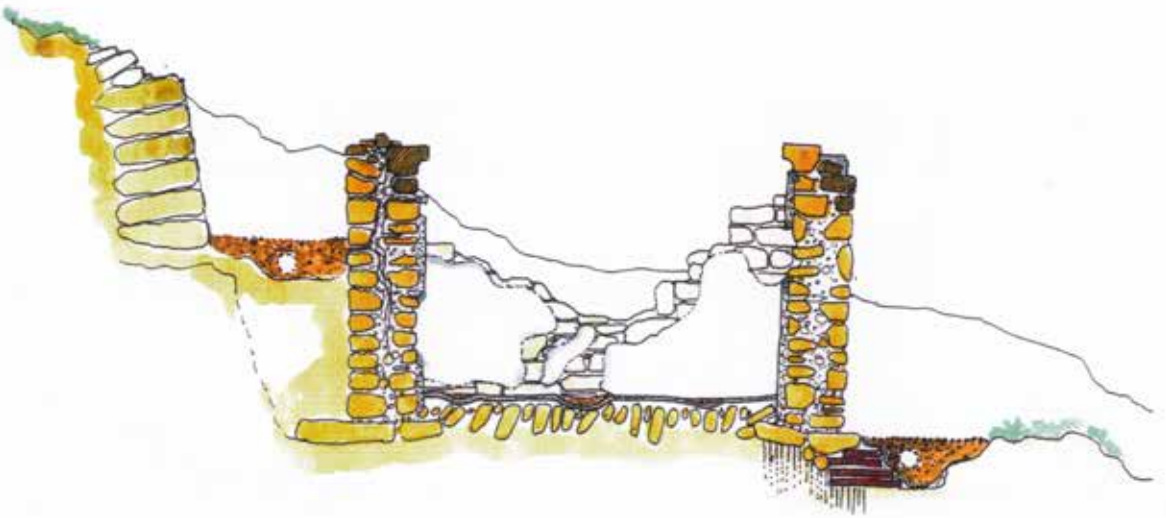
10   **Reburial**

Where no funds are available for adequate conservation works and especially when the future of the site is uncertain, careful reburial after recording is often the wisest option, even when there is local opposition to the idea. Even reburial, however, will require some of the protective support and intervention of the kind which can be carried out by the archaeologists. The whole of the excavated area needs to be covered with generously lapped geo-textile membrane before returning the spoil to the site. Providing there is a generous covering of soil over the walls there is no reason why their outline should not be readable above the ground, and there may be significant benefits in being able to see the position of the building. In some situations temporary land drainage may be installed to divert water from sensitive areas as part of the reburial plan. This protection recreates the relatively stable conditions in which the ruined building survived for many centuries.
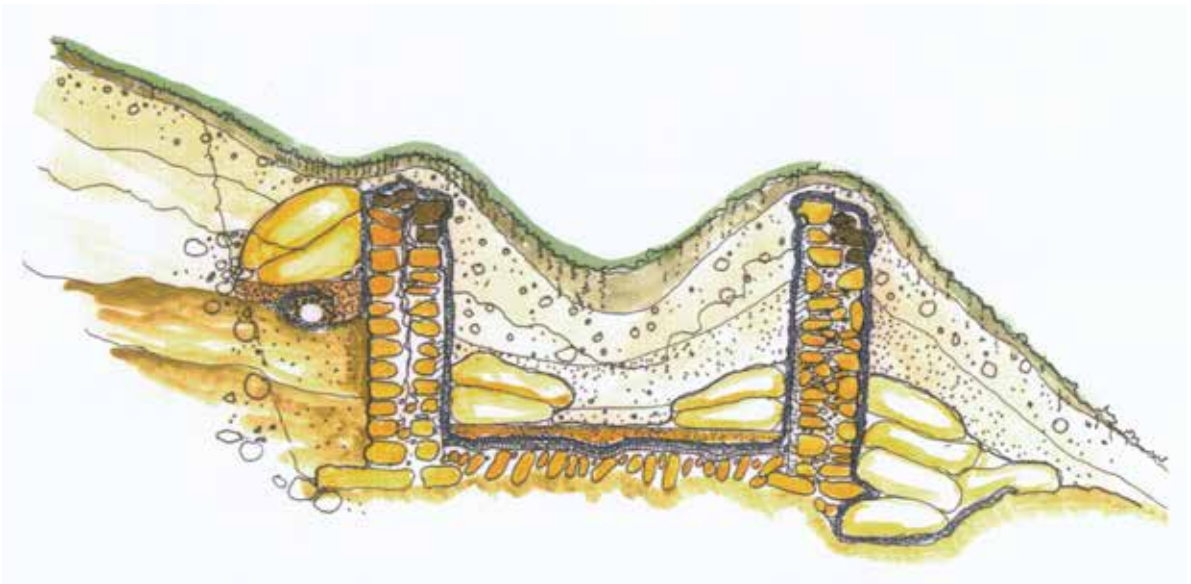
Teresa Patrício

The Conservation of Archaeological Ruins: Outline of a Methodology (2004); Methodology for the Restoration of Archaeological Remains (2006)

The class of sites often referred to in the literature as ruins has a multiplicity of values and complex physical components. Ruins present a conservation challenge that has long exercised archaeologists and conservators. This reading is presented in two parts: a selection from Patrício's 2004 dissertation and her contribution to the volume Conservation in Changing Societies. *Both are based on a detailed study of the treatment of Mediterranean ruins, describing a modern methodology for their conservation that relies on assessment of values to determine conservation strategy and the need for multidisciplinary work. Patrício outlines essential criteria for successful application of her recommended approach and presents the methodology in six work phases that incorporate many elements of current best practice.*

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A methodology for conserving archaeological ruins is a complex task, requiring both synchronic and diachronic thinking and an acceptance of multidisciplinarity.

The field of archaeological architectural heritage is vast: sites and structures, large and small, complete or fragmentary, standing or collapsed. This heritage is a victim of time, irreversibly damaged over the centuries and affected daily by incompetence, stupidity, and irresponsibility. In order to efficiently conserve ruins, we need to radically change our thinking.

Today, debates on heritage and values are of very minor importance relative to considerations of finance and tourism, site works, research needs, and political will. Heritage practitioners need "a great deal of knowledge, seasoned with patience and passion" (Jean-Yves Andrieux 1997).

Theoretical Framework

There has been significant historical interest in archaeological conservation. Already in antiquity there was a notion that restoring past symbols used "memory" and "memorial" to "remind" and "warn" (from the Latin *monere*); they were an emotive witness and inspired the Renaissance with "regret at seeing ancient ruins vanish." Scholars learned about [classical] architecture through analysis and experimentation, while respecting its age and safeguarding the fabric (Carbonara 1997). From imitation, architects moved to research on formal rules, to the archaeology of buildings, and to the analysis of [ancient] treatises: Brunelleschi, Serlio, Palladio, and others were the first archaeologists cum architects. There is a vast contemporary literature on this topic (H. Günther, H. Millon, V. M. Lampugnani, C. Ceschi, H. Burns, P. Marini, S. Settis, G. Clark, etc.).

From the sixteenth to the start of the eighteenth century the fascination of Rome and the contemplation of ruins gave rise to two disciplines: archaeology and the conservation of ruins. High points of this period are the discoveries of Herculaneum (1711), Pompeii (1748), and Stabiae (1749).

Today we are removed from basic humanistic research (into archaeology and history). We too often forget J. J. Winckelmann's principle that historical analysis based on systematic documentary research is an essential preliminary to correct restoration. Increasingly sophisticated survey methods mean we no longer look, or touch. Economic pressures distract us from emotion and patience.

From the start of the nineteenth century archaeology and the conservation of ruins became all-consuming. G. Valadier, R. Stern, and L. Canina understood the need for technical knowledge for discreet restoration. Their work on the Arch of Titus (1807–44) introduced two criteria, which today we usually associate with the Venice Charter of 1964: one was to underline the architectural concept by mark-

ing the restoration with different fabric, the second to simplify form as an attempt to clarify the [architectural] order. These topics were to be much debated in the twentieth century.

Restoring ruins has become a cultural task of assessment, and the work of restoration architects has become increasingly difficult. With Europe in ruins between the two world wars, there was a new and strong feeling about conserving ruins. The need for unity led to the first great conference, at Athens in 1931, which brought together only European countries. Interestingly at the second great conference, at Venice in 1964, there were only three non-European countries: Tunisia, Mexico, and Peru. Athens 1931 already demonstrated the current paradigm of destruction, rebuilding, and conservation on a huge scale.

Ruins conservation depends on a whole set of factors: climate, the natural characteristics of the sites, anthropogenic changes, physical conditions of the structures, and properties of the fabric. Identifying the causes of damage is essential for conservation. This topic—the risks and threats to ruins within the Mediterranean Basin—needs more intensive research.

Archaeological ruins conservation is constantly changing in both time and space. Our research has shown a series of developments:

- First, there has been a pendulum effect. For years sites were cleared of all accretions—medieval, military, or civilian—but there is now a reverse trend to keep everything and to reconstruct if necessary. The Athens Acropolis was emptied of various structures, but now the gaps in the walls of the Erechteion are being totally infilled. In the modern world, characterized by the Noah Complex, as Regis Debray put it, the whole of Europe (and the world) has moved towards keeping everything for the future. Legal protection has moved from architectural and archaeological heritage to oral and intangible heritage. The French historian Pierre Nora has called this "heritage *zapping*."

- Second, archaeological excavation and research are seen as independent of ruins conservation and restoration. The thirst for scientific knowledge outweighs the preservation of heritage of inestimable value. Inevitably there is damage and irrevocable loss. Let us not forget that to excavate is to destroy! The Lausanne Charter's article 6 makes it quite clear: if you cannot conserve, you cannot dig. This implies that it is essential to consider the feasibility of conservation and to plan for it prior to excavation.

- Third, we see that big sums are invested in planning and management, but, as Sharon Sullivan (1997) points out, the resulting plans may be impracticable, very costly, and not supported by local policies. The lack of a conservation program can have two results; either nothing is done and the site is abandoned, or the people in charge act on their own with short-term solu-

tions. In either case there are unforeseen adverse consequences in both the short and long terms.

- Fourth, many sites are victims of their popularity or their seniority: their values appear self-evident. Many Mediterranean sites have become major because of the monumentalization (architectural and cultural) of their remains after intervention. This happens because the conservators or other agents have not assessed values. Restoring the Nymphaeum at Sagalassos monumentalized it architecturally (as the only restored building on site in 1997) and culturally (as the only functioning Hellenistic fountain in Turkey and the Mediterranean). Here the restored structure has become independent of the site and of its other structures, some of which are actually more important architecturally, aesthetically, or historically. At the Château de Boussu, the decision to restore was taken without considering the whole of the site. The site is a victim of the eternal conflict between scientific historical research and political interests.

Nowadays, heritage practitioners constantly reassess values, both inherent and potential. This implies preliminary documentary research and analysis, to be carried out by a team of specialists, working within a methodological sequence.

Restoring architecture is a matter for architecture; but architectural monuments are masters of complexity, which sustain human memory. There are important connections between the fabric, the form, the mark, and the construction system that demand a multidisciplinary approach, so that all disciplines can contribute to a true knowledge of the monument. All our documents recognize this. As early as 1931 the Athens Charter said "the conservation of an excavation needs stringent collaboration between archaeologists and architects" (art. 6) and "conservators and architects, and scientists from physics, chemistry, and the natural sciences, so as to arrive at the appropriate method for each case" (art. 5). Unfortunately these two articles remain unusual in their specificity. Even though the idea of a multidisciplinary team continues through the century, only the archaeologist remains as an important agent. Other agents, such as architects and conservators, are forgotten.

A century ago, to oversimplify, the excavation team consisted of the archaeologist, who did the digging; the photographer, who took the pictures; and the architect, who did the measured drawings. However, archaeology has changed so much that archaeologists now have many functions and specialities, one of which is obtaining financing. But they can no longer cope with increasingly complex sites and sometimes have to call upon inadequately qualified helpers. There are two solutions. One, already noted, is complete and detailed documentation, as a form of conservation; this requires a spirit of cooperation. The second is to have a multidisciplinary team of specialists from the very start. The problem is that there is usually a dearth of such specialists. On this topic all of our documents

are unanimous that we need to educate both scholars and the public. But the problem is also moral and ethical: each specialist has to accept the existence of the others, and while the responsibility of the archaeologist has long since been determined the responsibilities of the architect or engineer have not. One can distinguish between architect and restoration architect (we would say "conservation architect"), the latter being specially trained in both theoretical and practical approaches; an important responsibility since at the end of fieldwork the architect is often legally and morally responsible for the completed project. But architects cannot work by themselves—the days of the nineteenth-century *Homo universalis*, who could do everything, are long gone. Archaeologists, restoration architects, engineers, conservators, geologists, geomorphologists, surveyors, anthropologists, chemists . . . are all important to the safeguarding of archaeological heritage. This group has to be brought together before fieldwork starts and, in any case, before the research design. It should be a sine qua non condition that the excavation teams from the start include a restoration architect in key position alongside the archaeologist and a conservator in key position alongside the architect.

Which leads us to conclude that it is absolutely necessary to have a methodology for planning the conservation of archaeological remains in the long-term management of archaeological sites. This requires knowledge of the site and its remains, an understanding of history, architecture, and building methods.

This paper presents a specific methodology for the conservation of architectural ruins in an archaeological context. It is conceptual in that it is not simply a collection of methods, but rather uses methods from various disciplines in order to analyse a witness from the past—the ruin.

General Bibliography

Andrieux, Jean-Yves. *Patrimoine et histoire*. Bélin, Paris, 1997.

Carbonara, Giovanni. Avvicinamento al restauro. *Teoria, storia, monumenti*. Liguouri Editori, Napoli, 1997.

Günther, Hubertus. "La rédecoverte de l'Antiqué." In Henry A. Million, Vittorio Magnago Lampuganani (dir.), *Architecture de la Renaissance italienne: de Brunelleschi à Michel-Ange* (Exposition du 13 mars–16 novembre 1994, Palazzo Grassi, Venise), Musée National de Monuments français. Flammarion, Paris, 1995. 259–306.

Sullivan, Sharon. "Modèle de planification pour la gestion des sites archéologiques." In M. de la Torre (dir.), *La conservation des sites archéologiques dans la région méditerranéenne, Conference Internationale, Athènes 6–12 mai 1995* (Actes de Conférence). Getty Conservation Institute, Los Angeles, 1997. 15–26.

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Conservation as a Methodological Process

The conservation and restoration of architectural ruins needs to be repositioned as the result of a specific methodological process, integrated into global archaeological research, and as a factor in the management of sites. The development of this methodological process explores and defines a step-by-step working method, the responsibilities of the various protagonists, the elaboration of accurate and exhaustive analytical documentation, and the establishment of conservation strategies based on the identification and constant assessment of values. This method allows for the development of plans, actions, concepts and proposals, with the sole aim being to preserve historical documents. The methodology, inspired by the traits of holism, is established in accordance with the various stages in archaeological work.

Aim of the Methodology

The methodology has the following aims: organising and systematising the steps of the conservation process, providing an interactive framework so as to guide and plan conservation actions for archaeological ruins in their urban and/or natural context, and identifying the tools, stakes and potentialities for sustainable preservation. It is intended as a guide in helping site managers, archaeologists and restoration architects to thereby develop an appropriate and feasible overall project within a scientific framework.

Methodology Criteria

The methodology presupposes eight basic criteria, identified in order to guarantee the success of the process and necessary to the conservation of archaeological architectural heritage:

Professional ethics—the definition of the responsibilities, obligations and ethics or the various protagonists in the conservation process.

Archaeology-conservation complementarity—since archaeology is a "path of no return", the time of the dig is essential in the study and analysis of ruins in order to understand and avoid the causes of degradation. The three stages of archaeological research (before, during and after the dig) appear essential in order to arrive at a concerted scientific method for the planning and conservation of ruins.

Identification of values—grasping and understanding the values of a site and its ruins (aesthetic, historical, social, economic, material and usage value, etc.) as a major foundation for a system of reasoning in the establishment of strategies. This remains fundamental in order to establish a good balance between theory and practice.

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Dynamic programmes—preparation of a methodology based on scientific research
      and enabling the preparation of efficient and dynamic conservation and
      maintenance programmes in the short, medium and long term.
Integrated conservation—defending the preparation of durable and integrated coor-
      dination programmes, as well as through the establishment of conservation
      strategies based on the assessment of values and through the cultural sig-
      nificance of ruins.
Sustainability—a sustainable programme includes a programme for conservation,
      presentation, monitoring, maintenance and control.
Commitment—strengthening political commitment and coordination between the
      various public and private sector protagonists.
Methodological holism—based on the assumption that archaeological ruins and their
      context form a system in which each factor has a mutual dependence, afford-
      ing it the attribute of a system with a holistic nature, only a holistic interdisci-
      plinarity approach may be used in their study. This approach is a philosophical
      attitude, which irrevocably integrates conservation into the archaeological
      process and necessitates cooperation between conservers and restorers, site
      managers and local and regional authorities. Dialogue between the disciplines
      is required, and as Sharon Sullivan puts it (Sullivan 1997: 15–26), "the only
      effective plan is a plan adapted to the management environment".

Using these criteria, the methodology for the conservation of archaeological
ruins is structured within a logical progression of six work phases (Table 1) orga-
nised and added to the archaeological research sequence.

Before Archaeological Excavation

Phase 1 — Global Scope of the Site and Ruins

This phase corresponds to the identification and documentation of all factors sus-
ceptible of influencing conservation planning, and begins with the draft planning
of the dig. This is when the first contextual reading is made, and when site and
typology identification takes place, along with the establishment of inventories and
preliminary strategies. This first phase is intended to lead to a synthesis and pre-
liminary charting of values, and to the clarification of conservation philosophies.
To this end, identifying impacts and clarifying the intentions of those in charge is
required at town, territory or national level. The definition of the skills of each of
the predominant interest groups (scientists, representatives of private and public
organisations, tourism specialists, religious groups, commerce and heavy industry,
etc.) proves to be necessary. After doing this and with detailed documentation
(synchronic and diachronic), an initial summary stage leads to the drawing up of
a draft of site values and establishes the strategies as regards the philosophy of
action during the dig.

Before excavations (side label)

1ST PHASE – GLOBAL SCOPE:
IDENTIFICATION, DOCUMENTATION, PRELIMINARY ASSESSMENT OF VALUES AND STRATEGIES:

A - Identification	B - Team	C - Documentation	
Intentions & impacts	*Participants & competencies*	*Synchronic*	*Diachronic*

Preliminary assessment of strategies ↓	*Synthesis & outline of values and objectives* ↓	*Preliminary assessment of conservation philosophies* ↓	
Research strategies	Conservation strategies	Public presentation strategies	Maintenance strategies	Others

During the excavation (side label)

2ND PHASE – ANALYTICAL RESEARCH : DESCRIPTION AND DOCUMENTATION

A - Context	B - Significance	C – Analytical research, documentation *Synchronic & diachronic*		D - Urgent & maintenance conservation
Constraints, conditions & threatens	*Cultural significance & values*	*Building research*	*Physical research*	↓

↓

3RD PHASE - SYNTHESIS, EVALUATION AND STARTEGIES

A - Context	B - Values	C – Analytical research, documentation *Synchronic & diachronic*		D Urgent & maintenance conservation
Synthesis of the identified context	*Synthesis of the assessed values*	*Synthesis of the building research*	*Synthesis of the physical research*	↓

Evaluation
(Short, medium & long term evaluation)
↓
Setting up strategies
↓

Research	Conservation	Restoration	Public management	Maintenance	Degradations monitoring	Values monitoring	Other

After excavations (side label)

4TH PHASE – PROJECT FOR THE SITE, OUTSKIRTS AND ARCHITECTURAL REMAINS

Establishment of conservation policies

A - Conservation	B - Maintenance	C - Monitoring	D--Documentation
Consolidation & Restoration	Original structures	Degradations	Conservation
Reburial	Restorations	Restorations	Maintenance
Presentation	Other	Values	Monitoring
Reuse & Other		Others	Other

↓

5TH PHASE – PROJECT IMPLEMENTATION

A - Conservation	B - Maintenance	C - Monitoring	D - Documentation
Consolidation & Restoration	Original structures	Degradations & Restorations	Conservation
Reburial	Restorations	Values	Maintenance
Presentation	Other	Environment	Monitoring
Reuse & Other		Context & Other	Other

↓

6TH PHASE – QUALITY CONTROL & PERMANENT REVALUATION

A - Program	B - Values monitoring	C - Degradations monitoring	D - Maintenance
Permanent documentation of every action & change			

↓

1ST PHASE, 2ND PHASE, 3RD PHASE, 4TH PHASE, 5TH PHASE, 6TH PHASE, …

Permanent revaluation of the program (side label)

Table 1
Methodology Chart for the Conservation of Archaeological Remains

During Archaeological Excavation

Phase 2 — Analytical Research

This phase typically lasts for some considerable time; it develops on the site and involves the deployment of a large multidisciplinary team. Analysis of the context (monumental and urbanistic, legal, decision-related, financial, social, economic, tourism-related, etc.) and an understanding of the cultural significance of a site with respect to its context leads to the identification and quantification of the various values. At the same time as this contextual analysis, the documentation and detailed analysis of the ruins also takes place. The gathering of information aims to gain an understanding of the ruins so that their values and cultural significance can be expressed. A well organised system of documentation becomes an instrument that directly contributes to the preservation of the historical document; correctly gathered information becomes a key factor in the progress of scientific research; properly recorded readings are essential in the drafting of a good conservation programme. This documentary and analytical approach is developed through two channels that constantly overlap: a synchronic channel and a diachronic channel. During this phase, selective conservation and maintenance work is normally required and is carried out in accordance with the site's management policies.

Phase 3 — Synthesis, Evaluation and Strategies

This phase, of critical importance in the process, corresponds to the synthesis of studies, the assessment of results and the establishment of strategies in the short, medium and long term. This is a determining phase in the follow-up and outcome of the programme. The synthesis of the analytical context study (legal, decision-related, financial, social, economic, tourism-related and other contexts) helps in the establishment of solutions for the various constraints identified. The synthesis and assessment of identified values constitutes the foundation for strategies and projects (conservation, restoration, maintenance, presentation and visitor management). Values are critical for the following: cultural significance of the site, definition of objectives and strategies, preparation of the conservation programme and, lastly, local sustainable development (social, economic and others). To the synthesis of context and values is added the synthesis of architectural research.

This synthesis presents quantitative and qualitative information on site morphology, its current environment and historical evolution, and conveys information regarding the constructive and structural architectural morphology, typologies, forms and dimensions of the ruins, the materials and construction systems at the time of the research and, at time of construction, presents the interior and exterior architectural characteristics, the materials, construction systems, decorations and adornments of each ruin, and gathers together the construction phases and

changes and degradation in forms, materials, structures and decorations, vis-à-vis the historical evolution of the site and of the building.

After Archaeological Excavation

Phase 4 — Project

The assessment of problems, vocations, degradation and values necessitates decisions for the conservation of ruins. Using the strategies established at the end of phase 3, the general conservation policy is defined and the conservation programme put in place. The policy for action must clearly establish the way in which the implementation of the project ". . . will change the site, including its setting, and will have an effect on its value, on the site and its charm, on the client-owner or client-user, and on other factors involved . . ." (Burra Charter, 1992) and must stipulate the way in which monitoring should be carried out, define an ethics code for the appropriate use of the site and the possible reuse of existing structures, give practical indications as regards the type of project to be carried out and provide guidelines for the techniques to be applied and give practical indications as regards the maintenance of the site and ruins. The ruin conservation programme (including maintenance, monitoring and documentation) must do the following: clearly define the values for the site and ruins, clearly state the consequences of the definition of values, set up a programme for the monitoring of values, be compatible with the site management policy (Sullivan, 1997: 23), be financially feasible, technically applicable and appropriate, provide for conservation in the short, medium and long term, allow for the conservation of physical structures prior to and during the dig, establish the various restoration actions for physical structures, provide for the maintenance and protection of physical structures, give recommendations for site use. and plan the infrastructures for visitors within and outside the site, and establish a degradation monitoring programme (Pearson, Sullivan, 1995: 210).

Phase 5 — Project Implementation

Implementation of the conservation programme for the whole of the site and for the various adapted projects in accordance with the strategies defined. The interaction of values will establish itself, and the results obtained represent the distribution of the architectural object of cultural value (distribution to the general public, to professionals and scientists, and to local, regional and government officials).

Phase 6 — Quality Control & Permanent Revaluation

Seeing as society changes and evolves, contexts are dynamic and materials deteriorate, the various conservation and presentation actions must be monitored and

documented; the conservation programme must be regularly reassessed. This reassessment is carried out using the results of monitoring of restoration and degradation, as well as of values and of the environment of the site and ruins, the ecological, urban, rural or other contexts, the microclimate and the impacts to which the site is exposed and which the site produces within its context and environment. This reassessment and monitoring work must be accompanied by detailed documentation. During this monitoring phase, there is a need to ensure continuous maintenance of the site and ruins, and that quality control is in place for strategies and actions.

Final Considerations

The starting point of this research work is based on the conviction that there is a vacuum between research for the conservation of archaeological sites and archaeological research and an absence of conservation programmes for architectural ruins integrated within site management programmes. Clarifying the conservation process (who is involved, when, why and how), determining strategies, and choosing the actions to be taken are all approaches normally adopted without any true knowledge of the values of ruins and of the context, all too often considered from outside of, or after, the archaeological research. The need to redefine methodological working standards so as to guarantee the sustainable and integrated conservation of ruins (matter, context and values) is imperative, and this is the only way to implement sustainable programmes for the management of sites.

The methodology presented is intended as a guide to help site managers, archaeologists and restoration architects to thereby develop a correct overall project—within a scientific framework—that is well founded and feasible for the conservation of archaeological ruins. This methodological approach establishes the necessity for multidisciplinary scientific work—science, technology and expertise—within a holistic dynamic, whilst integrating the human and socio-economic realities of the region. It defines objectives, threats, preferences and values and allows for synchronic and diachronic analytical research—historical and architectural reading. It leads to an 'Overall Conservation Project' for the site and its ruins in the short, medium and long term, and integrates planning, local community involvement, conservation, restoration, maintenance, monitoring and quality control by way of a continuous reassessment approach. Using the developed methodology, the overall project for the conservation of archaeological site ruins places the emphasis on the preservation and protection of values identified by a consensus between holders of local concerns and the scientists responsible for research and conservation. Conservation within the framework of such an overall plan does not only include the physical survival of monuments but also emphasises its contextual environment and allows for an improved understanding of the site and its archaeological monuments.

Bibliography

The Illustrated Burra Charter. Australia ICOMOS (Sydney, 1992).

T. Patrício. *La Conservation de ruines archéologiques. Dessein d'une méthodologie*, thèse de doctorat non publiée, Faculteit Toegepast Wetenschappen, Departement Architectuur, Stedebouw en Ruimtelijke Ordening, Katholieke Universiteit Leuven (Leuven, 2004).

M. Pearson, S. Sullivan. Looking after Heritage Places. *The Basics of Heritage Planning for Managers, Landowners and Administrators*. Melbourne University Press (Melbourne, 1995).

S. Sullivan. "Modèle de planification pour la gestion des sites archéologiques", in: M. de la Torre (dir.), *La conservation des sites archéologiques dans la région méditerranéenne, Conference Internationale, Athènes 6–12 mai 1995* (Actes de Conférence). The Getty Conservation Institute (Los Angeles, 1997): 15–26.

J. M. Teutonico, G. Palumbo (eds.). *Management Planning for Archaeological Sites, International Workshop Organised by the Getty Conservation Institute and Loyola Marymount University, Corinth 19–22 May 2000, Greece* (Proceedings). The Getty Conservation Institute (Los Angeles, 2002).

NICHOLAS STANLEY PRICE

Excavation and Conservation (1984)

There has been much more consideration of post-excavation treatment and conserva-tion than of the need to make conservation an integral part of the excavation process itself. Excavation has often been seen solely as a research tool that is independent of site conservation. While twentieth-century archaeologists became increasingly conscious of the threat to the archaeological record from such factors as increasing development, there has been less formal recognition of the fact that excavation is one of the most destabilizing processes a site can undergo. Stanley Price edited the first ICCROM manual on this subject, and this extract from his introduction sum-marizes a number of principles, issues, and problems relating to conservation during excavation. Ideally, a conservator should be on site during excavation, but scarcity of funding and trained personnel means that this rarely happens. Stanley Price stresses that planning for conservation before excavation and close attention to conservation during excavation (including between seasons) are crucial first steps in the long-term conservation of archaeological sites.

> The things he [the excavator] finds are not his own property, to treat as he pleases, or neglect as he chooses. They are a direct legacy from the past to the present age, he but the privileged intermediary through whose hands they come; and if, by carelessness, slackness or ignorance, he lessens the sum of knowledge that might have been obtained from them, he knows himself to be guilty of an archaeological crime of the first magnitude. Destruction of

evidence is so painfully easy, and yet so hopelessly irreparable. (H. Carter and A. C. Mace, *The Tomb of Tut-ankh-amen*, Vol. 1 [1924], p. 124)

The conservation of archaeological material must begin in the field; planning for conservation needs must therefore start when the excavation is first proposed. This obvious statement needs repeating; although excavation and other archaeological techniques have developed immensely in the past fifty years, the standards of conservation of excavated material have not generally improved to the same extent. The two must, of course, be considered together if the maximum information is to be retrieved and if the finds are to be preserved and accessible for future generations.

1. Archaeological Conservation of Sites and Objects

It is taken as axiomatic here that the authority to excavate carries with it the responsibility to conserve and publish the results of the excavation. But the responsibility for conservation should not be delegated to specialist staff after the excavation is over for two reasons, one practical and the other technical. In practical terms, the supply of qualified conservators (especially those willing to work on excavated material) cannot meet the present demand; on a technical level, some of the remedial conservation work carried out after the excavation would be unnecessary if proper measures of preventive conservation were taken on site. For both excavation aims and conservation needs to be satisfied, the two must be reconciled in the field at the moment of excavation.

The actual moment of excavation is crucial on two counts: first, for the fullest possible observations by the excavator as to the context of the find and its associated material; and second, for the potentially disastrous consequences of the lack of environmental control over finds that are chemically or mechanically unstable. These two concepts, *archaeological context* and *environmental control*, are perhaps the very essence of sound excavation procedure; inadequate attention to either results in that idea of destruction which is often held to be characteristic of excavation. (Conservation too can be destructive, for instance in removing corrosion products from an object; as with excavation, the degree of control and documentation are all-important.) The raw material of archaeology is, almost by definition, non-renewable and only close attention to these two concepts—and the leaving of "witness" areas for control purposes—can make undeserved the label of "destruction".

Moreover the ever-growing field of archaeometry (the application of chemical and physical analysis to archaeological material) depends for its best results on material with good archaeological context and in a state as similar to its excavated condition as possible.

The importance of "context" brings together two aspects of conservation on excavations which terminology and tradition have tended to separate. As to ter-

minology, the products of excavation are either left on site or removed elsewhere, reflecting the distinction between immovable and movable cultural property. The term "archaeological remains" is useful for material still in context but not after its removal to a museum. The words "antiquities" and "monuments" are often inappropriate when applied universally. Instead "objects" can be used for portable items that are removed from a site and "the site" for remains left in situ.

The conservation of archaeological objects, on the one hand, and of archaeological sites, on the other, tend to be different specializations, each with its own practitioners, technical literature and methods of training. The term "archaeological conservation" should refer to both rather than, as often, only to objects.

Accepting the object/site terminology, it has to be recognized that many "immovable" remains (e.g. kilns, mosaics, stelae, temples) are in fact removed from a site for reasons perhaps of security, threatened destruction, "better" display or illegal sale. The loss of context caused by the removal of "immovable" objects, as with movable ones, represents a loss of information for which only the fullest possible documentation can compensate. It also leads to problems in the display of the objects in their new setting, usually requiring some form of re-creation of context. One of the purposes of archaeological conservation must surely be to minimize the loss of information suffered when the excavation process separates objects and the site from which they have come.

In summary, then, archaeological conservation is concerned with both sites and objects. In the event of excavation, its techniques are applied to excavated remains during and immediately following their exposure. This is field archaeological conservation, as distinct from laboratory archaeological conservation.

2. Conservation on Excavations

The proper conservation of structures and objects during an excavation is best assured by having a professional conservator as a full-time member of the excavation team. This ideal is rarely achieved, however, for lack of qualified conservators. [. . .] [Therefore] some basic principles of conservation in the field with which archaeologists should be familiar [are described here.]

These basic principles should be relevant to the conduct of almost any excavation. For those carried out underwater the principles are similar but methods are often different. These have been fully described in a recent publication (Unesco 1981).

The need for a single approach to all aspects of archaeological conservation has become increasingly apparent during the last fifteen years. During this period archaeology worldwide has been characterized by a remarkable increase in:

(1) the number of archaeological sites threatened with destruction;
(2) the number of survey and excavation programmes undertaken to meet this threat;

(3) the number of practising excavators;

(4) the exchange of field techniques and personnel across previously isolated period and area specialisms; and

(5) the quantity and sophistication of archaeometric analyses of excavated material.

These developments—which have also provoked important advances in archaeological theory—have resulted in a greater awareness of conservation issues in archaeology. As far as excavation is concerned, certain ideas remain basic— the uniqueness of each site, the need consequently to document every step of the investigation and the responsibility to conserve in some way the results of the excavation. Despite the use of systematic sampling techniques, there has been an enormous increase in the quantity of finds requiring conservation and also in the number of excavated sites to be preserved—those that escape destruction because of their obvious importance in addition to those excavated for research or display purposes where there is no immediate threat of destruction. In this connection, a further phenomenon of recent years in addition to those noted above is the marked increase in the number of visitors to archaeological sites.

In these circumstances, planning of conservation action is subject to the selection of priorities which in turn depend on national or local policies. Nevertheless, the reconciliation of excavation and conservation needs is a common objective, and the following principles are worth recalling.

2.1 Planning Conservation before Excavation

Three general principles can be stated under this heading:

(1) that the funds obtained for an excavation project are sufficient also for conservation and publication needs (staff, facilities, materials, printing etc.). Some budgets and grants for excavation acknowledge that post-excavation analysis and publication costs may be higher than those of the fieldwork. But the recurrent costs of site-maintenance and storage of finds—responsibilities that are in practice often divided between two different agencies—also have to be calculated and budgeted for. In some cases, no facilities exist for post-excavation maintenance, a situation that should strongly influence policies in the field. For movable objects this means that the "first aid" treatment given them in the field may be the only conservation that they receive. For remains in situ this should generally mean a policy of conservation by backfilling of the excavated area. In any case, the sum to be allocated to conservation cannot be forecast until arrangements for future maintenance of the excavated site and finds have been made.

(2) that sufficient is known of the local environment to plan for forseeable conservation requirements at the site. There will always be the unexpected discovery that calls for emergency action, for instance the waterlogged deposit on an

otherwise "dry" site. But, in general, preventive conservation can be planned in advance (see also Rose 1975) by studying the site's local environmental variables, for example its temperature and relative humidity, extent of shade, predominant wind direction and frequency, frost occurrence, soil characteristics and ground-water level. These should be investigated during the reconnaissance visit to the site for planning excavation strategy, made ideally at the same time of year as that in which the excavation will take place. The data collected may well prove valuable also for ecological interpretation of the site and should be published anyway as an aid to future workers in the area.

(3) that sufficient is known of the site's cultural material to ensure its successful conservation. Although specific find circumstances cannot be predicted, all members of the team should be aware of the materials likely to be found. For example, for the excavation of an early church site the team should be prepared for preventive conservation of painted wall-plaster and/or mosaics. Flexibility in implementing conservation policies is also necessary; for instance the individual treatment and packing of sherds necessary under certain temperate conditions would not be feasible for the bulk quantities of sherds on a Middle Eastern tell-site. With the increasing mobility of excavators between climates and continents, familiarity with the local environment and cultural material is all the more important if "conservation disasters" are to be avoided.

The frequent necessity for emergency excavations at short notice does not make these principles irrelevant but, on the contrary, all the more important. An adequate fund for emergency excavations should be a standard budget entry; while accumulated experience of the local environment and cultural material reduces the impact of an emergency when it arises. It is precisely because conservators are unlikely to be available for such rescue operations that excavators should have a knowledge of preventive conservation measures.

2.2 *Conservation during Excavation*

The moment of excavation can easily be disastrous for archaeological remains. Their deterioration since being abandoned will have almost ceased, leaving them in a near-equilibrium with their immediate environment. When exposed by excavation they are subjected to abrupt change in their ambient temperature and relative humidity, and in their access to light and oxygen. The excavator's aim must be to minimize environmental shock to the remains during their uncovering and recording, and, for movable objects, during their packing and transport to a store.

Rarely can the ambient environment of a whole excavation or one trench be closely controlled during excavation. Rescue excavation of deposits in the cellars, basements or crypts of standing buildings may fortuitously be buffered from external climatic changes. If the relative humidity inside a sealed tomb is measured, the time of its being opened can be chosen so as to minimize stress to the tomb con-

tents. Attempts to control conditions on an open site have been made (e.g. Weaver 1973), but the costs of complete enclosure will usually be prohibitive. Otherwise climate control on site depends on selecting the optimum local conditions for exposing the find, using the environmental data previously collected and experience of the site's "environmental behaviour" (e.g. changing levels of relative humidity in a trench as it deepens and the sun/shade ratio changes). The method and materials for packing sensitive and fragile objects will also vary according to the environment in which they were found. A description of this should be included with the standard details of context on their accompanying labels.

The moment of excavation can cause a conflict of priorities unless both conservator and excavator appreciate the other's concerns. Too rapid a removal of the object for preliminary stabilization may mean that its context is never fully understood; too long an exposure of the object in non-ideal conditions may affect its state of preservation for later analysis. Alternatively, the excavator may be under pressure to continue excavating sooner than allowed by the conservator's concern for the safe removal of an object. The finding of compromise solutions that fulfil both aims forms the basis of field archaeological conservation. Similar compromises are made when the lifting of larger objects has to be done without sacrificing intact deposits in their vicinity, and when protecting excavated remains from one season to the next.

The main methods of between-season site protection are:

(1) backfilling with earth of the whole excavated area or selected trenches;
(2) fencing the site to keep out livestock and the less determined sightseer;
(3) embankment and drainage systems to keep excess water runoff out of the excavated area;
(4) consolidation and capping of walls;
(5) covering of remains with protective sheeting of natural or synthetic materials; and
(6) erection of temporary roofs.

The choice of methods, either singly or in combination, will vary, of course, according to local requirements. Compromises need to be made when the recommended protective measures interfere with the future excavation strategy (e.g. consolidation of walls which are to be removed the following season; intrusion into unexcavated deposits of supports for protective roofs; additional costs in time and labour in re-clearing temporarily backfilled trenches). Although protective measures appear costly if not planned in advance, the alternative is quite unacceptable: the irretrievable loss of information about partially excavated features through leaving them exposed to destructive agencies from one season to the next.

Measures designed for site-protection between seasons may in turn affect the preventive conservation of finds when work is resumed. Any protective covering of fragile remains will modify their ambient environment for better or worse. The

misuse of protective sheeting, for instance, may create conditions for the growth of micro-organisms; whereas a well-designed temporary roof over the excavated area is usually beneficial for controlled excavation work.

Protection by re-burial of remains requiring specialist treatment is generally to be recommended. However even a short exposure may have accelerated the rate of deterioration, and the specialist intervention should be made as soon as possible.

Such protective measures as these should also improve site security—the safety of standing structures and trenches during work in them, the safe disposal of excavated soil and debris, and the security of the site and finds from vandalism and theft. In this last context, the employment of a guard may be as necessary during the excavation season as after it.

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References

Rose, C. L. A new approach to archaeological conservation. In *Conservation in archaeology and the applied arts*. Stockholm Conference preprints. IIC, London, 1975, 165–167.

Unesco. Protection of the underwater heritage. *Technical handbooks for museums and monuments*, 4. Paris, 1981.

Weaver, M. The use of an inflatable "air-dome" to produce controlled conditions for an archaeological site. *Studies in Conservation*, 18, 2 (1973), 88–93.

Domenico Camardo

Archaeology and Conservation at Herculaneum: From the Maiuri Campaign to the Herculaneum Conservation Project (2007)

The journal Conservation and Management of Archaeological Sites *devoted an entire issue to the Herculaneum Conservation Project (8, no. 4), which sought to stabilize and conserve a site made vulnerable by its early excavation and display. Camardo offers an excellent overview of a long conservation campaign at an iconic site, which was itself important in the development of archaeology and conservation. This reading describes the role of the archaeologist in on-site conservation. Archaeologists are using increasingly sophisticated nondestructive techniques to analyze and understand the society being studied, but Carmardo points out that the role of the archaeologist still has a tendency to stop at excavation. However, at Herculaneum archaeologists were used as key specialists during what was essentially a conservation phase, and with important benefits. Archaeological investigation contributed significantly to appropriate restoration decisions, and in turn excavation, which had been aimed primarily at solving conservation problems, resulted in significant new archaeological information. The high costs of the project underline the need for realistic planning before undertaking excavations at major sites that will otherwise result in large areas being made vulnerable by excavation. (The project is also a good example of integrated site management, as described by Jane Thompson, reading 67, Part V.)*

Introduction

The Roman city of Herculaneum, Italy was rediscovered accidentally in 1709 by a farmer digging a well. It has long been considered the birthplace of the disci-

pline of archaeology as it was the location of the first systematic excavations of an archaeological site, which took place from 1738 onwards.[1] In the early 20th century, the limited open-air excavation campaign (as opposed to previous excavations by tunnel) of the 1800s was extended for the first lime to include simultaneous conservation and restoration, and was led by archaeologist Amedeo Maiuri. His approach significantly affected the way the site is conserved and how the monument is presented to the visitor today. [. . .]

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Excavation and Conservation in Unison: Herculaneum and the Idea of a Museum City

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Archaeological evidence and visitor presentation issues evidently played an important role in conservation and restoration decision-making in the 1920s–1960s campaign of excavation and restoration. This is worthy of note and undoubtedly reflects not only the political environment of the time but the fact that the campaign was directed by an archaeologist. Comparison with the intense programme of conservation work under way since 2001 as part of the Herculaneum Conservation Project and the particular role the archaeologist and archaeological investigation plays today is of interest; the archaeologist does not head the conservation team but is proving to carry out a role as pivotal and prolific as that of the architect, engineer and conservator-restorer.

The Role of Archaeologists and Their Contribution to the Conservation of Archaeological Sites

In the collective imagination, traditionally the greatest ambition of an archaeologist is *to excavate in order to discover* new traces of the past, so much so that the two terms almost became the reason and justification for every archaeological activity of note. Apart from being most people's view of an archaeologist, it is also the major feature of archaeology perceived by young people who want to enter the profession.

Those who undertake professional training to become a 'fervent' archaeologist, soon realise that the real aim should be not *to excavate in order to discover* but *to investigate in order to understand*. This exposes a fundamental difference in approaches to the past, whereby excavation and discovery are only a part of much broader research activities that require a wide range of investigative approaches. In fact, in most cases the moment when the shovel enters the earth, which can be the most exciting, is only the final step in a research process that uses excavation as the verification of a hypothesis. At the same time, an excavation does not aim

simply to *discover* but also to *reconstruct* the multiple aspects of life in the past through close observation and interpretation of every detail.

Modern archaeology has by now broken with the tight restrictions of the art-historical approach that led attention to be focused primarily on high-status objects, and has directed research instead towards a comprehensive analysis of ancient societies, in the attempt to understand and reconstruct the structures and superstructures of which they were composed.[2]

On this basis, the natural approach for an archaeologist who is about to undertake research on a site is to begin with a desk-based assessment, gaining knowledge from past documentation, maps and discoveries. In addition, understanding of the site is increased by modern (and often non-destructive) scientific techniques, such as geoarchaeological core sampling, aerial photography, ground-penetrating radar, magnetic gradiometry, electrical resistivity surveys, etc., that contribute additional help to understanding the structure and layout of a site.

However, even with this type of methodologically correct approach, the archaeologist's activity seems to stop at the excavation. The archaeologist, after having undertaken a series of studies and preliminary investigations, excavates a site and, by destroying a palimpsest of layers, uncovers certain levels and structures; the range of information recovered can then be correlated and processed in the quiet of an office or library.

It is only rarely that archaeologists pragmatically face the issue of *afterwards*, preventively organising a conservation strategy for the archaeology they uncover, so as to guarantee that what they discover is safeguarded, enhanced and made available to the public. Certainly in Italy, the *afterwards* of an excavation is not appreciated at university level. Many universities teach archaeological theory and methodology, and students can get training in excavation techniques, but they are rarely taught the archaeologist's responsibility to the ancient remains they have excavated. In fact, it is interesting to note that while archaeological training may include courses in the conservation of finds and structures, it is kept separate from courses in excavation theory and methodology. In this way young archaeologists form the impression that the normal approach to an excavation is made up of a *before* and *after*: First there is the excavation, then, when it is over and often without the archaeologist, the conservator and the architect can organise the structural restoration. These latter figures are obviously considered to have a subordinate role to that of the archaeologist, and, using instructions often given from afar, they deal with what was excavated.

This is clearly a mistake in judgement. The correct approach should be not to plan a *before* and *after*, but to plan a *during*, in the sense that proper planning for an excavation must include the presence of conservators before and during the excavation. Immediate conservation work can save a notable percentage of plaster, floor, decorative elements and even structural remains that are very often already lost during excavation. The term 'conservator' is being used in a broad sense here,

to refer not only to specialists who restore decorative surfaces but also to conservation architects for ancient buildings, or engineers who can study the best way to guarantee structural stability and water management. This approach leads to the understanding that the basis for a correct investigative methodology must undoubtedly be the intelligent organisation of the excavation team.

This is one of the key aspects of the Herculaneum Conservation Project where we have tried to encourage a genuine interdisciplinary approach where the daily issues that come up on-site, whether during excavation or conservation, are dealt with by the archaeologist, the conservation architect and the conservator-restorer, and where necessary by the structural engineer, the expert for humidity and water, the chemist and the geologist.

This approach proves advantageous in several ways. The opportunity for an archaeologist to take part in the conservation decision-making process is important, particularly in emergency situations. The archaeologist is usually the person who best knows the site and its peculiarities, and this ability is essential for deciding intervention priorities related to the historical importance or the uniqueness of the find, the decorative feature or structure. The archaeologist can also be useful in pointing out, during the conservation phase, where it is necessary to conserve specific features that are essential for reading a structure correctly, such as blocked windows, joist and scaffold holes, etc. This contribution is even more important when the history of a site is complex, for example in the case of complicated ancient stratigraphy mixed with modern restorations.

Close teamwork of this nature also guarantees future archaeologists an accurate presentation of the monument, ensuring that it retains its original aspect and the component elements that allow it to be understood. This argument is as valid for the exterior form of a monument, as it is for the individual elements of which it is composed. In fact, detailed studies of the building materials, mortars and construction techniques, carried out alongside the conservator-restorers' and architects' work on the structures, allow the best, and philologically most correct, structural options to be chosen.

At the same time, notable benefits for the archaeologist may come from conservation work: a conservator-restorer who analyses and works on every centimetre of a surface that needs conserving ends up being aware of construction details that would otherwise be difficult to note. Their work can also improve the understanding of decorative features, even for an archaeologist. For example, if stucco repairs are well done they enhance a decorative scheme, allowing the eye to correctly perceive the entire design, and reducing the visual disturbance that occurs when there are lacunae. Similarly, the challenges the architect raises in replacing timber lintels helps the archaeologist improve analysis of Roman construction techniques.[3]

The adoption of this approach of co-responsibility in conservation work at Herculaneum has also led to more direct benefits for the advance of archaeological knowledge. A wide range of studies on water collection and disposal issues and the

potential reuse of the original drainage system (made up of sewers and drainage channels) have required the archaeologist and the expert for humidity and water to work closely together. This collaboration has led to a substantial increase in our understanding of the ancient city and even a number of archaeological 'discoveries'. Large sections of the Roman sewer system had to be cleared out and the organic waste that had been deposited in the sewers had to be mapped and removed. This opportunity to study the city 'from below' also allowed a whole series of building phases of the *domus* above to be confirmed, simply by studying the position, the dimension and the construction technique of their waste outlets.[4]

In addition, the stratigraphic excavation of deposits made up of organic remains and kitchen waste in the *Insula Orientalis II* sewer has allowed important information to be gained on the diet of ancient Herculaneum's population. Their removal has also allowed this key structure to be brought back into use, which will be fundamental for the channelling of modern water from all over the eastern part of the site.

The occasional test trench dug for specific technical checks has also been a source of interest: an example is the one carried out at the foot of the southern wing of the House of the Telephus Relief, in advance of works to construct protective roofing there.[5] This extraordinary building still stands to a height of more than 15m over the ancient shoreline, and the weight that the new roof would add rightly concerned the structural engineer, who asked for a small archaeological trench to be dug in order to check the depth of the foundations.

After the first centimetres of excavation we realised, with some surprise, that what was being uncovered were not the foundations but another arched opening. This was covered with the same fine white plaster as the façade, while the material blocking the arch had been left undecorated. Instead, in a couple of places it seemed that the plaster curved in under the small tuff blocks to show that the arch had at one point been open and only later blocked in. Slowly, as the excavation progressed, we realised that we were digging a thick ancient backfill layer made up of sand mixed with pieces of tuff, fragments of bricks and ceramics. The trench went down for more than 5m until it reached the threshold of what turned out to be another level of the structure that had been deliberately filled in by the Romans in the mid 1st century AD.

This minor excavation carried out for a simple structural evaluation not only provided important archaeological knowledge but also delivered important data for the geological reconstruction of the ancient coastline of Herculaneum. This new information in fact has become determining evidence for our geologists to demonstrate, for the first time, the existence of bradyseism along Herculaneum's coast before the eruption of AD 79, which can probably be linked to Vesuvius's first movements after a long dormant period.[6]

Of course, this multi-disciplinary way of working might appear to clash with economic reality, given that a team made up of both excavation and conservation

professionals that is available both during excavation and later during the post-excavation phase undeniably incurs a high price in the short term even if it pays off in the long term. But this simply underlines further the need for good planning before undertaking any new excavations. In fact, the position of some archaeologists seems perfectly understandable when they question whether it is right to continue to excavate within the great archaeological sites,[7] when that which has been excavated in previous decades has only been partially studied, and has been ruined by the haste to uncover large areas without suitable planning for their conservation.[8,9] Indeed, there have been cases in the past where the complexity of archaeological features exposed at some sites was such that it became impossible for them to be properly studied and published by the archaeologist who directed the excavations.

These situations often arise in periods of history linked to fervent nationalism, which has led to resources being poured into archaeology with the aim of glorifying past greatnesses, as in the example of Fascist Italy [. . .].[10,11] Similar situations have also occurred in different political moments, such as Italy immediately after World War II, when to bring a halt to rising unemployment large archaeological areas were dug without adequate supervision or accurate documentation.[12] An emblematic case is the extremely important site of Paestum, where after the war the Southern Italy Development Fund employed dozens and dozens of workers in the excavation of the ancient city, rediscovering many structures that were often only partially excavated and left without sufficient conservation interventions and without being published.[13,14]

Interestingly, the validity of an interdisciplinary approach as a remedy to damage done in over-ambitious excavation campaigns followed by a period of neglect, can be seen at Paestum itself. Since the 1980s an Italian-French team at Paestum, led by Emanuele Greco (archaeologist) and Dinu Theodorescu (architect), has demonstrated how with cleaning and re-systemising works, along with small archaeological test trenches, it is possible to study and publish the ancient city's buildings, which had already been uncovered for decades, but which had never had a proper interpretation or publication.[15] The next essential step on from their important experience, is to include the figure of the conservator-restorer alongside the archaeologist and the architect, because when we expose a monument after years of burial we assume the responsibility of studying it and understanding it, but we also take on the responsibility of conserving all of it and making it accessible to all.

Any new campaign in Herculaneum faces difficult challenges, not just because of the archaeological merit of the Roman city itself, but also because of the difficult responsibility any project team shoulder as successors to a conservation campaign that has taken its place in the conservation history books. The project that David W. Packard, Andrew Wallace-Hadrill and Pier Giovanni Guzzo launched in 2001 has embraced from the outset the importance of improv-

ing knowledge of the monument itself and its artefacts as a positive part of the conservation process.[16] This has placed the archaeologist on an equal footing with other members of the conservation team, and has placed the project in a strong position to encourage conservation specialists to take the archaeologist's contribution to conservation decision-making more seriously.[17] In turn, this challenges the way archaeologists think about conservation, demonstrating that the archaeological profession must evolve to include a responsibility for archaeological heritage that extends beyond its excavation. However, this approach is not only about professional obligations to protect heritage—the most important 'discovery' is perhaps that an archaeologist working in conservation can gain new types of archaeological information that would not necessarily be gained from a traditional excavation campaign alone.

References

1 Maiuri, A. I recchi ed i nuovi scavi di Ercolano. In: *Saggi di Varia Antichità*. Neri Pozza, Venice (1954) 363–377. Pagano, M. *I primi anni delgi scavi di Ercolano, Pompei e Stabiae: raccolta e studio di documenti e disegni inediti*. L'Erma di Bretschneider, Rome (2005).

2 As Guzzo has put it so well, there is a 'need . . . to try and understand the general framework in which we find material, archaeological data, how it is structured, and why. If there is no attempt to link these finds to events and place these functions in context (not only materially, but also with regard to superstructure), we limit ourselves to having a series of finds—whether they are beautiful or ugly is of little importance—whose historical importance escapes us [*esigenza . . . di cercare di capire come si configura, e perché, il quadro generale all'interno del quale recuperiamo dati materiali, archeologici. Se non si tenta di riportare questi ritrovamenti ad eventi e funzioni non solo materiali, ma anche di sovrastruttura, ci limitiamo ad avere una serie di ritrovamenti, che siano belli o brutti poco importa, il cui significato storico ci sfugge*]'. Guzzo, P.G, *Osservazioni sull' 'impero' di Sibari. Quaderni di Ostraka* 1 (2001) 77.

3 Pesaresi, P. and Martelli Castaldi, M. Conservation measures for an archaeological site at risk (Herculaneum, Italy): from emergency to maintenance. *Conservation and Management of Archaeological Sites* (2007) 215–236.

4 Camardo, D. *Lo scavo della fogna dell' Insula Orientalis II*. In: P.G. Guzzo and M.P. Guidobaldi (eds) *Atti del convegno internazionale sulle nuove ricerche archeologiche nell'area vesuviana (scavi 2003–2006), Rome, 1–3 February (2007)*. Electa, Naples (forthcoming).

5 Pesaresi, P. and Rizzi, C. New and existing forms of shelter at Herculaneum: improving approaches to facilitate the continuous care of site. *Conservation and Management of Archaeological Sites* (2007) 237–252.

6 Cinque, A. and lrollo, G. *Le ricerche geologiche nell'ambito dell'*Herculaneum Conservation Project. In: P.G. Guzzo and M.P. Guidobaldi (eds) *Atti del convegno internazionale sulle nuove ricerche archeologiche nell'area vesuviana (scavi 2003–2006), Rome, 1–3 February (2007)*. Electa, Naples (forthcoming).

7   For example, the Herculaneum Conservation Project's director when discussing
    future excavation at Herculaneum noted that: 'A mantle of over 20 metres of
    volcanic material protects the Villa of the Papyri from any future volcanic damage
    more effectively than any shelter man could design.' See, Wallace-Hadrill, A. The
    Villa of the Papyri: search for it now or leave it safe for future generations? *The Art
    Newspaper* 156 (2005) 28.

8   Ministero per i Beni Culturali e Ambientali, Soprintendenza Archeologica di
    Pompei, World Monuments Fund. *Un piano per Pompei: piano programma per la
    conservazione e la gestione del patrimonio storico-archeologico della città antica.*
    MIBAC/SAP, Rome (1997).

9   Guzzo, P.C. *Pompei 1998–2003: l'esperimento dell'autonomia*. Electa, Milan (2003).

10 Manacorda, D. and Tamassia, R. *Il piccone del regime*. Armando Curcio Editore,
    Rome (1985).

11 Munzi, M. *L'epica del ritorno: archeologia e polilica nella Tripolitania italiana*.
    L' "Erma" di Bretschneider, Rome (2001).

12 Barbanera, M. *L'archeologia degli italiani*. Editori Riuniti, Rome (1998).

13 Avagliano, G. *Appunti per una storia degli scavi di Paestum*. In: C. Albore Livadie,
    C. et al. (eds) *Il Museo di Paestum*. Bonechi, Agropoli (1986) 17.

14 Greco, E., D'Ambrosio, I. and Theodorescu, D. *Poseidonia-Paestum*. Scorpione,
    Taranto (1995) 30.

15 Greco, E. and Theodorescu, D. *Poseidonia Paestum I–IV*. École française de Rome,
    Rome (1980–1999).

16 Thompson, J. Conservation and management challenges in a public/private initiative
    for a large archaeological site (Herculaneum, Italy). *Conservation and Management of
    Archaeological Sites* (2007) 191–204.

17 Guidobaldi, M.P., Camardo, D. and Rizzi, G. The Herculaneum Conservation
    Project. In: P.G. Guzzo and M.P. Guidobaldi (eds) *Nuove ricerche archeologiche a
    Pompei ed Ercolano. Atti del convegno internazionale, Rome, 28–30 November (2002)*.
    Electa, Naples (2005) 9–18.

FRANK MATERO AND ELIZABETH MOSS

Temporary Site Protection for Earthen Walls and Murals at Çatalhöyük, Turkey (2004)

Why are conservators on-site during excavation still the exception rather than the rule? Conservation in situ of important elements such as wall paintings and mosaics is an important contribution to maintaining the integrity of many sites. The advantages of archaeologists and conservators working together have long been proclaimed but are often unrealized. There are crucial advantages in using conservators on-site, especially in the case of a multilayered archaeological site with significant in situ architectural elements. The conservator may be the only person who has the long-term well-being of the site or site element in view. In these circumstances it is the conservator who speaks for the site itself. As Catherine Sease ("Planning for Conservation of an In Situ Mosaic, before, during, and after an Excavation [2003]) has observed in relation to the excavation and conservation of mosaics, there are advantages for all parties of the involvement of a conservator in preexcavation planning, on site during the crucial moment of discovery and excavation, and in the long-term follow-up working toward display and tourism.

Protection of significant site features during excavation is frequently a major issue. At the iconic site of Çatalhöyük, the dilemma is particularly evident, because excavation of the site revealed early and well-preserved mud-brick walls and wall paintings whose physical properties make them highly vulnerable to immediate damage. Previous conservation efforts focused largely on removal of these elements. In addition, the removal of walls and surface finishes in the upper levels was deemed necessary to allow excavation of the lower levels. Matero and Moss, using conservation as an integral part of excavation throughout the campaign, outline research into the

walls and plaster surfaces exposed during excavation at Çatalhöyük, identifying both problems and a range of mitigative measures.

Introduction

The discovery in 1958, and excavation of Çatalhöyük in Anatolia, Turkey, by James Mellaart, between 1961 and 1965, immediately gained world attention as an archaeological site unique for its great size, apparent complexity and enormous time depth, as well as for the quantity and quality of finds discovered. Popular and academic coverage of the excavation in the *Illustrated London News* and *Anatolian Studies* quickly established the site's significance. [. . .]

At Çatalhöyük, dwellings were constructed of large mud bricks with timber posts and beams on a modular rectangular plan. Entrance to each house was gained through flat roofs made of reeds and earth supported by wooden beams and staggered to allow each building access to light. Multiple layers of plaster made from locally available marly soils coated the walls. Many of the interior spaces contained elaborate plaster features, reliefs and wall paintings, some of which suggest an enigmatic symbolism.[1] The extensive physical evidence revealed at Çatalhöyük has dramatically altered traditional views of prehistoric Anatolia and the Near East in general. Here, a society with sophisticated artistic and technological ability and complex religious beliefs existed. These monumental aspects—buildings, paintings and sculpture—were immediately understood as significant features of the site; however, their physical preservation proved challenging and without precedent.

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Earthen Architecture in the Archaeological Context

The exposure of earthen architecture at archaeological sites presents tremendous difficulties both during and after excavation. Like all buried structures and artefacts, earthen buildings and their associated features, such as wall paintings, exist in unique micro-environments created by a wide range of factors including soil type, groundwater, buried material, depth and configuration, animal and plant activity, microflora and bacteria.[2] After years of interment, overall thermohygrometric equilibrium is usually achieved with the surrounding environment, assuming external conditions remain the same. The destabilization of this environment through excavation can cause structural instability (sometimes existing prior to or after burial) and potential collapse from rain and snow erosion, wind load, seismic and vibrational forces, and plant and animal activity, including humans.

At the micro-scale, a loss of surface pressure and rapid drying resulting from surface evaporation inevitably results in shrinkage cracking, loss of cohesion and

delamination, as well as the migration of soluble salts to the surface. Through the presence of water (liquid) and moisture (water vapour), salts hydrate and, through evaporation, crystallize; both processes causing disruptive internal pressures within the pores of the material and between strata, resulting in disaggregation, flaking and detachment.[3] Immediately upon excavation, all exposed surfaces become a plane of climatic activity. Heat is absorbed and moisture evaporates. Newly exposed walls may be subjected to dramatic diurnal temperature changes. Slight differences in thermal coefficiencies between mud brick walls and plasters may exacerbate plaster and paint failure. Cracks, delaminations and the natural layered structure of wall and floor plasters facilitate plant root growth and salt formation, causing gross macro-failure, detachment and collapse. The more gradual the process of excavation or exposure, the more likely it is that damage will be mitigated by slowly acclimatizing the buried remains to the variations of the new environment.

While such processes affect all excavated porous materials, the situation becomes particularly damaging for clay-based materials because of their thermo-hygrometric sensitivity and resultant dimensional changes through expansion and contraction. Highly reactive clays such as smectites, present in the marls used for the plasters, mural paintings and reliefs at Çatalhöyük, are especially problematic. This is critical for freshly excavated walls, as rapid desiccation in the Anatolian summer climate leads to rapid shrinkage and extreme mechanical stress, causing cracking, detachment and collapse. Earlier documented experiences at mud brick sites in Iraq proved that the period of greatest danger for newly excavated work was the first few weeks,[4] a reality familiar to many excavators and a situation also observed at Çatalhöyük.

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Past Conditions, Current Problems

The condition of the architecture, murals and reliefs during and between excavation seasons from 1960 to 1965 is difficult to reconstruct from the available information. Nevertheless, through isolated observations in the published field reports, limited photographs and current excavation experience, it is possible to reconstruct something of the conditions of the walls and their associated art as found in the 1960s. According to Mellaart, wall conditions varied depending on proximity to the surface, plant and animal disturbance, and subsidence from upper level compression.[5]

The difficulties encountered at other Near Eastern archaeological sites, with poorly preserved and collapsed mud brick walls, were not normally encountered at Çatalhöyük; in some instances walls had deformed and failed causing plaster to crack, buckle, slump and fall, but generally the walls were in sound condition.[6] By

the third season (1963), as the excavation reached lower building levels, Mellaart was faced with structural concerns and safety issues as a result of existing wall deformation. Partial excavation of the lowest level revealed structures in the poorest state of preservation owing to compression damage and moisture.

During excavation Mellaart and Todd noted that plastered walls began to deteriorate immediately, the exposed plaster developing large cracks upon drying.[7] This is evident in the published close-up photographs of the paintings after exposure where the surfaces reveal a pattern of fresh parallel vertical cracks typical of shrinkage cracking. Apparently not only did the unprotected walls and plasters suffer, so did several of the colours of the paintings.

Todd further mentions that because of the rapid hardening of the plasters upon exposure and drying in the hot Anatolian climate and the resulting difficulty in removal of the layers overlying the paintings, the use of a gridded excavation system with balks was abandoned as too time-consuming. Instead, excavation was performed on individual building units, allowing entire walls to be exposed, revealed and conserved quickly before surface hardening, thus ensuring speedy removal of the overlayers of plaster with dental knives.[8] Site photographs from the 1960s suggest few, if any, protective shelters were employed during the excavation to retard rapid drying. Writing a decade after the excavation closed, Todd postulated that if a controlled sheltering system as at Can Hasan III (Turkey) had been employed, the surfaces would not have desiccated so rapidly and the recovery process could have occurred in less haste.[9]

During the current excavation, immediate desiccation, shrinkage and cracking of the walls and detachment of the plaster surfaces were also observed on freshly excavated walls. Causes of deterioration affecting all plasters including mural paintings are a loss of cohesive strength within discrete layers and adhesive strength between the many individual layers, often separated by soot deposits; salt infiltration; macro-biological growth; and mechanical stresses induced by the drastic ambient changes brought on by excavation. Additionally, continued excavation of the site places concealed paintings at risk, a factor that requires an evaluation of methods for their identification, temporary protection and possible emergency transfer.

At Çatalhöyük exposed walls protected even by simple sun- and wind-screening shelters displayed lower temperatures and slower desiccation than those without protection. These external protective controls, coupled with partial excavation leaving protective fill against the surfaces (floors and walls) and polyethylene sheeting loosely draped over walls and features during excavation, have significantly reduced the shrinkage cracking and delamination that occurs immediately after exposure and continues for up to one year afterwards. Gradual moisture reduction has also been found to help harden the plaster surface, thus facilitating mechanical removal of the final soil veneer.

Summary of the Recent Programme of Research and Field Conservation

The primary objectives of the recent programme have been to develop sound techniques and interpretive approaches for the immediate and long-term conservation and management of the architecture and the monumental art (plasters, wall paintings and relief sculpture) at Çatalhöyük. This involves an understanding of site materials and construction technology, site formational processes and conditions before, during and after excavation, and field applications of the developed techniques for the conservation of the architecture, mural paintings and relief sculpture at the site. Recent work has built on earlier research and experiences during the 1960s excavation and 1970s mural conservation.

A phased programme of research and fieldwork was developed to integrate methods for the conservation and management of the site during and after excavation, including: the *in situ* stabilization and protection of plaster, wall paintings, plaster reliefs and selected buildings; the development of non-destructive transfer methods for wall sections, wall paintings and reliefs; and the development of techniques for the separation of multiple layers of wall paintings.[10] Related to this has been the need to develop an understanding of the environment through a monitoring programme designed to measure ambient temperature and humidity, and ground and wall moisture.

During the academic year between field seasons, research has focused on the analysis and characterization of the plasters and paintings, mud brick and associated materials, using geophysical tests and micro-morphological, mineralogical and petrographic analysis, as well as instrumental techniques including scanning electron microscopy, X-ray analysis, and X-ray diffractometry in order to determine composition, layer structure, execution techniques and overall physico-chemical properties. Based on this information, a variety of conservation techniques have been examined and laboratory-tested on facsimile models, as well as on-site as pilot treatment tests. This has allowed for the gradual adjustment of the developed programme over time and training opportunities for conservation graduate students.

Site Conservation

Over the past three decades, numerous international symposia and conferences have been held in order to collect and disseminate information relating to strategies and techniques for the temporary protection, preservation and display of earthen sites.[11] The consensus regarding earthen archaeological structures is that every effort should be made to preserve and protect them, either through reburial, shelters or direct material consolidation or through surface protection. Where removal is necessary because of excavation safety and the objectives of the archaeological research programme, recordation and sampling must be extensive.

In view of the high levels of preservation of Çatalhöyük's monumental art and architectural features, including mud brick walls standing to 2m in height, permanent and temporary shelter facilities and structural and environmental protective methods were deemed necessary, both during and after excavation and treatment. Of particular importance has been the interpretation and display of monumental art and architecture *in situ*. Techniques already under investigation and trial assessment include site stabilization, partial removal and full-scale wall cutting, lifting and transport utilizing a special rig developed specifically for the purpose. This latter option should prove especially useful where buildings identified for preservation will need to be removed to gain access to the lower levels. Recently exposed structures of great integrity such as Building 5-North were identified for *in situ* conservation and special shelter protection. Although there is much room for discussion as to the eventual site conservation and interpretive programme, short-term preventive measures were taken in order to facilitate final preservation decisions.

Emergency Stabilization of the Architecture, Murals and Relief Sculpture

Emergency stabilization refers to temporary measures to arrest rapid and destructive alteration during excavation and between field seasons. Current research and field trials have focused on techniques and materials for mitigating deterioration during excavation by controlling desiccation through decelerated drying. Although it is now commonly recognized that excavation under shelter does help reduce thermal shock and slow down moisture loss resulting from surface evaporation from direct sun and wind exposure and erosion caused by rain, wind and snow, establishment of performance criteria for such situations has been slow. In addition to environmental control, another method to reduce the destabilizing effects of excavation and exposure is to leave a 5–10 cm protective layer of soil on the surface. The soil acts as a sacrificial surface to slowly evaporate water and to hold and isolate potentially destructive soluble salts, much like a clay poultice. It can also provide support as a planar layer or in association with structural buttressing.[12] Owing to the importance of the plastered mud brick walls at Çatalhöyük and the possible presence of concealed mural paintings, it was necessary to look at all preventive conservation options during excavation. Therefore, in addition to the environmental protection offered by shelters and leaving a covering of soil fill on the surface during excavation, an experimental system of temporary surface protection was developed and tested to meet in practical terms the needs of the excavation process, the severity of the Anatolian climate and the fragility of the surfaces. This has involved the experimental use of perlite and vermiculite as temporary fill material to absorb and slowly pass moisture, stabilize surface temperature and humidity, protect against direct rain and snow fall, and provide positive pressure (where needed) for fragile, delaminating surfaces and reliefs during exposure. To

this end, small-scale simulations of the wetting and drying of the mud brick walls were designed and tested to examine the effects of such temporary surface protection on earthen plasters and murals from the damage caused by moisture, salts and rapid desiccation.

Research Protocol

Any *in situ* protective system should effectively mitigate surface damage by slowing down the processes of moisture evaporation and gradually allowing the plastered mud brick walls to reach a state of equilibrium with the ambient conditions. It is the intent that such a system will prevent the rapid desiccation that appears to be the primary cause of the deterioration of earthen walls and surfaces at Çatalhöyük, owing to the tensile and shear forces of clay shrinkage from desiccation and, secondly, salt formation. These mechanisms alone, in conjunction with already compromised mechanical strength from root growth, animal burrowing and wall slumping, account for the major immediate problems of physical instability at the site. Even with controlled gradual drying, surface finishes—sometimes in excess of 100 layers—can delaminate, requiring gentle steady surface pressure with or without the application of adhesives or consolidants.

In order to develop laboratory models of the walls and to test various protection systems, site conditions including ambient temperature and relative humidity, wall moisture and salt content were measured during the field seasons. To help confirm that the drastic differences in condition between those walls recently excavated and those previously excavated and left unprotected (since 1964) were related to the rapid evaporation of the surfaces, composition and moisture content were also determined and compared in walls excavated by Mellaart thirty years ago and those exposed for less than a week during the current excavation.

Ambient Conditions

Wall Moisture Content

Eleven six-inch core samples were removed with a variable speed rotary drill from various locations on four representative walls at the site. Wall and sample locations were selected according to those parameters considered critical in affecting moisture content: length of time wall was exposed (freshly excavated/previously excavated), wall context (free-standing with two sides exposed/adjacent to fill), wall construction (single brick width/double brick width), elevation location (lower(A)/middle(B)/upper(C)) and wall cross-section (exterior/interior). Each core was longitudinally divided into one-inch segments in order to measure the progressive moisture content from the surface to the interior of the wall. Thus, sixty-six samples were analysed according to these critical parameters to establish the intrinsic

variabilities of wall moisture as baseline information for modelling the facsimile walls in the laboratory. Moisture content was measured both immediately upon extraction as well as several days later. All data sets established the same basic trends in moisture gradient.

Moisture patterns were generally the same for all walls; although, as expected, interior moisture content was lower for the long-exposed Mellaart wall at 2–10%, depending on height from ground, than for the newly exposed wall in the North Area at 5–14%. In all cases overall moisture content was highest at the wall base and lowest at the top and increased with depth into the walls. Seasonal changes in moisture content were not measured and it is possible that the recent increase in agricultural activity involving pumping and surface canalization of water for irrigation has lowered the water table significantly.

Salts

The capillary movement of water through porous materials is often associated with the hydration and deposition of soluble salts at or near the surface. In an archaeological context, excessive salt damage is likely to occur after excavation when the ambient relative humidity falls and fluctuates. After excavation and subsequent wet and dry cycles, the salt solution dries out and crystallizes. If the salt concentration is sufficiently high, it can fill the pores and exert destructive pressure in a liquid or solid phase. In the case of the plaster walls at Çatalhöyük, salt crystallization sometimes occurs at the surface-substrate interface, in association with flaking, delamination and detachment.

Micro-chemical spot tests and semi-quantitative gravimetric and conductance analyses were performed on samples of mud brick and mortar to ascertain the type and relative quantity of salts present in the wall and associated fill. Sulphates, chlorides and carbonates were found in all samples, the latter as small nodules or cysts derived from the high lime content of the marly soils used for the mud brick, mortars and plasters. The total soluble salt content ranged from 4.37% to 5.17% for mortars, 0.64% to 1.48% for weathered mud brick and 2.15% to 3.37% for recently exposed samples. The higher salt content in the mortars and the presence of sulphates may be explained by the high content of wood ash found almost exclusively in the mortar, as well as the presence of gypsum as a secondary mineral in the marl deposits. The average acid soluble content of the mud brick and mortar was determined to be 16.74% and 17.92%, respectively. These results are similar to soil reports for the area.

Simulation Wall Models

In order to test the effects of various protective systems, quarter-scale wall models (assemblies) were constructed of mud brick with three applied plaster layers:

a ground and two superimposed painted design layers. Each wall measured 1 m wide by 0.6 m high. Walls were prepared to replicate moisture and salt conditions recorded on site. Although conditions identical to those on site cannot easily be replicated, a simulation model is a useful tool for comparative assessment of different mitigation techniques under controlled situations and pre-selected variables.

The composition of the mud bricks was based on geotechnical analyses of random site samples. The mud brick was determined to be 20% sand: 80% silt and clay (as defined by ASTMD 422). X-ray diffraction on glycolated and unglycolated samples identified 50% quartz, 35% calcite and 10% reactive clays—probably smectite. Brick soils displayed an average plastic limit of 17.5%; a liquid limit of 40.2% and a plasticity index of 22.7 (high plasticity) with a Coefficient of Activity of 2.5 (>2 indicates highly reactive clays). The Modulus of Rupture (Three-point Bending) was 14–25 psi, indicating a very low flexural strength.

Based on this analysis, quarter-scale mud bricks were fabricated from 20% commercially matched quartz sand, 65% bentonite clay (to simulate the reactive smectitic clays found), and 15% Type S hydrated lime. Mortar was composed of 65% bentonite clay and 15% Type S hydrated lime. A 4% sodium sulphate solution was added into the mixing water of the bricks to introduce soluble salt conditions similar to those found on site. Plaster layers were similarly composed of 10% fine quartz sand, 50% hydrated lime, and 40% bentonite clay for the ground and 47% for the finish coats. The first finish coat was painted with a design in watercolours and then plastered over with a final unpainted finish coat. This was done to ascertain whether failure of the plaster system was total or whether it was intra-layer.

The three wall assemblies were built within a solid-back, plastic-film-lined wooden frame. This frame supported the single-width brick walls and directed evaporation to the plastered face of the wall. Preferential evaporation at the face of the exposed wall is typical during excavation of a single room as the adjoining rooms and wall backs are usually surrounded by unexcavated fill. The solid back also allowed the regular placement of injection ports for the introduction of water to simulate the wall moisture gradient observed on site.

Moisture content and rate of drying of the assembled walls was monitored using a KS-D1 Digital Soil Moisture Tester and GB-1 Gypsum Soil Blocks (Delmhorst Instrument Co.). Two sets of three gypsum sensors, cast around two electrodes, were buried in the bottom, middle and top of the wall, at the plaster–mud brick interface. It was assumed that the interface would be the critical contact point for the transfer of moisture and salts from the mud brick walls to the plaster and painted finishes.

Protective Systems

While it is the intent of reburial to stabilize exposed structures and features against the long-term effects of loss of pressure and fluctuations in relative humidity and

temperature, reburial does not easily protect against immediate damage caused upon excavation. As demonstrated at such earthen sites as Çatalhöyük, it is within the first days, or even hours, that the plastered wall surfaces experience irreparable damage resulting from rapid desiccation. In Building 17-South Area, the moisture content of wall plasters dropped from 10.6% (after excavation but under 15 cm of protective soil fill) to 4.2% after several days exposure.[13] Thus a system is needed that can be quickly put into place to protect wall or floor surfaces during the excavation process. Such a system needs to be flexible to conform to the irregularities of walls and plaster relief sculptures. Whether it is a filled fabric quilt draped over the wall or loose uncontained fill, both ideally with some applied surface pressure, the system must be easily and quickly installed and removed for inspection and possible subsequent treatment.

A protective system was designed following the recommendations for immediate protection during and after excavation at the Third International Symposium on the Conservation of Monuments in Mudbrick.[14] In the case of Çatalhöyük, the main objectives were that the system be temporary and modular, and be made of affordable, readily available materials. Other requirements were that it control the loss of moisture while minimizing air circulation and temperature fluctuations, and reducing the effects of loss of compression. Because excessive surface moisture loss is experienced immediately upon exposure from excavation, the system is to be put in place as soon as the plastered walls are exposed.

Selection of Materials

A preliminary literature survey and laboratory testing of various materials identified vermiculite and perlite as possible candidates for a lightweight, non-abrasive filler component for the proposed protective system.

Vermiculite

Vermiculite is the mineralogical name given to hydrated laminar magnesium-aluminium-ferrosilicate tetrahedral clay minerals. It is a monoclinic phyllosilicate with a continuous network of silicon tetrahedral. Vermiculite is composed of two planes of oxygen and hydroxyl with silicon in the tetrahedral sites between the anion planes.[15] Layers are bonded together through weak electrostatic bonds or through large interlayer cations. Vermiculite is commonly formed by the weathering or hydrothermal alteration of biotite. When heated quickly to temperatures upwards of 1000°C, the water between the layers converts to steam pressure that expands the material, increasing its volume 15 to 20 times its original size.[16]

Vermiculite is characterized by a high water-holding capacity because of its large surface area. It has a low bulk density, almost neutral pH and a high cation exchange capacity. Because it compacts readily when combined with heavier

materials, industry does not recommend its use for container media. For packing purposes, vermiculite should be mixed with other materials such as perlite to maintain sufficient porosity and volume. As the internal structure deteriorates, air porosity and drainage decreases. Vermiculite can adsorb phosphates but not nitrates, chlorides or sulphates.

Vermiculite is manufactured in four different grades, differentiated by particle size. Particle size influences water-holding capacity and aeration porosity of the material: the larger the particle size, the higher the aeration porosity and lower the water-holding porosity.

Perlite

Perlite is an isotropic alumino silicate mineral of volcanic origin. It is produced by hydrating rhyolitic glass to 1000°C and, like vermiculite, the internal water escaping as steam results in the expansion of the material. It expands to many times its original volume to form lightweight white particles containing small internal pockets of sealed gases.[17] Turkey is one of the world's leading producers of perlite.

Perlite is characterized by its neutral pH, low cation exchange capacity and low water-holding capacity. Most of the water is held superficially either by surface cavities or between perlite particles. The closed-cell composition of perlite contributes to its compaction resistance.

Both materials were considered alone, in combination and in combination with site soil as possible candidates for the protective system's filler. As the control of moisture loss through absorption and permeance was considered a critical aspect of mitigation, these properties were measured for various samples including (by volume) site soil, 1 part soil:3 parts perlite, 1 part perlite:1 part vermiculite, 1 part perlite:3 parts vermiculite, 3 parts perlite:1 part vermiculite, all perlite and all vermiculite. Oven-dried material was weighed in fine mesh nylon bags and immersed in water until total saturation was reached. The weight was recorded at total saturation and at regular intervals as the samples air-dried in a relative humidity of 34% at 25°C.

Results

As expected, the soil absorbed the least amount of water and quickly dried to a hard, solid mass. The perlite displayed higher water absorption than vermiculite, probably owing to compaction porosity, while vermiculite displayed a lower rate of evaporation because of its higher water retention. Vermiculite also resulted in greater volume loss upon drying, as expected. Because the protective system aims to slow the overall drying rate of the wall, a system that releases moisture into the atmosphere too quickly is undesirable. All the tested vermiculite-perlite combinations displayed gradual water absorption and drying curves. However, for a pro-

tective system to be effective in providing positive pressure and in minimizing air circulation, the packing material must retain its volume and not settle, creating air pockets at the top or eccentric lateral loads from displacement.

Based on these criteria, the most promising filler formulation was identified as one with higher parts per volume of perlite, i.e., 3 parts perlite:1 part vermiculite. This combination initially absorbed the most water and lost it slowly and gradually, similar to the equal parts perlite-vermiculite formulation; however, it retained its volume best without compaction or settlement. Given the availability of perlite in Turkey, a high-perlite-based system also made good economic sense.

Fabric

A monofilament needle-punched geotextile was chosen as the initial test fabric for the preparation of the filled quilts or battens. This class of geotextile is a spongy, soft-draping material made from black polypropylene, is highly water-vapour permeable and sheds less water than the woven form. It was felt that a geotextile that sheds too much water might cause drainage problems within the structures, especially those unsheltered between excavation seasons. If water is absorbed, it was hoped that the perlite-vermiculite filler would hold and release the moisture slowly through evaporation. Water absorption and evaporation curves similar to those already discussed for the fillers were verified for open and closed systems of saturated pads of geotextile and the perlite-vermiculite filler. As geotextiles are subject to UV-degradation, they nevertheless must be protected from prolonged periods in direct sunlight in a manner that will not impede their ability to breathe.

Trial Tests

Once the wall assemblies were prepared, water was injected into the wall through the rear injection ports. Because the testing programme monitored and plotted moisture loss, it was necessary to ensure high moisture content at the outset. The moisture gradient from the bottom to the top of the wall was varied and controlled by the quantity of water injected through the grid of holes in the rear board and approximated the conditions recorded in the field. Moisture meter readings ranged from 50 to 90 (based on a 0–100 arbitrary scale) for each assembly, depending on the location of the sensor (bottom, middle, and top).

Two environmental models were tested: a single cycle of continuous heat (Model I) and multiple cycles of intermittent heat (Model II), both reaching a maximum of 34°C by four 250-watt heat lamps aimed at the entire assembly placed two feet away. Maximum temperature was based on mid-day readings taken on site during the summer months. No attempt was made to emulate seasonal climate changes. Intermittent exposure was intended to model the diurnal temperature extremes during the summer. Each wall assembly was divided in half; for each

test, one half of the wall was left exposed, the other half was protected with the filled geotextile 'quilt'. The quilts averaged 2.5–3.0 inches (6.5–8 cm) in thickness and were sealed by stapling the edges closed. The quilts were then affixed to the assemblies by nailing strips along the outer edges and central parting strip of the frame, thus ensuring complete surface contact with the plastered walls.

In general for the unprotected surfaces of both models, the first visible map cracking occurred after 20 minutes of exposure to the heat lamps, and after 1–1.5 hours, the underlying painted layers became more visible from surface flaking and loss of the final unpainted finish coat. After 24 hours large cracks developed through the plaster to the mud brick on the unprotected side and the design layers and plasters detached and failed [. . .]. After 48 hours the protective quilts were removed revealing a completely intact and damp surface. Core samples taken from the base, middle and top of the unprotected and protected sides after 54 hours showed great differences in moisture content, the protected side averaging 33.6% moisture content compared with 10.6% in the unprotected side. Qualitative analysis of the failed plasters tested positive for sulphates indicating that the salt introduced into the bricks had indeed been mobilized by the water injections.

Site Application

Based on the preliminary results of the above testing programme, an experimental reburial system was installed over the walls and fragile features (such as the earthen storage bins) of Building 5-North Area between the 1998 and 1999 field seasons after excavation and until a permanent protective display shelter could be designed and erected.[18] This was implemented in lieu of the typical site reburial procedures involving either complete or partial backfilling with loose and bagged soil and canvas. Installation was performed by the archaeologists and labourers under the direction of the conservation team. Because of time restrictions at the end of the season, temporary reburial was executed as both a contained (i.e., bagged) and loose-fill system within narrow cavities created by the erection of soil-bag walls paralleling the original plastered mud brick walls. These walls also provided temporary buttressing where mud brick walls were leaning. Floors were protected only by a geofabric liner and a 5–6 inch (14–16 cm) layer of soil on top. All walls and floors were covered with water repellent and vapour-permeable woven acrylic fabric for rain and snow protection, given the harsh winter conditions. Because Building 5 was entirely below ground level, being enclosed by surrounding unexcavated structures, rain and snow melt were directed to the centre of each room for containment and evaporation.

After one year (between excavation seasons), the temporary reburial system was easily removed and the walls and plasters were found to be in good condition with no additional loss and cracking or detachment of the plasters and mud brick. Previous (1998) injection grouting of the plasters and vertical through-wall cracks

required some retreatment as the cracks had reopened from the continued gradual shrinking of the earthen walls over the year. During the 1999 final site conservation programme involving surface cleaning and fills, the walls were temporarily covered with loose polyethylene film for weather protection until the canvas and frame shelter and viewing bridge were completed. Today, after four years of exposure, the walls and plasters appear to be in a stable condition, based on yearly visual inspection.

Conclusions

By destabilizing the burial environment through excavation, the archaeological process is, by its very nature, destructive. A primary role of the archaeological conservator is therefore to minimize the damage that can occur during excavation as an integrated component of the archaeological project. This can only be achieved by advance planning before excavation begins. At Çatalhöyük it is the inherent properties of the reactive clays in the mud brick, mortar and plasters, as well as the fragility of the multi-layer finishes, that make them particularly vulnerable to damage related to desiccation of the exposed surfaces. The resultant cracking, flaking and detachment is further compromised by discontinuities resulting from salt formation, root intrusion, animal burrowing and structural deformation and displacement. Immediate, non-invasive temporary protection as a form of preventive conservation should be implemented as the first step in any comprehensive conservation programme. The damage caused by rapid desiccation is very real and often irreparable. However, while deterioration is a natural and an often-unavoidable process, it can be mitigated and monitored through advance planning.

The use of perlite and vermiculite for reburial offers a lightweight, absorptive, permeable medium, which when applied loose or contained, preferably as fabric quilts, can provide effective temporary protection for fragile surfaces such as wall paintings and sculpture. Further research is needed to explore other performance aspects of these materials including salt removal and retention and the practicalities of site installation and re-use in order to explore their wider application as a safe and affordable temporary protection system.

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References

1   The best published descriptions of the site and its architectural features can be found in Mellaart, J. *Catal Huyuk: A Neolithic Totem in Anatolia*. Thames and Hudson, London (1967).
2   For detailed discussions of deterioration mechanisms, see Hughes, R. Method statement for archaeologically excavating, documenting, and analyzing buried soil walls. In: *Terra 2000, 8th International Conference on the Study and Conservation of Earthen Architecture*. James & James (Science Publishers), London (2002).

3   Charola, A. E. Salts in the deterioration of porous materials: an overview. *Journal of the American Institute for Conservation* **39** (2000) 328.

4   Bruno, A., Chiari, G., Trossarelli, C. and Bultink, G. Contributions to the study of the preservation of mud brick structures: preliminary report of a survey of monuments in Iraq during the period March–June 1968. *Mesopotamia* **3–4** (1969) 449.

5   Mellaart, J. The earliest frescoes yet found on a man-made wall: remarkable discoveries in the excavations at Anatolian Catal Huyuk — part II. *The Illustrated London News, Archaeological Section* **2095** (16 June 1962) 976.

6   Todd, I. *Catal Huyuk in Perspective*. Cummings Publishing Co., Menlo Park, CA (1976) 19. The unusually good condition of the walls at Çatalhöyük may be related to the fact that existing rooms were often carefully filled prior to any rebuilding on top of them at a later date.

7   Mellaart, J. Excavations at Catal Huyuk, 1963: third preliminary report. *Anatolian Studies* **14** (1964) 39.

8   Todd (1976) 19 and 35.

9   Todd (1976) 19.

10 Matero, F. The conservation of an excavated past. In: Hodder, I. (ed.) *Towards Reflexive Method in Archaeology: the Example at Çatalhöyük*. McDonald Institute Monographs, BIAA Monograph 28. British Institute of Archaeology at Ankara. McDonald Institute, London (2000) 71–88.

11 Matero, F. and Cancino, C. The conservation of earthen archaeological heritage: an assessment of recent trends. In: *Terra 2000, 8th International Conference on the Study and Conservation of Earthen Architecture*. Postprints, James & James (Science Publishers), London (2002) 11–21.

12 Cobau, A. C. Excavated wall plasters: conservation problems. In*: Preventive Measures during Excavation and Site Protection*. Conference, Ghent, 6–8 November 1985. ICCROM, Rome (1986) 103–110.

13 Moisture content was measured on site using samples taken from the same location using a Speedy Moisture Tester™, Type D2 (0–20%).

14 *Third International Symposium on Mudbrick (adobe) Preservation: 29 September– 4 October 1980*. Ankara: International Council of Museum (ICOM) (1980).

15 Nesse, W. D. *Introduction to Optical Mineralogy* (second edition). Oxford University Press, New York (1991) 241.

16 See http://www.vermiculite.org/properties.htm.

17 Nesse (1991) 267.

18 The first field application of the perlite-vermiculite system was installed in Kiva C, Mug House at Mesa Verde National Park, USA. This was implemented in conjunction with an environmental monitoring programme to measure the effects of the installed system on wall and ambient temperature and humidity, and wall moisture content over one year. The report is pending.

Robert G. Bednarik

The Removal of Rock Art (2007)

Conservation in situ of significant elements of sites (as opposed to conservation by removal) is increasingly accepted as best practice—but is an ideal that is not always achieved. Rock art sites in particular have suffered from a belief that their significant fabric can be appropriately preserved in museums, and may in some cases be safest there. This belief has led to extensive desecration of significant sites caused by rock art "salvage." In this lively condemnation of the practice of removing rock art, an extract from a longer paper, Bednarik makes a number of points that apply equally to other important elements, such as mosaics or wall paintings, from other types of sites.

Introduction

There are many forms of rock art vandalism by professionals engaged in the study, recording or management of rock art. These have included inappropriate recording methods (see e.g. Bednarik 1990), inadequate excavations of sediments at rock art sites (e.g. effecting dust deposition on rock art panels; cf. Morwood 1994); or failing to recognise the petroglyph hammerstones in the deposit; cf. Bednarik 1998), and the practice of painting petroglyphs in striking colours (predominant in some Scandinavian countries; Löfvendahl and Magnusson 2000). But none of them has been as consequential for rock art as massive intervention (Bahn et al. 1995), such as its removal from the site. There are several reasons for this, and they are examined here.

Rock art, especially in the form of petroglyphs, has been removed from its site context for a variety of reasons. One of them is outright theft by such people as collectors or enthusiasts (Woody 2005). Land developers have cleared land of rock art in many cases. In numerous instances around the world, museums have in the past removed decorated boulders to exhibit them on their premises, but this practice has long been discontinued. In some instances such institutions overcame significant technical and logistic obstacles to detach whole panels of rock art from bedrock. For instance, Dr Emil Holub used sledgehammers, wedges, thermal shock (placing fires on the rock and then dousing them with water) and crowbars to detach and extract numerous slabs with petroglyphs in Orange Free State, South Africa. These were then shipped to a museum in Vienna. A slab of granite weighing several tonnes has been detached with a diamond saw from the Peri Nos 4 site on the eastern shore of Lake Onega, in Karelia, in the mid-20th century. It has since been housed in the Hermitage Museum in St Petersburg. A similar example of such extreme measures is the removal of a complex maze petroglyph (mistakenly described as a crocodile head; Mountford and Edwards 1962, but see Berndt 1987 for its correct meaning) from the Panaramitee North site, near Yunta, South Australia, now in the South Australian Museum in Adelaide.

These are relatively isolated cases, however, and it is unlikely that this kind of vandalism would be attempted by such agencies in the future. By far the greatest physical danger to rock art nowadays is from archaeologists who facilitate the destruction of rock art sites in the course of large development projects, such as dams, industrial facilities, harbours, highways and mining projects. In such clearing operations the removal is often performed by the consulting archaeologists themselves, sometimes against the express wishes of the traditional owners of the rock art in question, and always against the wishes of rock art researchers and heritage managers.

Removal of Rock Art

All rock art sites in the world consist of two principal components: the site and its cultural content. The two cannot be separated without totally destroying both the significance and the integrity of the cultural site because they are entirely interdependent. The site possesses no cultural significance without the rock art, and the rock art is of cultural significance only through its spatial association with the site. It is important to understand that, from the perspective of the producer or indigenous owner, the rock art itself, detached from its place, is devoid of cultural meaning or value; it has become a 'dead' artefact. This may be compared to uprooting a traffic sign from the roadside and placing it in a forest; while it remains a sign, it has lost all its intended significance and potency.

Anywhere in the world where rock art exists, its creators have placed petroglyphs or paintings at selected localities, thereby bestowing on them the status of

sacred or cultural places. These sites may be associated with specific ceremonies, such as increase rituals, they may be initiation sites, burial sites, or in some other way have assumed a special significance to people. That ideological or religious significance is manifested by externalised features of ideological or cultural concepts, such as rock art or stone arrangements, but it is also universally expressed in other inherent features of the site, including natural formations, ambience, spatial relationships to other cultural or natural aspects of the site and its setting (landscape), Dreaming Tracks and similar concepts, and ultimately in the ontological construct the rock art bears witness to. All of these connections are irreversibly broken when the prime tangible component of a rock art site, the rock art, is removed, Lastly, the stories into which the rock art is woven obviously lose their relevance, because the rock art was a significant manifestation of their validity. Without it, there is nothing to bear witness to the creation myth usually engendered in such stories. The destruction of the site leads to the annihilation of the metaphysical world it is an externalisation of.

These principles are expressed in the concept of 'site fabric', which is embedded in the instruments governing the management and preservation of rock art or other cultural sites (e.g. the *Burra Charter*, see Articles 9.1, 10, 15.3; the *Venice Charter*, or the *IFRAO Code of Ethics*, see Articles 6.1, 6.2). As an 'immovable cultural heritage' feature, rock art, like all other cultural monuments, must not be moved from its site under any circumstances. Monuments may be replicated, especially for purposes of tourism, but the original must remain in its spatial context. It forms part of a 'cultural landscape', and its setting is an integral property of the monument.

Removal of the rock art from its often sacred context therefore not only renders it culturally degraded, it also defiles the site by robbing it of its defining content. A rock art site denuded of its rock art loses all of its significance. Moreover, this form of massive intervention also destroys the rock art site in the *scientific* sense, because most scientifically relevant variables are lost in the process of rock art removal. These might include orientation, other aspects of setting (e.g. astronomical, totemic), relationships to other rock art and other features of the site, to entities such as Songlines or Dreaming Tracks, and a host of other information about context, conservation and cultural significance.

Then there is the complex issue of conservation, one of the principal practical problems with relocation. Rock art exists generally only because it has managed to survive a series of natural degradation processes over often very long time spans. These taphonomic factors select in favour of those occurrences that are in relative equilibrium with their environment (Bednarik 1994). The fact that these cultural manifestations have survived, often for many millennia, does not necessarily suggest that they will continue to survive in a different environment. Two actual scenarios are mentioned to illustrate the point. First, in the Dampier Archipelago in Western Australia, 1793 petroglyph-bearing boulders were removed from their

sites in the 1980s by the company Woodside Offshore Petroleum, numbered, and dumped in a compound a few kilometres away (Vinnicombe 1987: 19). One would expect that a storage site in such close proximity to the rock art sites should offer identical environmental conditions. This may be correct in most respects, but it was sufficient that just one variable was not considered. All of these petroglyphs had survived to the present because they were located on parts of boulder piles completely devoid of any vegetation. The region's arid vegetation is highly resinous and burns very well, which affects the survival of any rock art adjacent to vegetated areas. Woodside had deposited the relocated boulders in an area with sparse vegetation cover, and twenty years later, a grass fire raced through the compound. An investigation reported in June 2002 that this had caused considerable damage to the stored petroglyphs, through fire spalling of the boulders.

In this example, then, the lack of understanding of the role of taphonomic variables in the preservation of rock art caused the disastrous damage. Another example refers to the placing of rock art within buildings, i.e. within a very different environmental regime. This can be achieved either by constructing a building over a rock art site (cf. Bahn et al. 1995; Bahn and Hygen 1996) or by relocating rock art and placing it within a building. The three examples cited by Bahn et al. (Peterborough in Canada, Besovy Sledki in Russia, Aspeberget in Sweden) provide ample evidence that the change from an open natural environment to an indoor environment can be disastrous for the rock art. Such massive intervention introduces a very different climatic and hydrological regime, which may be conducive to high relative air humidity and ambient carbon dioxide levels, greenhouse effects and the proliferation of microbiota, i.e. conditions the rock art has not had to cope with in the past (Bahn et al. 1995: 38).

Therefore removal of rock art not only destroys the site in both the cultural (from the perspective of the traditional owners) and the scientific sense, it can also create conservation problems. In addition, there are aesthetic issues to be considered as well: such an extreme measure obviously destroys the authenticity of the site, and therefore the value of the experience of visiting the site or viewing its former cultural content. This clearly reduces the tourist value of both former components, site and rock art.

Therefore, the creator or custodian of the art, the traditional owner, the scientific investigator, the rock art conservator and the tourism industry all oppose the removal of rock art strenuously. Where the rock art is part of a major monument of international significance, still another perspective also has to be considered. Such a cultural resource is not the property of the state in question, it forms part of the collective heritage of human society. It is not the prerogative of the state to permit its destruction through separating site and rock art, nor do the purported rights of a developer have precedence over the rights of humanity to have its ancient cultural heritage preserved. The destruction of such sites constitutes an illegal act against

humanity (in accordance with the Unesco *Declaration concerning the Intentional Destruction of Cultural Heritage*), and where it is sanctioned by a state, that state acts criminally.

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References

BAHN, P. G., R. G. BEDNARIK and J. STEINBRING 1995. The Peterborough petroglyph site: reflections on massive intervention in rock art. *Rock Art Research* 12: 29–41.

BAHN, P. G. and A.-S. HYGEN 1996. More on massive intervention: the Aspeberget structure. *Rock Art Research* 13: 137–138.

BEDNARIK, R. G. 1990. Sobre la práctica de tizar los petroglifos. *SIARB Boletín* 4: 24–26.

BEDNARIK, R. G. 1994. A taphonomy of palaeoart. *Antiquity* 68 (258): 68–74.

BEDNARIK, R. G. 1998. The technology of petroglyphs. *Rock Art Research* 15: 23–35.

BERNDT, R. M. 1987. Panaramittee magic. *Records of the South Australian Museum* 20: 15–28.

LÖFVENDAHL, R. and J. MAGNUSSON 2000. Research and development degradation and care. In K. Kallhovd and J. Magnusson (eds), *Rock carvings in the borderlands*, pp. 47–72. Interreg IIA Project, Bohuslän/Dalsland and Østfold.

MORWOOD, M. 1994. Handy household hints for archaeological excavations at rock art sites. *Rock Art Research* 11: 10–12.

MOUNTFORD, C. P. and R. EDWARDS 1962. Aboriginal rock engravings of extinct creatures in South Australia. *Man* 61: 97–99.

VINNICOMBE, P. 1987. *Dampier Archaeological Project. Resource document, survey and salvage of Aboriginal sites, Burrup Peninsula, Western Australia*. Department of Aboriginal Sites, Western Australian Museum, Perth.

WOODY, A. 2005. Reply to Dorn. *La Pintura* 31(2): 12–14.

Sharon Cather

Assessing Causes and Mechanisms of Detrimental Change to Wall Paintings (2003)

Although the requirements of research may necessitate removal of some archaeological material from sites, leaving important material in situ conserves essential elements of the site's significance and is generally regarded as essential for the integrity of the site and its interpretation. But conservation in situ is complex and imperfect. As Cather discusses here, conservators have developed a hierarchy of approaches to conservation, with a preference for the preventive and passive over remedial interventions. But this is more easily advocated than practiced, since it presumes an understanding of causes of deterioration, their activation mechanisms, and the rate of detrimental change. The systems the conservator aims to affect are highly complex, with numerous variables that may be unquantifiable. Technology offers new options, particularly for measuring and imaging, but effective use of these new tools requires clear problem definition and prioritization of research objectives. The characterization of pathology remains difficult, but rapidly developing technology and a rigorous phenomenological approach may lead to more accurate diagnostic techniques. Some diagnoses are straightforward; indeed, some causes of deterioration can be prevented. More often, however, for in situ fabric the most that can be done is to intervene passively so as to slow decay. In these circumstances the first crucial step in the conservation of an archaeological site is to collect and analyze information about its physical history and present condition. Accurate documentation of condition is crucial for decision mak-

ers. Identification of exact sequences and rates of decay over time is a prerequisite for establishing what can and cannot be safely treated and, hence, for forestalling ineffective or harmful interventions.

Approaching Conservation

Traditionally, the approach to conserving wall paintings has been to repair damage: to glue, consolidate, retouch and coat. This has not worked: adhesives and consolidants fail (at best), retouching goes quickly out of ethical style and, after the first few years, coatings normally do far more visual and physical harm than good. In the face of spectacular treatment failures, a new approach has emerged which favours preventive and passive interventions.

Fashionable first in museums, where causes of deterioration are both more easily defined and controlled, diffusion of this new approach has been slower for *in situ* conservation. The most explicit statement of the hierarchy of intervention approaches is that of Andreas Arnold (1996) (Fig. 1). Arnold's hierarchy is arranged by effectiveness in intervening against detrimental change: it is more effective, including cost-effective, to address the causes and activation mechanisms than to attempt to strengthen the object against unrelenting inimical forces. But this is far more easily advocated than practised, since it is predicated on some fairly daunting presumptions: that we understand the nature, causes and rate of detrimental change; the activation mechanisms; and, critically, that we know how to intervene to affect them. Another catch, of course, is 'detrimental change'. Since all materials change inexorably over time, some critical assessment needs to be made of the nature and gravity of the change, and this, in turn, must be linked to an assessment of values.
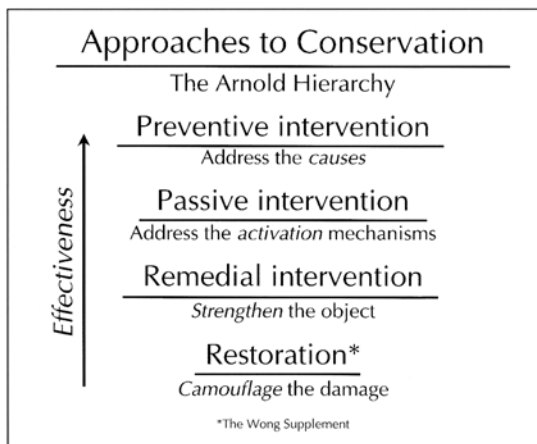
Figure 1
Approaches to conservation based on effectiveness. © Courtauld Institute of Art.

Is There a Problem?

Confronted with a wall painting, it is pretty safe to assume that it has undergone detrimental change. Given the extraordinary vulnerability of wall paintings—paint layers only some tens of micrometers thick forming the interface for physical and chemical interactions between the wall and the (typically hostile) environment—some detrimental change is inevitable. However, to decide if conservation is required we must pose the question 'Is there a problem?'. 'Problem' may be defined as 'imminent risk of loss of original material'. The definition of imminent will normally depend on the prevailing administrative infrastructure, in particular on resource availability for effective long-term surveillance. In some contexts a watching brief may be feasible; in others, especially where access is difficult or attention likely to wander, imminent may need to be defined as a relatively long period.

If the answer to this question is 'No', then conservation, the physical stabilisation of the painting in its present condition, is not required. However, it may be decided, as happens all too often, that scarce resources should be allocated instead to restoration, the re-creation of some previous aspect of the painting, most often relating to image legibility and typically involving cleaning and (the fashionable euphemism) 'reintegration'.

Is It Active?

If, however, the answer is 'Yes, there is a problem', then the question must be posed 'Is it active?'. Answering this may be straightforward; there may be unequivocal evidence of ongoing loss. More often, though, a prudent and supportable answer requires assembly and interpretation of evidence about the condition of the painting over time, and/or a period of monitoring of its state of conservation. If the answer is 'No, it is not active', then the causes or activation mechanisms of the detrimental change can be assumed to be extinct (or at least dormant), and conservation, stabilization, can proceed.

What Is the Cause?

If, however, the answer is 'Yes, it is active', then we are ethically obliged to try to understand how and why. Although the task of understanding the manner in which wall paintings decay is undoubtedly daunting, considerable progress has been made in recent years both in characterizing deterioration and in diagnosing its causes and activation mechanisms. This involves not only the use of indispensable new technologies, but, even more importantly, the application of a rigorous methodology, beginning with information gathering and concluding with recommendations (Fig. 2). Since these investigations must start with the change itself, diagnosis

Diagnosing Causes of Deterioration

An iterative process

Information gathering
and interpretation

Formulation of hypotheses

Diagnostic investigations

Interpretation, conclusions
and recommendations
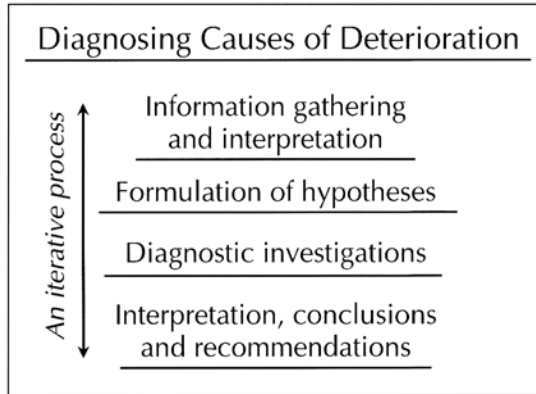
Figure 2
Methodology for diagnosing
causes of deterioration.
© Courtauld Institute
of Art.

begins with a phenomenological study: determination by an experienced conservator of the decay phenomena. At this point, it is important that only the phenomena are objectively characterized, without assigning a speculative cause. This characterization of the state of conservation is most usefully presented graphically (Schmid 2000), since this gives the topographic distribution of the phenomena in relation to both the painting and the building. Use of a visual glossary, detailed photographs that illustrate the phenomena recorded in the graphic documentation, can significantly improve the consistency and communication value of the recording.

This phenomenological assessment forms a pivotal component in the first stage of diagnosis: information gathering and interpretation. Other essential information required to formulate hypotheses includes the physical history, the *fortuna fisica*, of the painting and building (of which previous interventions form a part), and some understanding of the original and added (or, more accurately, non-original) materials and their present state. For original and added materials, the degree of investigation necessary at this stage is a matter of professional judgement.

From the integration and interpretation of this data, hypotheses regarding the causes and mechanisms of change should emerge. It should be stressed, however, that this step requires knowledge and judgement: causes are frequently multiple and their effects may be entangled. To try to disentangle them and to establish a demonstrable link between a presumed cause or activation mechanism and its effect, more usually, effects, requires considerable methodological rigour in determining appropriate diagnostic investigations. Substantial strides have been made in recent years in our understanding both of the processes of decay and the means of characterizing them, and the presentations made by Sawdy, Petersen, Gowing and Agnew at this conference provide excellent examples of how the field has advanced.

Testing these hypotheses by means of diagnostic investigations has two critical functions: first, obviously, to determine if they are correct; second, less

obviously, to assess not only the potential for intervention but also the type and degree of intervention that may be required. Given the complexity of the systems investigated, coupled with the ambiguity or absence of information regarding the evolution of decay over time, this diagnostic process is not linear but iterative. As information accumulates and is interpreted, it should inform the other investigations, feeding into a continual process of re-interpretation. Therefore, although there may be a desirable sequence of investigations for a particular hypothesis, the diagnostic process itself should remain flexible, allowing reassessment and adjustment of investigation objectives as the data accumulates.

Which Approach?

Assuming that this diagnostic process is successful, the next stage is to draw conclusions supported by data, leading to recommendations to ameliorate the ongoing detrimental change. And this brings us back to the Arnold crossroads. Do we choose the path of prevention? Or the more tortuous and largely obscured track of passive intervention? This will depend on the cause or mechanism of the detrimental change. Persistent use of the ungainly term 'detrimental change' has been deliberate. Use of the more common terms 'deterioration' and 'damage' without qualification is unhelpful. If, instead, they are used with deliberation they can help us navigate through Arnold's crossroads.

Damage versus Deterioration

Broadly, damage can be usefully defined as the immediate consequence of individual traumatic events, whereas deterioration is a gradual and cumulative process due to inherent and/or prevailing conditions (Fig. 3). Naturally, this highly simplified division may often be blurred, and frequently damage may evolve into deterioration. Nonetheless, the distinction is useful since generally causes of detrimental change that lead to damage may often be prevented, whereas activation mechanisms leading to deterioration typically require passive intervention.

Damage

Examples of causes of damage include disasters, vandalism, conservation, architectural alterations and building/site use. Disasters are, more or less by definition, unavoidable. Natural disasters, such as the earthquake that brought down large sections of the vault of the upper church at Assisi in September 1997 (Istituto Centrale per il Restauro 1998 forward), are not preventable. While preparedness is patently advisable (as indicated in the title of Feilden 1987), there seems little evidence of disaster preparedness in the field of wall painting conservation. Nor are unnatural disasters normally preventable. In the ethnic wars that continue to rage
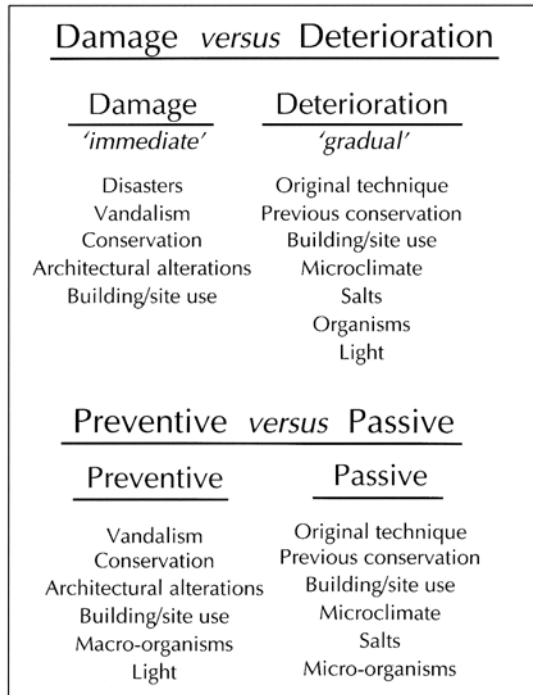
Figure 3
Differentiating damage
and deterioration and
its relation to preventive
and passive intervention
options. © Courtauld
Institute of Art.

in the crumbled eastern bloc, there is not only collateral damage but also deliber-
ate destruction of the 'other's' cultural heritage (Museum Security 1999); or the
shockingly deliberate destruction of the Bamiyan sculptures (Buddhas of Bamiyan
2002). It was war damage, a nearby bomb explosion during the siege of Malta in
1941, that separated approximately 60% of the thin, painted plaster from its ashlar
support in the Chapel of the Grand Master in Valletta. Vandalism, similarly wilful
but typically of a lesser order, may often be prevented through site management.
Depending on the nature of the site and the resources available, this may be rela-
tively straightforward or extraordinarily difficult (Stanley Price 2003).

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   Perhaps surprisingly, conservation is a principal cause of both damage and
deterioration: 'it has often been observed that wall paintings decay more rapidly
after conservation' (Arnold and Zehnder 1991, 103). Although we can assume that
the intentions of the treatments are of the best, knowledge or prudence may lag
behind. A conspicuous example of damage due to conservation is misguided or
over-cleaning of paintings. For wall paintings, this has often been a consequence
of profound ignorance about their technology. As with diagnostic investigations,
remarkable strides have been made in only the last few years in defining the techni-

cal complexity of mural paintings, and consequent constraints on their treatment. An exemplary instance of the reshaping of our understanding of wall painting technology is the assembly and publication of technical studies carried out during the last two decades on Italian fifteenth-century wall paintings, a mammoth undertaking which demonstrates clearly the liberal use of organic materials in these 'frescoes' (*Materiali* 2001).

Deterioration

In contrast to traumatic damage, deterioration is a process of cumulative detrimental change over time, often of small change over a very long time. Deterioration may have a wide variety of causes, such as salts or conservation materials, but these deteriogens may be quiescent until they are activated by an external mechanism. Essentially, deterioration occurs when the cause is either an inherent susceptibility of the painting or a contaminant (including added materials). This definition arbitrarily excludes processes normally grouped under the rubric of weathering (abrasion, erosion, freeze-thaw and so forth), often the dominant cause of deterioration for external paintings and those in archaeological contexts.

Inherent susceptibility, more familiarly known as faulty original technique, is extremely common in mural paintings. Unfortunately, painters have tended to be more concerned with optical effects than material stability and inherently susceptible materials have always been widely used. Lead- and copper-based pigments, organic colorants, tin and silver foils are all classic examples of painting materials highly subject to alteration. Susceptibility is by no means confined to colouring materials, but extends to media, grounds and renders. Gum, gypsum and earth, for example, are all effectively water-soluble and their use is extraordinarily widespread. Likewise, conservation materials, particularly consolidants and coatings, may respond adversely to environmental conditions, and/or age maliciously.

Coating choice has been a matter of fashion for the last 200 or so years. Neoclassical fascination with the durability of ancient Roman mural painting led to the erroneous conclusion that the medium was wax; this, in turn, spawned a catastrophic and prolonged period of applying wax as a consolidant varnish that only effectively ended in the 1950s (Cather and Howard 1986). During the same period, from the late eighteenth to the mid twentieth century, natural resins and proteins enjoyed similar cycles of popularity. These natural materials can all cause serious deterioration. But even more problematic are modern synthetic materials; designed for comparatively ephemeral industrial applications, their behaviour over time is often poorly understood.

Having imposed this binary classification on the myriad causes of damage and deterioration, it should again be emphasised that the boundary between them is fuzzy, that causes are normally multiple and often synergistic, that effects are

entangled. As a model, it should be used only insofar as the accumulated data fit the model rather than vice versa.

Preventive versus Passive

At the point at which both the nature and the causes of ongoing detrimental change have been clarified, a point which may elude us even with a substantial investment of time and effort, a choice can then be made between preventive and passive intervention. Returning to Arnold's hierarchy (Fig. 1), his rationale and the simple clarity of the choices he offers become obvious. If it is possible to intervene against the causes, that will be the most effective action to take against ongoing damage. If, however, that is not possible, then the next best alternative is to intervene to alter the conditions that activate the deterioration. Finally, in some cases even this is not possible or feasible and recourse may be made to strengthening the object in the face of ongoing decay.

Both preventive and passive interventions require considerable rigour. It has already been argued that a demonstrable link must be made between effects and their causes or activation. Moreover, to intervene against causes or activation mechanisms implies not only that they have been accurately and persuasively identified, but also that the likely consequences of the interventions are both predicted and monitored. Here is where we arrive at some formidable technological hurdles. Prediction for passive intervention *in situ* is in its infancy (one hopes for a vigorous adolescence). This has partly to do with lack of experience, and largely to do with the complexity of the interrelated effects that result from altering conditions in an open system.

In addition, monitoring is fraught with difficulties. Monitoring of changed conditions, such as relative humidity or light exposure, is reasonably straightforward. However, monitoring of the resulting effects on the painting is far more problematic since detrimental change is the combined result of gradual, intermittent and unique events over time, often over a long time. These technological difficulties should not deter us, but instead set a research agenda for the new century. With an adequate commitment of resources, it is possible for science and technology to address issues of prediction and monitoring.

A further major stumbling block to the implementation of preventive or passive measures is of an entirely different nature: it inevitably transgresses boundaries of professional competence. Although we now accept that conservation is insistently multidisciplinary, in general we lack the necessary administrative structures to facilitate this approach. For *in situ* conservation in particular, administrative structures that affect the conservation process are not well developed and tend to be project-based and ephemeral rather than long-term. Since conservation is a rare activity at most historic buildings and sites, this should not surprise us. Examples of conspicuously successful administrative coordination of preventive and passive

interventions do exist: preventive measures on an unprecedented scale were imple-
mented at the Mogao Grottoes near Dunhuang, in western China, to protect the
45,000m (538,200 sq yards) of wall paintings distributed through some 500 rock-cut
caves along a mile of cliff face (Agnew 2003; Getty Conservation Institute, Mogao).

Finally, there is the issue of funding. Funding preference is for remedial
interventions, for visible treatments that preferably result in a visual improvement
(a return to some 'former glory'), that are claimed to be urgently required and can-
not be delayed. Conservation seems not yet to have graduated from the emergency-
room syndrome to the health-care approach. Arnold argues that prevention is a far
better investment than cure. But we must recognise that investment is unavoidably
long-term: it is expensive without providing short-term results; it requires confi-
dence in a process without a compelling track record.

These three impediments to preventive and passive intervention: lack
of knowledge and experience, lack of administrative infrastructure and lack of
resources, are not insurmountable but require a considerable investment of time
and expertise and a funding shift. This has already occurred in the museum sector,
where preventive conservation is now *de rigueur*. For *in situ* conservation, where
the solutions are far more elusive, a similar commitment remains to be made.

In Practice

In the absence of specific examples, much of the preceding may seem to be more
assertion than argument. That we intervene too frequently, that we have tradition-
ally relied on fashionable materials chosen for a presumed or anecdotal effect in
the absence of any real evidence, and that these interventions have failed, can be
readily demonstrated by the physical history of all too many paintings. The same
histories show that we have persistently opted for symptomatic remedies, ignoring
the obvious fact that wall paintings are in all senses integral with their buildings,
a truism first forcefully argued in 1977 (and later reprinted in 1984) in the seminal
publication of Mora *et al*.

A la Mode

Two cases can be cited to demonstrate the failure of repeated remedial interven-
tions. Both, unfortunately, are typical, and both are of internationally important
early Romanesque painting schemes in the UK. Discovered at the crest of the wave
of Victorian restorations, the paintings of Hardham church in the south of England
were uncovered and treated by the vicar *c*. 1866. Only three decades later, in 1900,
they were again in need of treatment and the architect/conservator P M Johnston
'twice sized and twice varnished' them. After another thirty years, they were waxed,
the ubiquitous intervention of the historian/conservator E W Tristram. After yet
another thirty years, during the 1960s, the scheme was 'dewaxed', a misnomer since

wax cannot be completely removed but only 'reduced', and recoated by the Baker workshop.

Following a brief campaign of localised cleaning by the Canterbury Wall Paintings Workshop in 1989, and with the paintings again in poor condition, another major intervention was proposed. Instead, investigations by the Courtauld Institute began in 1989 with diagnostic monitoring funded by the Council for the Care of Churches, continued in 1993–4 with a seminal study by Sawdy of the principal deteriogens (Sawdy 1994), and culminated in 1996–7 with comprehensive, integrated investigations funded by English Heritage (Sawdy *et al* 1998).

An almost identical conservation history was played out in St Gabriel's Chapel, Canterbury Cathedral: stabilised with cement and coated with shellac by the architect James Neale in 1878–9, waxed by Tristram in 1924, dewaxed and recoated by the Baker workshop in 1967–72 and then diagnostic investigations undertaken by the Courtauld Institute in 1989–92 (Cather and Howard 1994).

Varnishing, waxing, dewaxing and recoating is an all too familiar conservation history for English wall paintings. These cycles of treatment failures are due partly to the use of materials that were inappropriate for those specific applications, partly to virtually irresistible deterioration pressures, but largely to a lack of understanding of the nature and behaviour of complex systems and of the materials added to them. And it is by no means a local history: to give only a single example, similar cycles of failed treatments characterize the conservation history of the stunning paintings of the world heritage site of Ajanta (Agrawal 1986; *Art Newspaper* 2000).

But not all treatments fail, and reference should be made to a hybrid solution, one that not only stabilises the painting but also directly addresses the underlying cause of deterioration, the use of mineral treatments. Although explorations in using barium hydroxide as a consolidant for porous materials stretch back to the middle of the nineteenth century, the focus was on stone consolidation, with the conspicuous exception of Church's treatment in 1900 of the paintings of Westminster Chapter House (Church 1904). Then in the 1960s, by rigorously integrating practice, specifically application methodology, with science, the Florentines developed its use for treating sulfated wall paintings (Matteini 2003).

It is a hybrid solution since it functions not only as a consolidant (and incidentally as a biocide), but also arrests the cause, sulfation, while simultaneously providing some protection from future contamination and activation. Counter-indications for application of this treatment are, unfortunately, numerous, and its use is therefore effectively limited to the geographically and temporally circumscribed occurrence of mural paintings executed essentially in fresco.

Changing the Focus

As part of an overall process of reorienting our approach to conservation, the theme of the conference, considerable advances have been made in characterizing causes

of deterioration. The studies presented in this volume exemplify the ways in which research can be directed to pivotal issues; in this case salts, micro-organisms and insolation. Work on other, less familiar but nearly as ubiquitous deteriogens might also be mentioned: bats and tourists.

Arguably, bats pose the most serious conservation risk in English churches (Ward 2000). Fundamental research on the problem by Paine (1993) was appropriately followed up with a joint English Heritage/English Nature initiative to determine methods of defining and managing the risk, resulting in published guidelines (English Heritage 1997). Tourists do not enjoy the legal protection afforded bats throughout most of the world, nor is the risk they pose as readily apparent, but, unlike bats, their numbers and their economic clout are increasing inexorably. A study of tourists and wall paintings, which included a series of case studies ranging from the Tomb of Nefertari to the Sistine Chapel, clearly defined a range of direct and indirect effects and identified various potential amelioration measures (Pinchart 1997). Among the interesting conclusions were the risks that barriers may pose to adjacent paintings and the pressure on archaeological sites such as Pompeii to provide access for all visitors to specific monuments.

Environmental Risk Assessment

With site-specific risk assessment, bats and tourists are manageable. Likewise, assessment of the environmental risks posed to wall paintings has become an expected feature of major conservation programmes. At the Tomb of Nefertari, for example, monitoring of the effects of tourist visits on the microclimate was one of the determining factors in setting the limit on visitor numbers and the duration of visits (Maekawa and Preusser 1993). Following the conservation of the Brancacci Chapel, urban pollution, identified as a principal deteriogen, was excluded by the use of an air filtration system (*Cappella Brancacci* 1992). At the Mogao Grottoes, the combination of the extreme environmental conditions and the almost unimaginable scale of the site poses a gargantuan task of risk assessment (Agnew 2003).

But site-specific risk assessment, the basis for preventive and passive approaches, should not and need not be confined to such high-profile programmes. The extent of the investigations required should be circumscribed by the hypotheses generated from interpretation of the present condition and physical history (Cather 1997). This focus allows resources to be narrowly targeted. [. . .]

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[The choice of treatments varies depending on individual cases, h]owever, the methodology remains the same: the iterative process of gathering information, formulating hypotheses, undertaking diagnostic investigations and then, based on rigorous interpretation, making conclusions and recommendations that take as their preference preventive and passive interventions over remedial treatments.

References

Agnew, N. 2003. Sins of omission: Diagnosis, risk assessment and decision. Lessons from three sites., in (eds) Gowing R and Heritage A, *Conserving the Painted Past: Developing Approaches to Wall Painting Conservation, post-prints of a conference organised by English Heritage, London, 2–4 December 1999*. London, James & James, 75–84.

Agrawal O P. 1986. Conservation problems of Ajanta wall paintings, in (eds) Brommelle N S and Smith P, *Case Studies in the Conservation of Stone and Wall Paintings. Preprints of the Contributions to the IIC Bologna Congress, 22–26 September 1986*, London, IIC, 86–9.

Arnold A. 1996. Altération et conservation d'oeuvres culturelles en matériaux poreux affectés par des sels, in *Le dessalement des matériaux poreux (7èmes Journées d'études de la SFIIC, Poitiers, 9–10 mai 1996)*, Champs-sur-Marne, SFIIC, 3–20.

Arnold A and Zehnder K. 1991. Monitoring wall paintings affected by soluble salts, in (ed.) Cather S, *The Conservation of Wall Paintings. Proceedings of a Symposium organised by the Courtauld Institute of Art and the Getty Conservation Institute, London, July 13–16, 1987*, Marina del Rey, Getty Conservation Institute, 103–35.

Art Newspaper. 2000. http://www.theartnewspaper.com/news/article.asp?idart=3672.

Avrami E, Mason R and de la Torre M. 2000. *Values and Heritage Conservation*, Los Angeles, Getty Conservation Institute.

Buddhas of Bamiyan. 2002. http://www.photogrammetry.ethz.ch/research/bamiyan/destruction .html.

La Cappella Brancacci: la Scienza per Masaccio, Masolino e Filippino Lippi, Milan, Olivetti, 1992.

Cather S. 1997. Complexity and communication: principles of *in situ* conservation, in (ed.) Agnew N, *Conservation of Ancient Sites on the Silk Road. Proceedings of an International Conference on the Conservation of Grotto Sites organised by the Getty Conservation Institute, Dunhuang Academy, and Chinese National Institute of Cultural Property, Dunhuang 1993*, Los Angeles, Getty Conservation Institute, 82–94.

Cather S and Howard H. 1986. The use of wax and wax-resin preservatives on English medieval wall paintings: rationale and consequences, in (eds) Brommelle N S and Smith P., *Case Studies in the Conservation of Stone and Wall Paintings. Preprints of the Contributions to the IIC Bologna Congress, 22–26 September 1986*, London, IIC, 48–53.

Cather S and Howard H. 1994. Romanesque wall paintings in the apse of St Gabriel's Chapel, Canterbury Cathedral: their technique, condition and environment reassessed, in (ed.) Segers-Glocke, C, *Forschungsprojekt Wandmalerei-Schaden: ein Förderprojekt des Bundesministers für Forschung und Technologie* (Arbeitshefte zur Denkmalpflege in Niedersachsen, 11), Hanover, Niedersächsisches Landesverwaltungsamt, 141–56.

Church A H. 1904. *Copy of memoranda [1901 and 1903] . . . concerning treatment of decayed stonework in the chapter house Westminster Abbey*, London, HMSO.

English Heritage. 1997. *Bats in Churches: Guidelines for the Identification, Assessment, and Management of Bat-Related Damage*, London, English Heritage.

Feilden B. 1982. *Conservation of Historic Buildings*, London, Butterworths.

Feilden B. 1987. *Between Two Earthquakes: Cultural Property in Seismic Zones*, Rome, ICCROM, and Marina del Rey, Getty Conservation Institute.

Getty Conservation Institute. Mogao. http://www.getty.edu/conservation/activities/mogao/.

Istituto Centrale per il Restauro. 1998 onward. http://www.icr.arti.beniculturali.it/Restauri/Assisi /assisi2001.htm.

Maekawa S and Preusser F. 1993. Environmental monitoring at the Tomb of Nefertari, in *10th Triennial Meeting, Washington DC, 22–27 August 1993: ICOM Committee for Conservation Preprints*, Paris, ICOM, 1616–23.

Materiali e tecniche nella pittura murale del quattrocento. Storia dell'arte, indagini diagnostiche e restauro verso una nuova prospettiva di ricerca. 2001. 3 vols. Rome, Ente per le Nuove tecnologie, l'Energia e l'Ambiente.

Matteini, M. 2003. The mineral approach to the conservation of mural paintings: Barium hydroxide and artificial oxalates, in (eds) Gowing R and Heritage A, *Conserving the Painted Past: Developing Approaches to Wall Painting Conservation, post-prints of a conference organised by English Heritage, London, 2–4 December 1999.* London, James & James, 110–15.

Mora P, Mora L and Philippot P. 1977. *La conservation des peintures murales*, ICCROM, Bologna, Editrice Compositori.

Mora P, Mora L and Philippot P. 1984. *The Conservation of Wall Paintings*, London, Butterworths.

Museum Security. 1999. http://www.museum-security.org/balkans.

Paine S. 1993. The effects of bat excreta on wall paintings, in *The Conservator*, 17, 3–10.

Park D. 1986. Cistercian wall painting and panel painting, in (eds) Norton C and Park D, *Cistercian Art and Architecture in the British Isles*, Cambridge, Cambridge University Press, 181–210.

Pinchart P. 1997. *Tourists and Wall Paintings: Effects and Potential Amelioration*, unpublished diploma dissertation, Courtauld Institute.

Sawdy A. 1994. *Deterioration of the Romanesque Wall Paintings at Hardham Church, West Sussex: A Study of the Influence of Salts and Organic Coatings*, unpublished diploma dissertation, Courtauld Institute.

Sawdy A, Heritage A and Cather S. 1998. *St Botolph's Church, Hardham: Conservation of the Wall Paintings. Phase I: Investigations, Recording, Treatment Testing and Assessment*, unpublished report submitted to English Heritage, Courtauld Institute.

Schmid W (ed.). 2000. *GraDoc: Graphic Documentation Systems in Mural Painting Conservation. Research Seminar, Rome, 16–21 November 1999*, Rome, ICCROM.

Stanley Price, N. 2003. Conservation and visitor management: Recent experience at rock art sites, in (eds) Gowing R and Heritage A, *Conserving the Painted Past: Developing Approaches to Wall Painting Conservation, post-prints of a conference organized by English Heritage, London, 2–4 December 1999.* London, James & James, 121–31.

Ward C. 2000. *Our Beleaguered Heritage*, Movement Against Bats in Churches.

Glyn Coppack

Conservation "As Found": The Repair and Display of Wigmore Castle, Herefordshire (2000)

Though "as found" conservation (stabilization), the absolute minimum amount of intervention, has long been expounded, Coppack contends in this reading that in reality there are few examples of its practice. Often repair is constrained by the need to conserve or reverse previous interventions, and in other cases "minimal" interventions include practices such as capping of masonry with stone and mortar, damaging archaeological features and the setting and ecology of the site. Wigmore Castle was one of the last great castles in England to survive as a natural ruin and provided an opportunity to apply a philosophy that reflected current conservation practice and was truly minimal. The author describes the steps taken to achieve this end, including developing specifications, testing, minimizing archaeological excavation, repairing masonry, conserving the fragile landscape (which was an important part of the site's as-found appearance), and careful documentation of all the steps to allow monitoring and essential remediation.

Wigmore Castle, *caput* of the Mortimers, was one of the last great castles in England to survive unconserved, a natural ruin in a setting of decayed woodland pasture, high on a ridge in the northwest corner of Herefordshire. Its condition has been of concern throughout the 20th century: the editor of the Woolhope Society's *Transactions* claimed in 1908 'what was once the home of one of the most powerful nobles of the March-land . . . is fast disappearing from the face of the earth' (Anon. 1908: 14); in 1963 Pevsner described the site as 'one of the largest castles along the Welsh border, but badly preserved and badly looked after' (Pevsner 1963: 321). Its condition remained perilous in 1987 when it was described

in *Rescue News* (Shoesmith 1987: 3), and in 1988 there was a major fall of masonry on the south curtain wall. The castle was a scheduled ancient monument in private ownership, and had been identified as being at risk by English Heritage. In a survey of English Marcher castles on the Welsh border it was seen as the most important of a substantial group, and the one which should be the first target for repair (Streeten 1993).

The problem with Wigmore Castle was the fact that it remained in private ownership but that repair was only possible with the input of substantial public funds, estimated in the region of £1m. The owner, who had acquired the site in 1988 in the mistaken hope that it would provide him with an income, was not in a position to be able to guarantee future maintenance, and had strong views on how the castle was to be repaired and presented, leading to substantial concern that repair was not feasible. The result was protracted negotiation while the castle continued to decay. It was not until 1995 that English Heritage persuaded both government and the owner that state guardianship was the only way that the castle could be safeguarded in the long term.

The high ground coming down from Radnorshire between the rivers Teme and Lugg converges towards the east where it forms a ridge bounded to the south by a steep, narrow valley and the north by the *more* or marsh of Wigmore. The castle comprised three wards or baileys set on this ridge to the west of Wigmore and separated from the high ground to the west by an immense ravine or ditch which is apparently man-made. The site is a scheduled ancient monument (county monument number: Hereford 6), but only the middle and inner wards with standing masonry are in guardianship. The inner and middle wards are essentially an earthwork motte and bailey castle with a stone shell-keep on the motte and a curtain wall, gatehouse and four towers enclosing the bailey. Between this and the outer ward is a barbican with four half-round towers set between two deep ditches and reduced to earthworks.

The Condition of the Site

Although there has been a castle at Wigmore since about 1068, the structures that are visible date predominantly from the 13th and early 14th centuries, the period of the Mortimers' greatest power and the castle's greatest extent. The castle was ruinous from the late 16th century, and was partially dismantled to prevent its fortification in the Civil War of the 1640s. Allowed to decay naturally for four centuries, it remained a spectacular and romantic ruin, a remarkable archaeological resource with buildings buried by their own collapse to first floor level or above. The building stone was a soft, local mud-stone, dressed with a soft sandstone from the Forest of Dean, both of which were originally protected by an external skimming of plaster, most of which has been lost to erosion. Many parts of the site had stabilised naturally, and the wall-tops were protected by a dense mat of vegetation

which contained a number of rare species including the western polypody fern but also briars and small trees which in some areas were starting to destabilise the masonry. Other parts were remarkably unstable, the result of earlier stone robbing at the base of walls and around openings, and threatening imminent collapse. Most were covered with dense ivy, which had been cut at ground level in an attempt to kill it but which had rooted itself firmly into the masonry at a high level. The ground surface within the castle was rough grass, though the lack of grazing in recent years had led to large areas being colonised by nettles, blackthorn, and brambles. Some areas were eroding where visitors had climbed on them, while others were covered with screes of loose masonry. In most areas the earthworks of buried buildings were at least partially obscured, and the site was difficult to 'read', even by specialists. Around the castle, the hillside was managed as woodland, the heavy tree cover obscuring the ditches but providing an important sense of setting for the ruin which was visible above the tree-line.

There had been no earlier conservation. Indeed, what made Wigmore so important was that it had not been modified by repair and display, a proper ruined castle that provided a real sense of discovery for visitors.

The Philosophy of Repair

Theory

So often, the repair of an ancient monument is constrained by what has been done to it in the past. Because Wigmore Castle was untouched it provided a rare chance to develop a philosophy of repair at the outset which was suited to its particular needs, and one which reflected current developments in conservation practice (Coppack 1999). This had begun, in fact, long before an agreement was concluded on guardianship, with attention paid to both the archaeology and ecology of the site. All repair of historic fabric is destructive of archaeological evidence, and the traditional method of conserving masonry by stripping off its natural protection and replacing it with a stone and mortar capping is damaging not only to archaeological features but to the setting and ecology of the site. From the very beginning, it was decided that repair should cause the minimum intervention possible, and that the delicate ecology of the site and its setting should be preserved. Essentially, Wigmore Castle would be conserved 'as found'. The policy of 'conserve as found' is an old one, dating from the period before World War I when Sir Charles Peers and Sir Frank Baines were codifying conservation policy for the Office of Works, but it has been interpreted differently by each subsequent generation, to the extent that 'conservation' is often little more than replication with some if not all of the original elements, and 'found' reflects the expectation of the time or the idiosyncrasies of the conservator. What it has never meant is the leaving of a monument as close to the state in which it was originally found which is consistent with its

long-term stabilisation and public access. This, however, was the treatment that Wigmore seemed to need.

At Wigmore, the site itself provided the basis of the repair strategy, its state and component parts the only factors that controlled the approach adopted. Immediately before the site was taken into guardianship, a full photographic survey was made of all the surviving masonry, followed by a fully digitised photogrammetric and rectified photographic survey which formed the basis for all subsequent work. A topographic survey, again digital, was made of the whole of the site, including outworks not in guardianship. The ecological survey made some years earlier for the owner was updated. It was apparent from the outset that the surviving elements of the castle were not as fragile as they looked, that they contained a vast amount of archaeological data, and that they supported an extensive and important ecosystem that was more fragile than the ruins. It was also obvious that there were serious structural problems that might require massive intervention including extensive ground disturbance unless a more sensitive approach could be developed. Wigmore presented an interesting challenge if its repair was not to damage significantly its 'soft' and natural appearance, the flora and fauna it supported, or the archaeological evidence it retained and buried evidence it contained, all the criteria that made it important in the first place. Techniques of repair and presentation needed to be the least intrusive possible, but they had to work effectively and represent value for money. They also had to be sustainable and capable of monitoring. In short, Wigmore Castle presented a unique opportunity to experiment with modern techniques of repair on an immense scale, and if successful to set the standard for future repair of ruined structures elsewhere.

Practice

Repair was to be done by contract, which required the preparation of a full specification of works before the site could properly be examined, hardly an ideal situation. Most of the higher masonry was obscured by ivy which could not be removed without destabilising the ruins and only limited access to examine the upper levels was possible. The only way in which work could be specified was to identify a series of appropriate treatments, which included perhaps more taking down and resetting than was actually going to be required, and applying these as it seemed appropriate to the photogrammetric survey by examining what could be seen of the masonry from ground level. This approach requires a great deal of experience if it is to be at all meaningful, and a close and trusting working relationship is needed between curator, architect, and civil engineer, the senior members of the project team at this point. It also requires constant attention to detail in the course of the conservation contract and a willingness by both the contractor and the project team to modify their approach as the true nature of problem becomes apparent. In this case it also required the understanding and support of both the commissioners and

senior managers of English Heritage who were being asked to support a different kind of conservation to the one they understood. The first was achieved quite easily, the second could only develop through time, and the third was at times quite difficult to achieve, but once accepted support was total.

To ensure that the specification was realistic and to identify more precisely what problems would be encountered in the course of the works, a section of the east curtain wall was scaffolded, stripped of ivy, and used as a test-bed for different conservation techniques. The area chosen seemed fairly typical, with a fragile wall-bead, exposed core, and a well-preserved and very visible outer face. Whatever work was done on this trial area, it could be reworked in the main contract. This allowed the opportunity to experiment with mortars and replacement stone, the use of additional core-work to support and protect fragile areas, and the removal and replacement of the soft capping on the walls. It permitted mistakes and experimentation, allowed for the refining of the specification, established the level of archaeological recording necessary, and provided the first understanding of how complex the structures of the castle were likely to be.

Archaeology

The decision to preserve the castle's archaeology undisturbed was taken long before the site came into guardianship and had been a central plank in English Heritage's protracted negotiations with the owner. Some excavation was unavoidable, required to inform the civil engineer about stability and levels, and to provide access for repair and underpinning, but that was to be kept to the absolute minimum consistent with good archaeological practice. The two areas excavated were designed within an archaeological research strategy that maximised the capture of information to aid interpretation while avoiding the reduction of ground levels which would expose fragile and unweathered masonry.

Excavation began four months before the repair contract in 1996 with a deep section inside the south curtain wall which revealed some 9m of buried deposits, identifying a timber castle of the early 12th century, early 13th-century rebuilding in stone, and an early 14th-century rebuilding on top of that. Although the purpose of the excavation was to determine the stability of the standing ruin, it demonstrated dramatically the potential of the site for serious archaeological research. Wigmore is an ideal site on which to study both castle development and decline. This immediately began a debate among commissioners as to whether the preservation of the archaeology in situ was the correct approach. It was right that the debate took place but unfortunate that it took place at that point. The point at issue was that the standing ruins were desperately in need of repair, and that archaeological research was not the first priority. As it transpired, it proved possible to define a research agenda that would incorporate the excavations required for the urgent repair works but which can be pursued at any time in the future to place Wigmore

Castle in both its regional and national contexts. A second area was excavated in the course of the repair works, the east tower which was detaching itself from the curtain wall for reasons which were not immediately obvious. Excavation revealed that although it appeared to be a 14th-century tower it was a 13th-century structure which had been partially rebuilt. The rebuilding had been to correct the movement of the tower which was subsiding into a massive 12th-century ditch. Not only was the reason for the subsidence found, the excavation provided access for substantial underpinning and repair. Both excavations provided evidence for substantial buildings against the curtain wall which were not apparent on the surface, confirming the depths to which the latest buildings are buried.

The main thrust of archaeological research at Wigmore was the recording and analysis of the surviving ruins, carried out immediately in advance of conservation and using the same scaffolding. From the outset, it was decided to produce a fully digitised survey using a methodology in part developed by English Heritage at Windsor Castle but refined in the course of the Wigmore project. Deciding on the level of recording required, always tricky on a site where it is often difficult to decide where one stone stops and another starts, and where all the masonry is eroded, was determined before the main contract began by experimentation on the east curtain wall, to different levels and standards. The importance of this experimentation cannot be overstated—it determined how long it would take to record the fabric in advance of repair and had a direct effect on the timing of scaffolding within the repair programme, and it set the level of recording for the whole of the site at the outset. The surviving ruins were particularly rich in structural evidence, some of it fugitive and most of it difficult to identify and even the lightest raking and pointing of joints was likely to destroy or damage it, and thus the record had to be comprehensive. It was in fact the recording and interpretation of these data that informed the method and extent of the repair undertaken, as well as providing the interpretation of the buildings for future display und publication. The archaeologists who recorded the masonry before repair were also responsible for providing the 'as built' record of the site against which the effectiveness of repair can be monitored. Comparison of the two records shows the extent of intervention and the amount of archaeological data lost or damaged.

The Repair of Masonry

Because the surviving ruins at Wigmore were the product of a continuing process of stone robbing and collapse, many parts of the site remained unsupported and unstable, and if not restrained would ultimately fall. Most of the serious damage resulted from two causes: Civil War slighting to make the castle undefendable, and trees growing on the walls. In the 1640s, sections of curtain wall were destroyed either by mining or explosives, leaving stress fractures in the surviving structures which had widened with water penetration. More recently, tree roots had been the

problem, though many of the trees were felled after they had done the damage. As their roots had rotted out, water again was able to penetrate the core. This was the cause of the collapse of the south curtain wall in 1988 and of some of the instability in the east tower. Stone robbing had removed large areas of the inner face of the curtain wall, again exposing the core. Elsewhere there had been desultory robbing of quoins and dressings, and the undermining of walls which were left to fall through frost action and gravity. Remarkably, large parts of the structure were reasonably sound, the original mortar survived well, and only the wall-tops were friable, the result of four centuries of root penetration. The ivy, though rooted into the upper walls, had in fact preserved more than it had destroyed, including areas of external plaster render.

Minimum intervention requires the client to accept that masonry will not be entirely repointed and capped to run off water. It also means that there will be a continuing need to monitor the site and carry out small-scale repairs as they are needed. The processes adopted at Wigmore were designed to slow further degradation, not stop it in its tracks. Central to all of the work was the requirement to minimise disturbance to historic fabric. Where support was needed for overhanging masonry it was provided by underbuilding with new stone in preference to building in support. Where walls had cracked, reinforcement was provided by a lattice of stainless steel Cintech anchors, drilled through joints at the face but angled into the core, and grouted in. Where the outer face of the south curtain wall had fallen, it was rebuilt to protect the exposed core, and was literally hung off Cintech anchors that resisted any future outward movement. Where eroding corework was unsupported because a door or window-head had been robbed, stainless steel supports shaped to the profile of the corework were used to provide support to fragile masonry in preference to the speculative restoration of such features for support. Where evidence for the precise form of robbed detail was available, for instance the robbed reveals of windows in the south tower that had led to severe cracking, the stone was reinstated to its original size and profile using the evidence of the stone sockets themselves and unrobbed detail in adjacent windows. None of this was unusual—regular techniques were used to deal with easily recognised problems.

It was at the wall-head that Wigmore presented particular problems. The original specification had allowed for the taking down and resetting of up to 1m of the wall because of its likely state of decay, and while this was seen as a maximum, there were likely to be some areas where such drastic work was unavoidable. The experimental stripping of the east curtain wall demonstrated that parts of the parapet and wall-walk survived, well protected by the vegetation which had colonised the site from shortly after its abandonment. It was remarkably sound, and only the top two or three courses could be described as 'loose', even after strenuous cleaning to remove penetrating roots. It could be preserved as it was found, but only at a cost in terms of presentation. Even after repair it would be too fragile to leave exposed. The soft capping, which had preserved it so well, would have to be reinstated,

hiding archaeological evidence but supporting the site's ecology and retaining its natural appearance. The alternative would have been extensive rebuilding, presenting features which were no longer historic but didactic. Consistency required that it be left as it was found, its grass and fern capping replaced, and its form can now only be seen in the archaeological record. Experience developed throughout the repair contract, as the repair of the south curtain wall demonstrated. Plants were removed from the wall-head, stored and maintained in a nursery area, and reset in new turf which was laid on the soil, broken stone and mortar which had been removed from the wall when it was stripped. The turf itself would not come off in large enough pieces to reuse, and in time the team grew sufficiently in confidence not to remove it but simply to peel it back where repair was needed. In this way, 95% of the wall-head of the shell-keep was left undisturbed, though in the middle ward all the walls had been stripped, some of them probably unnecessarily.

Perhaps typical of the work undertaken was the repair of the south tower, an early 14th-century residential tower on two stories over a partially vaulted basement that houses a small but growing bat colony. Most of the cut stone had been robbed from the lower quoins of the tower and the internal splays of the windows, and several live vertical cracks ran through the structure, literally from window to window. Its coursed rubble walling was otherwise remarkably sound, and required only minimal repointing. Where pointing mortar was sound and could not be scratched out with a wooden spatula it was left alone and only failed mortar and voids were to be repointed, using a lime putty mortar matched closely to the original. Where stone had failed, as it had in some areas, it was to be replaced with new matching stone from a local quarry, laid in matching bed-heights. To stabilise the structure, it was decided to replace the partly robbed reveals and rere-arches of the windows rather than pack the voids with coursed slates or corework to reintroduce the necessary support. The wall-top was treated in the same way as the curtain wall, with minimal repair and replacement of the soft capping. The evidence of wall-walk, roof, and waterspouts can still be found in the archaeological record, but it is no more visible now than it was before work started.

The vaulted basement of the tower, perhaps the most interesting feature of the site to many visitors, was virtually intact. Access, however, was restricted by the presence of a small bat colony and the incipient collapse of the side walls of the stair that led to it. Here, it was decided to protect the bat colony at the expense of public access, not simply because of our obligation to protect the bats but because this was a potentially dangerous area on an unmanned site. A grille in the basement door would have been continually vandalised, the staircase to it was dangerous, and the repair of the staircase walls would have seriously compromised the archaeology of that part of the site. After recording the basement and stair, the vault was supported on permanent scaffolding, the door blocked to within 150mm of its lintel, and the stair backfilled to support its walls.

The east tower, which had serious settlement problems, was treated in the same way. However, once the superstructure had been conserved, the interior of the tower and an adjacent part of the middle ward was excavated to provide access for underpinning. Repair was complex but successful, but the civil engineer wanted to reduce the weight that the tower carried. Thus, the excavated area was backfilled to a level over a metre below the surface we had found in 1995, the only instance of active intervention revealing buried features.

The Soft Landscape

Although it was the stability of the masonry that required urgent attention at Wigmore, most of the site comprises earthworks which define the buildings of the castle, set within a landscape of relict woodland pasture which had developed by the early years of the 18th century, but which has not been managed or grazed for a number of years. Although most of the mature trees had been felled before the site came into guardianship, many semi-mature trees and saplings remained within the castle, and outside the guardianship area the owner was developing an area of woodland that complemented commercially managed woodland on the higher ground to the west. The setting of the castle is very emotive and very fragile, and the treatment of the landscape setting was as difficult as the treatment of the masonry. There were also competing uses for this area: public access, archaeological survey and research, and nature conservation, as well as the working space required by the conservation contractor. The soft landscape at Wigmore protects the buried elements of the site as well as providing substantial, if slightly confusing, information about the planning of the castle. A balance had to be found between preserving the landscape 'as found' and providing reasonably easy public access on a site conserved at public expense and accessible to the public at any reasonable time.

The castle occupies a central location in a substantial area of managed landscape, and the reintroduction of a management regime to the part in guardianship that was consistent with the areas surrounding it was the starting point for developing the site and its setting. The existing tree cover would have to be maintained and managed effectively, some of the young saplings being retained to strengthen the existing planting and provide for the future, the very same policy that the owner had adopted for his land surrounding the castle. The first requirement, advised by the project team's ecologist, was to recover the coarse pasture land from the invading scrub which has resulted from a fairly lengthy period of non-management. Both the trees and the pasture had also to be protected from damage in the course of an 18-month repair programme during which the contractor had access to the site and during two periods of excavation when substantial spoil-heaps had to be endured. A works compound was established off-site with a temporary road up the

hillside on the north side of the castle. This continued along the outer barbican bank which was protected by a surface of railway sleepers, allowing scaffolding and stone to be brought up as close as the gatehouse. Within the castle, access routes were identified for the contractor's use, ensuring that damage was limited, any wear being countered by spreading bark which was easily recovered, or by moving the track in exceptional cases.

Blackthorn and nettles abounded inside the castle, and in many areas served a useful function. They kept people away from dangerous areas and were far less intrusive than fences which would otherwise be required. It did not take long for the team to realise that careful planting of blackthorn would aid the circulation of visitors while protecting fragile areas and preventing erosion of, for instance, the slopes of the motte which were covered with loose screes of fallen masonry. New planting requires protection while it becomes established, which means in the short term that chestnut palings appear in some areas where the visitor needs to be excluded, but this is a temporary feature of the site which will last three years at most. The visitor route around the site had already been established, well-worn routes from the gatehouse led to the south-west tower, the east tower, and up the motte. On the steeper ground, deep gullies had already formed, a combination of visitor wear and erosion from runoff water. Because they followed the easiest route to the inner ward or shell-keep on the motte, and because they had already caused damage to the shallowest archaeology of the site, they were chosen to be the permanent access routes. After considerable debate, which had as much to do with ecology as archaeology, it was decided to lay timber steps in the scarring, bedded primarily in the topsoil and following the profile of the slopes. Although an archaeological watching brief was carried out, no archaeologically sensitive deposits were revealed, let alone damaged, by the careful setting of the steps. Perhaps more importantly, the neutral colour of the steps and their laying in existing scars prevented them from being visible in distant views of the site and they are barely perceptible from the middle ward. Hard surfaces were avoided, though it was accepted that some would undoubtedly be needed. It was decided to review the situation after the site had been open for six months, and deal with problems as they arose rather than trying to impose a solution at the outset. Perhaps not surprisingly, wear patterns repeated those recorded before the conservation project began, and only slight modification was needed. A private (and unbriefed) visit from the Secretary of State for Culture, Media and Sport (the site's official guardian) in the middle of winter when the site was hardly at its best resulted in a request for the 'judicious use of gravel' to aid the visitor, and not a request for paths along the visitor route, a certain indicator that our approach was working and that the natural state of the site was properly appreciated.

The castle is, of course, only one element of a wider whole, and it was treated as such. To the east, the village of Wigmore is a planned town with an important pre-conquest church, while to the north are substantial remains of Wigmore

Abbey, the Augustinian house established as the Mortimers' mausoleum. It is also part of a much greater whole, the frontier with Wales and one of the principal bases for the English colonisation of that country. Its conservation must be seen in that wider context and it must not be separated from its context by modern intervention. The decision to leave the site very much as it was found was carried into its wider landscape. There is no car park or visitor centre at the castle, which has to be approached on foot. Disabled access is virtually impossible and would be even with major intervention. However, intellectual access is provided both within the parish church and in the village centre, and car parking developed within the village can only help with the regeneration of Wigmore itself. Thus the castle ruins can remain a central and uncluttered feature of the wider landscape. It remains a site which still has a real sense of discovery, a 'proper' ruin which is now stable and safe, perhaps understated but preserved without serious damage for posterity.

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References

Anon., 1908 Editorial. *Transactions of the Woolhope Naturalists' Field Club*, 14.

Coppack, G. 1999 The Conservation of Wigmore Castle. In: *Managing Historic Sites and Buildings* (eds G. Chitty & D. Baker), 60–71. London: Routledge.

Pevsner, N. 1963 *The Buildings of England: Herefor*shire. London: Penguin.

Shoesmith, R. 1987 Neglect and Decay: Wigmore Castle—Home of the Mortimers. *Rescue News* 421, 3.

Shoesmith, R. 1996 *Castles and Moated Sites of Herefordshire*. Little Logaston: Logaston Press.

Streeten, A. D. F. 1993 Medieval Castles in the Central Marches: an Archaeological Management Review. Unpublished paper presented to the Ancient Monuments Advisory Committee. London: English Heritage.

Martha Demas

"Site Unseen": The Case for Reburial of Archaeological Sites (2004)

Reburial undertaken to preserve excavated sites has undoubted conservation advantages and is an option that aligns with widely accepted archaeological ethics. However, reburial is often seen as controversial and actively opposed by a range of stakeholders, whose interests may be contingent on continued access to the site. Reburial therefore requires careful planning and preparatory research. This overview by Demas examines both the rationale for reburial and the perspective of objectors. Demas presents a decision-making model for reburial interventions, based on a systematic assessment of cultural values, condition survey, and the management environment, including consideration of stakeholder, technical, and management needs.

Introduction

Recognition that the archaeological record is being destroyed at an alarming rate by development pressures, by the act of excavation itself, by the passage of time and by increased visitation has spurred the development of preservation strategies to protect that record.[1] These have ranged from stronger legislation and management initiatives to technical conservation interventions. Reburial, or backfilling as it is also known,[2] has emerged as one of the most viable and flexible intervention strategies for preserving exposed archaeological remains. It is an attempt to re-instate the original, buried environment of an excavated site, and thereby re-establish a state approaching equilibrium, similar to that which existed prior to the site's liberation by the spade; or to create anew a more stable environment for ruins that have

always been exposed. It is, therefore, a conservation strategy applicable to almost any exposed archaeological remains or ruins, but it is most commonly applied to excavated remains.

Reburial is not a new strategy. On the contrary, it has been practised as an 'intuitive preservation strategy'[3] for as long as archaeological sites have been excavated. The description of reburial as 'intuitive' concisely sums up both its traditional practice and its current status as a preservation strategy. It reflects, on the one hand, the well-established theoretical basis that exists for advocating reburial as a conservation strategy, but on the other hand, the lack of any rigorous evaluation and documentation of sites that have been reburied for a long period. Equally important, the description of reburial as intuitive also reflects the haphazard way in which it has been, and for the most part continues to be, implemented. Most 'backfilling' is simply dumping excavated soil back into the trench. In that sense 'intuitive' usually means putting back what was taken out, on the understanding that what originally preserved the remains below ground will do so again. Thus, while it may be generally accepted that 'a fundamental fact in archaeological site conservation is that reburial of exposed archaeological remains is the nearly optimal preservation solution',[4] there have been few resources other than intuition to guide the process.

To move reburial beyond the intuitive stage will require documenting its effectiveness in preserving archaeological remains; examining the rationale for reburial and addressing objections to the practices that continue to impede its application; assessing the appropriateness of reburial within the larger context of management decisions; and providing a firmer basis for the selection of techniques and materials for a reburial design. Only in this way can the practice of reburial be more vigorously advocated by archaeologists and by the authorities responsible for setting policy, and be more confidently implemented by conservation practitioners. This paper will look generally at the decision-making process in relation to reburial and specifically at the considerations (stakeholder, technical and managerial) that are integral to developing a sustainable reburial strategy.

Why Rebury? The Rationale for Reburial

It is a truism of archaeological theory that excavation is destruction. This refers to the inevitable destruction of context that occurs during the process of excavation. Its antidote has always been a system of rigorous record-keeping and documentation. This form of 'destruction' and the means of compensating for it constitute the very essence of archaeological field practice. It is the first, and undoubtedly the most important, but unfortunately often the only lesson learned by practitioners of archaeology about preserving the archaeological record. Beyond excavation, a site is subject to other forms of destruction that threaten the resource base and bring into question the justification for excavation.

Pursuing a Conservation Ethic

In response to the destruction of archaeological resources, principally as a result of development pressures, there began to emerge in the 1970s a philosophy of conservation, referred to as the 'conservation ethic', which posited a conservation model to replace the exploitative model that has guided the practice and theory of archaeology until very recently.[5] Central to the exploitative model has been the practice of excavation. Contributing to this exploitation is the post-excavation treatment of sites, which frequently takes the form of neglect and offers the prospect of continuous deterioration. In most parts of the world, especially those whose archaeological sites have extensive architectural remains (e.g. the Mediterranean, Near East, Central Asia, China, the southwestern USA, Mexico and Central America), excavated sites are too often neglected or abandoned, their earthen walls slumping back into the soil from which they were made, their stone rubble walls gradually collapsing, their ashlar blocks attacked by pollutants or corroded by salts and their presence obscured by vegetation. With few exceptions, only those sites with proven touristic potential are provided with adequate maintenance and protection. These, however, represent a minority of archaeological sites and even they are not immune from sources of deterioration, which may require conservation measures beyond routine maintenance.

At a time when the very act of excavation is being questioned as an unwise use of a finite resource, it has become incumbent upon those wishing to pursue excavation to take a broader view of their responsibilities to the archaeological record and archaeological constituencies or stakeholders. Future trends in archaeology are clear, even if not universally acknowledged, and they derive from a conservation ethic, which aims to conserve the resource, and from a values-based decision-making process, which aims to recognize all the values of a site and engage all the stakeholders:

- the use of non-destructive techniques of investigation will take precedence over excavation;
- when excavation does take place:
  - priority will be given to sites that are already threatened,
  - decisions will be based on a consideration of all the values of a site, not just archaeological research needs,
  - research-based excavation will be limited to the minimum necessary to answer research questions, it will proceed much more slowly, with time and staff devoted to specialist studies and retrieval techniques that enhance the quantity and quality of information,
  - excavators will be required to take some responsibility for the preservation of their sites, and
  - full and timely publication and dissemination of excavation results will be expected.

The issue of preserving archaeological resources is ultimately an ethical one, especially for the archaeologists who dig the sites and government authorities who must look after them. In this context the rationale for reburial is that it is one important strategy that excavators and government authorities have at their disposal to reduce the contribution of excavation to the destruction of archaeological resources.

Mitigating Deterioration through Reburial

The theoretical justification for proposing reburial as a conservation strategy begins with the empirical evidence of excavation itself. Every field archaeologist has observed the beneficial effects of burial on the preservation of material remains. These observations are enhanced when compared with parts of the same site that have been exposed, either from earlier excavation or because they were never fully buried.[6] Less verifiable, but no less dramatic, are those monuments that have come to light in circumstances less controlled than excavation. One of the most prominent examples is the Sphinx at Giza, whose survival for over four millennia may be attributed to its being buried in sand for most of that period, and whose present deterioration is due in large part to its total exposure for less than 100 years.[7]

The reasons for the beneficial effects of burial are best understood by examining what happens to a site when its remains are exposed for the first time after many centuries or millennia of existing in a state of near equilibrium. The deterioration processes that begin upon excavation and continue as long as a site is exposed result from disturbing a stable environment and exposing the remains to wetting–drying and freeze–thaw cycles, thermal fluctuations, wind and water erosion, salt crystallization and biodeterioration. The materials that are most commonly left *in situ* on excavated archaeological sites are those used for construction: stone, adobe or earth, clay or lime-based plasters and mortars, the pigments used for decorating these surfaces and, less commonly, wood.

The results of these decay processes are easily seen at excavated sites, even after only one season of excavation. Their cumulative effect after many decades can be devastating. Archaeology is a relatively young discipline but, after a century or more of large-scale excavation and exposure of sites, the cumulative effects of deterioration processes and lack of maintenance are all too evident to even the casual observer. Conservation and management interventions to a site can reduce the rate of deterioration, but none can respond to the totality of deterioration processes so effectively as reburial. Reburial cannot stop deterioration but it can significantly slow it down. It does so in two ways: by protecting the site from the direct effects of water, wind, vegetation, light, animals and humans; and by re-establishing a stable environment, thereby preventing deterioration caused by continual fluctuations in temperature and moisture, and by removing the zone of evaporation and salt crystallization away from the substrate. Nevertheless, reburial is not a panacea. A

neglected reburied site can erode, be heavily vegetated and become a habitat for burrowing animals.

Confirmation of theory by informal observation has generated an abundant fund of anecdotal evidence on the effectiveness of reburial in prolonging the life of *in situ* archaeological remains. Verification and documentation of these observations is necessary if reburial is to go beyond its intuitive stage and take its place in the first rank of preservation strategies. This was partly the aim of a research project at Chaco Culture National Historical Park, where in 1992 evaluation of the effectiveness of reburial was done by partial re-excavation of selected architectural units that were reburied shortly after their excavation in the 1890s and 1920s.[8] The earthworks projects at Overton Down and Wareham, whose objectives are to understand how the archaeological record is formed and how buried materials change and decay over time, are also providing important information to assess preservation by reburial.[9]

What is also becoming evident is the cumulative impact of conservation interventions on the integrity and authenticity of archaeological sites. Sites that are left exposed will inevitably require maintenance, treatments, stabilization, protective shelters, restoration and so on. Although such interventions are intended to prolong the life of the structures or features to which they are applied, the consequences are often a gradual replacement of original fabric, the addition of new materials, visual intrusions on the ancient landscape and generally a diminution of the authentic.

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When to Rebury? The Decision-Making Process

Whether a site, or part thereof, is to be left exposed after appropriate conservation and stabilization, be protected by sheltering or be reburied is the result of a planning and decision-making process (Fig. 1) that involves three basic stages: Preparation; Assessment; and Response.[10] The core of the process is the Assessment stage, which examines the significance of the site (values, benefits, stakeholders), its physical condition and its management context. The assessment is critical for determining whether reburial (or another option) is the most appropriate and sustainable intervention for a particular site. Key questions that need to be addressed for each of the assessments are:

- *Values, benefits and stakeholders*: why is this site important? What are its significant features? Is it necessary for all parts of the site to remain visible in order to reveal this significance? What are likely impacts of an intervention on the integrity and values of the site? What are the benefits that derive from the values of the site? Who has an interest in these values and benefits?

DECISION-MAKING FOR CONSERVATION INTERVENTIONS

Step 1 PREPARATION: collecting information

1.1 Establish Baseline Information
- *What is known about the site?*
- *Where are the gaps in research?*
- *What is the history of interventions at the site (excavation, conservation and use)?*

Step 2 ASSESSMENT: taking stock

2.1 Analyze the Context of the Resource

2.1.1 Values, Benefits & Stakeholders
- *Why is this site important?*
- *Who values it?*
- *What benefits accrue from it?*

2.1.2 Physical Condition
- *What is the condition of the site or structure?*
- *What are the threats and causes of deterioration?*

2.1.3 Management Context
- *What legal, administrative, financial conditions pertain?*
- *What social, political and economic factors may affect the conservation and management of the site?*

Step 3 RESPONSE: making a decision

3.1 Determine the Appropriate Conservation Option

In the light of the condition and management context of the resource, what is the best way to preserve the values of the site?

3.2 Develop a Strategy

How will the conservation/intervention be implemented to meet the stakeholder, technical, and management needs resulting from the assessments?

If reburial is chosen, the following considerations may apply:

3.2.1 Stakeholder Considerations
- *Compensation strategies*:
  - *documentation & publication*
  - *research needs*
  - *display/exhibition*
- *Communication and consultation strategies*:
  - *stakeholder involvement*
  - *popular & scholarly press*
  - *networking, lecturing*
  - *media*
  - *advisory group*

3.2.2 Technical Conservation Considerations
- *research and testing needs*
- *type of remains to be protected*
- *duration of reburial*
- *depth of fill*
- *horizon markers*
- *bulk fill materials*
- *specialized materials & fills*
- *different fills*
- *erosion control & drainage*
- *vegetation control*
- *post-reburial use*
- *long-term monitoring*

3.2.3 Management Considerations
- *costs*
- *staffing*
- *post-reburial maintenance needs*
- *security*
- *legal implications*
- *political constraints*

← **MONITOR & MAINTAIN** →

Figure 1
Flow-Chart of a Decision-Making Process for Conservation Interventions

- *Physical condition:* what are the problems? What are the main causes of deterioration and the main threats? What is the best way to protect the site against these threats and causes of deterioration?
- *Management context:* what are the economic, political and social pressures that may be brought to bear on the decision-making? What are the financial and staffing implications for a particular intervention and its maintenance? What are the legal implications of pursuing a particular intervention?

The relationship between these assessments can be complex. There are trade-offs or compromises that may need to be made but, as for all decision-making for cultural heritage, understanding what is most important about the site and to whom it is important are key to making an appropriate decision. The more significant and visible the site, and the greater the impact of reburial on it, the more the need for a transparent and thorough decision-making process. Some forms of reburial can be simple and straightforward—such as backfilling trenches on an excavated site— and require little in the way of a decision-making process. But even this type of reburial, when carried out on a large, long-abandoned site can be a formidable task, as evidenced at the ancient site of Merv in Turkmenistan, where huge archaeological trenches, exposed for nearly a century, are now being selectively backfilled.[11]

It is at this assessment stage in the decision-making process, when one is analysing both the context and the options, that the particular advantages and constraints to reburial need to be considered in full.

Advantages and Opportunities of Reburial

Reburial is one of the most flexible strategies available to decision-makers since it allows for a range of temporal (long-term or temporary) and spatial (total or partial) options and is a reversible intervention. All these options contribute to the preservation of the site, but only long-term, total reburial can be considered as the optimal conservation measure. Total, long-term reburial is essentially reversing the process of excavation: if excavation is revelation and destruction, reburial is concealment and conservation. It is the act of concealment that lies at the heart of so many of the objections to reburial, as discussed below.

Other degrees of reburial provide less protection, but are nevertheless important strategies for protecting sites. The larger the site, the greater the potential for conserving parts of it through reburial, while leaving others open for visitation and interpretation. Long-term, but partial, reburial provides protection within an overall scheme of site presentation. In an architectural complex, partial reburial of structures (leaving the upper parts of the walls exposed) allows the plan of a complex to remain legible while concealing its full excavated depth. To compensate for the resulting two-dimensionality of this type of reburial, selected rooms or struc-

tures may be left more fully exposed for purposes of interpretation. Partial reburial is most effective on one-period sites with walls preserved to a fairly uniform height, but it is also useful for stabilizing multi-level sites and subterranean features.[12] Published examples of the use of partial reburial on a large scale as part of a presentation scheme are the sites of Bogasköy in Turkey, whose walls are preserved to a fairly uniform height, resulting in a very two-dimensional experience of the site; Chaco Canyon and Aztec Ruins in New Mexico, whose walls survive to varying heights up to 12m, allowing for a three-dimensional experience of the site despite partial reburial; and the Sherwood Ranch Pueblo in Arizona, which was partially reburied after decades of abandonment and looting (the site was on private land) to protect the remains but allow visitation.[13]

Temporary or short-term reburial, whether total or partial, provides protection until further excavation is undertaken or until a more permanent conservation solution is found. It is thus an important strategy for protecting sites between excavation or study seasons or after the final excavation and study, pending the implementation of a conservation plan and opening to the public. A well-published example of a temporary reburial strategy was the Elizabethan Rose Theatre in London, whose remains were carefully reburied pending their presentation after construction of an office building.[14] In a similar vein, the sanctuary of the goddess at the Neolithic site of Niuheliang in Liaoning Province, China, was deemed too fragile for presentation and has consequently been completely reburied and sheltered until a solution can be found to open it for public display. Another example of sheltering combined with reburial, in this instance partial reburial of mud brick remains to prevent slumping and erosion, is the well-known gate at Tel Dan in Israel. The distinction between temporary and permanent reburial may become blurred, if, for instance, it is a cyclical operation, as once practiced at the site of the Roman Villa at Woodchester (Gloucestershire), England, whose Orpheus mosaic was periodically unearthed to allow it to be viewed. Since 1880, when the mosaic was first re-excavated and consolidated, it was exposed for public viewing in 1890, 1926, 1935, 1951 and 1963, until its last exposure in 1973, at which time a replica of the mosaic was made and is now on permanent display.[15]

Long-term reburial suggests an extreme, absolute and irreversible action. In most cases, however, the intent is to 'mothball' the site, or parts of it, in order to ensure its physical conservation for the future, pending re-excavation for further investigation (when new research questions or new retrieval techniques warrant it); public presentation (when finances or new conservation techniques justify it); or conservation intervention (when a better understanding of the mechanisms of deterioration and the ability to mitigate them exists). To use a museum analogy, reburial represents a form of long-term 'storage' for archaeological sites—the site's integrity and values held in safekeeping for future use. In some circumstances, however, such as when a site has particular spiritual or social value for indigenous

peoples, permanent reburial may be the intent. Yet even in this context reburial provides the opportunity and possibility in the future to reassess and reconsider decisions.

Constraints to Reburial

Real and Perceptual Objections

As a conservation strategy, reburial of an archaeological site may be said to yield the highest dividends, but paradoxically it is the one that has found least acceptance among those responsible for excavating, conserving or managing archaeological remains. This lack of acceptance is reflected not only in practice but also in the international documents that provide guidance for the treatment of archaeological remains. Indeed, there is an apparent regression in thinking reflected in these documents.

The earliest international recommendations, the *Conclusions of the Athens Conference* (1931) (see ICOMOS website for full text of all charters and recommendations: www.international.icomos.org/centre_documentation charters; accessed March 2004), did recognize the role of reburial in conserving archaeological sites: 'When the preservation of ruins brought to light in the course of excavations is found to be impossible, the Conference recommends that they be buried . . .' (Conclusion VI). This enlightened statement finds no equivalent either in the 1956 *Unesco Recommendation on International Principles Applicable to Archaeological Excavations*, or the 1966 *International Charter for the Conservation and Restoration of Monuments and Sites* (the Venice Charter), or in the more recent *Charter for the Protection and Management of the Archaeological Heritage* (1990) (see ICOMOS website, details given above). Similarly, most national policies and most archaeologists are silent or overtly discouraging with respect to the recommendation and practice of reburial.[16] This is partly the result of perceived threats to the profession and to national policy represented by reburial. A few of the concerns are real, but most are misinformed. They are also rarely expressed, existing at some subliminal level of the archaeological and public conscience.

The practice of backfilling also appears to be regressive (excepting Britain and northern Europe where it is deemed routine). Statistics are, of course, nonexistent, but less formal data indicate that backfilling was more commonly practiced in the late 19th and early 20th centuries than within the last fifty years. The reasons for this may have little to do with a desire to preserve, and more to do with the need to dispose of the spoil heap on large-scale excavations or reinstate private land. Another motivation occurs in the context of mosaics conservation, where the focus shifted from backfilling to removal and transference to a museum.[17] In line with current trends in conservation, the emphasis has now moved back to in situ preservation, making reburial once again an important strategy.

The objections to reburial as a preservation strategy may be broadly classified for the purpose of discussion as legal, scholarly and logistical. The legal issue is the most complex because it is inextricably linked with public perceptions. Fundamental to the legal issue—especially where private property is at stake—is that protection of cultural resources represents a land use constraint and may involve an expenditure of public funds. This is justified in the name of advancing scientific and humanistic knowledge (scientific and research values) and of preserving the physical evidence of a nation's past for the benefit of its citizens (educational and symbolic values). Another important justification, rarely stated explicitly, is the economic benefit to be derived from tourism (economic value). Unexcavated sites have the potential for yielding all or some of these values and benefits and are protected on that basis.

In the light of these justifications for legal protection, the reburial of an excavated site presents obvious problems. Undoubtedly, the continued legal protection of a reburied site does represent a land use constraint, but does the site still have value to justify such protection? From the point of view of the acquisition of knowledge, an excavated site is often perceived, however erroneously, as being 'used up': its information has been retrieved and thus its potential for yielding further knowledge (research value) has been reduced. In view of the prevalent neglect of many excavated sites, this perception is understandable; a weed-infested, unmaintained site certainly sends the message that there is little of value to be found there.

The research value of an archaeological site can also be compromised through total excavation. This practice would find far less acceptance, however, among archaeologists today, who generally acknowledge that at minimum a site should be left with witness areas intact for future investigation. The exceptions are salvage excavation; small, single-entity sites; and sites for which no legal protection can be guaranteed. While the research and scientific values of an archaeological site may be reduced as a result of excavation, the site nevertheless retains other values and yields benefits deriving from public presentation that also justify continued legal protection.

When an excavated site is reburied, however, its research value is seen to plummet even further, since its remains are no longer accessible for study and interpretation. Furthermore, a fully reburied site is seen to be incompatible with a policy of site presentation and the values that derive from it. Once concealed and returned to the earth, the site loses its public presence. Although there are means of compensating for such loss (discussed below), there are associated perceptual and legal issues that may be triggered by this act of reburial. Where reburial of excavated sites is not common practice, it may be perceived by the non-professional as an abdication of duty by the responsible authority and this perception may be posed as a legal challenge if the justification for expropriation or protection of a site is no longer deemed tenable. It is the potential 're-use' of an excavated site, as discussed above, that should afford it a legal status analogous to the unexcavated site.

The legal mandate to interpret archaeological sites to the public, which accompanies designation as a protected monument or national park, is often a disincentive if not an insurmountable obstacle to total reburial, but can easily accommodate partial reburial.[18]

The scholarly objections to reburial are straightforward. Total and partial reburial both deprive the scholar of access to primary evidence. Clearly there is a correspondence between the degree of reburial and the degree of deprivation. In either case, however, it can be argued that if a site has been properly excavated, recorded and published, it remains accessible, albeit in a different medium. In theory, that is true, but the reality is that many sites remain unpublished, that many of those that are published are inadequately documented and that even the most fulsome documentation cannot replace the understanding and inspiration that derive from direct experience of a site. Partial reburial does allow for the visual presentation of architectural remains, but the result is inevitably a loss of spatial integrity and a more two-dimensional experience of the site.

The resistance of scholars to reburial is in some respects the most difficult to address since they constitute legitimate concerns and strike at the very heart of the archaeologist's passion for first-hand observation of the evidence. The importance of direct experience of a site cannot be over-emphasized, but it must be weighed against the alternative to reburial, which is to continue a policy of malign neglect—for it is all too clear that neither the financial nor the technical resources to preserve every archaeological site are available. Nevertheless, the legitimate needs of scholars for reasonable access to information about excavated sites must be integrated into any reburial strategy.

The logistical objections to reburial are simply stated. Reburial requires the reintroduction of large quantities of soil to the excavated area. Frequently, spoil heaps have been removed from an excavated site and soil must be imported. In any case, refilling trenches or areas requires time and labour, and if the reburial is temporary, it must be re-excavated. In a word, it is easier—for the archaeologist and the government authority—to leave a site exposed than to rebury it. Planning before and during the excavation, especially with respect to the retention and placement of spoil heaps, is a necessary first step in alleviating the logistical burdens of reburial.[19]

Monitoring and Maintenance: The Achilles Heel of Reburial

Reburial may be the optimal method of preservation for most archaeological material, but when poor practice or improper application and lack of monitoring and maintenance are factored in, then it can be destructive. Lack of maintenance, in particular, is the main weakness in translating theory into practice. The common assumption that a reburied site no longer requires attention or maintenance is especially prevalent and dangerous. Unchecked growth of vegetation is the principal

cause of loss and destruction of reburied sites. The case of the hominid trackway at Laetoli is a prominent example of how the lack of simple maintenance (removal of vegetation) almost destroyed the site;[20] far more common are the countless anonymous examples of mosaic pavements[21] and earthen walls disrupted or destroyed by lack of maintenance. Testing at the site of Caesarea in Israel is being undertaken to assess, *inter alia*, the role and requirements of maintenance of reburied mosaics.[22]

All of the constraints mentioned above, which arise in part from false assumptions, misguided perceptions, economic and political pressures, and even indolence, only serve to underscore that reburial or backfilling is not simply a technical solution to a conservation problem. It has wider implications that must be addressed if it is to be promoted as a viable alternative to the present destruction of excavated sites.

How to Rebury? Developing a Reburial Strategy

Once the decision has been made to rebury a site, there are important considerations and implications that need to be incorporated into the reburial strategy. These considerations will flow from the assessments carried out in the planning phase as described above. Planning is always an iterative process and the design of the reburial strategy requires revisiting the assessments in light of the decision to rebury all or parts of a site. The assessments will have brought forth issues relating to values and stakeholders, physical condition and the management context that will need to be addressed when developing the reburial strategy.

Stakeholder Considerations

As discussed previously, the claims of some stakeholders to an interest in a site can pose serious obstacles to pursuing reburial as an intervention, although others, such as indigenous peoples, may regard reburial in a positive light.[23] The differences, of course, lie in the different values attributed to sites by stakeholders. Having made a decision to rebury, the reburial strategy must consider how to mitigate the impact of that decision on the values of the site and those who give voice to them. Since reburial is a means of holding values in trust for future generations of potential stakeholders, it is the current and short-term needs of stakeholders that will be most impacted by reburial. The reburial strategy can mitigate the temporal loss of values principally through compensating stakeholders and through communication and consultation.

Compensation Strategies

Lack of direct access to a site or its parts (i.e. to the physical remains) constitutes the primary objection to reburial by stakeholders (principally those with a schol-

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arly or touristic interest in the site). Strategies that attempt to compensate these stakeholders deal primarily with documentation and research needs, and public access and interpretation. The undertaking of a long-term reburial strategy must be predicated on the full documentation of the site, so that it is accessible in alternative forms (i.e. the written and graphic record) to scholars and others with an interest. This requires, foremost, that a site be fully documented prior to the implementation of any long-term reburial, and may require that the site be made available for further study. The inevitable lag-time between final excavation and publication affords one such opportunity for scholars and the interested public to visit a site if it is to be reburied for the long term.

Reburial can furthermore provide an opportunity for creative interpretation of a site. Exhibitions and publications are obvious and useful ways to compensate the general public. In the case of the Laetoli hominid trackway, an exhibition that included a cast of the trackway was created for installation in the museum at Olduvai Gorge; the exhibition explains the significance of the site, its excavation and conservation history, and the reasons why it cannot be left open to visitation. In a reburial-shelter hybrid at Tubac Presidio State Historic Park in Arizona, an underground archaeological exhibit is built into the reburial mound so that visitors can witness a part of the excavated site. These types of displays under glass or 'windows' into the below-ground archaeological deposits are very compelling and often implemented (though rarely published), but all too frequently suffer from technical design flaws. Other forms of interpretation, whether physical or virtual, are available, such as outlining the footprint of a reburied structure, volumetric reconstructions above reburied foundations or digital media.

Communication and Consultation Strategies

Where access to sites has been long taken for granted, their unavailability may be one of the more painful, but necessary, adjustments that archaeologists will have to make to the way they do archaeology. There are, however, ways of making these adjustments more acceptable, primarily by ensuring that decisions about archaeological sites are communicated. For instance, a decision taken to rebury a site could be accompanied by a formal announcement in a recognized journal or newsletter to alert those in the profession. An example of such a strategy aimed at the public was the organization of a special visitor's day for the local community prior to reburial of the north wing of the San Diego Presidio.[24] The media can, of course, be a powerful tool to communicate more broadly, provided the rationale for reburial is conveyed to the media—a difficult task in its own right.

As with any difficult decision, consensus-building and consultation among the affected constituency is often critical. Archaeologists, in particular, should be consulted about the need for documentation and research prior to reburial. The ability of the perceived public interest to drive the agenda for high visibility sites

can be formidable—witness the public response to conservation decisions at three sites in England in recent decades: the Rose Theatre, Stonehenge and Seahenge.[25] But it is also evident that the public is often amenable to restrictions on access if the reasons for such restrictions are clearly communicated.

Technical Conservation Considerations

Choosing appropriate reburial techniques and materials means designing an environment that best protects the archaeological remains. In many cases this means no more than returning the excavated soil to the trench or structure from which it was excavated; in other cases it may mean using specialized fills to provide better protection for fragile materials. Many different techniques and materials have been used in the past, but very few of these have been documented or subsequently evaluated. Common practice and received wisdom (meagre though it be) have formed the basis for most technical decisions about reburial. This has led to the continued improper use of materials (notably plastic sheeting and geotextiles) and, until very recently, a fairly formulaic and unimaginative approach to reburial.

As reburial strategies have become more complex and ambitious in scope, the lack of technical guidance becomes more apparent. Because of the paucity of data from research projects or long-term evaluations of reburial operations, technical design must rely primarily on a theoretical understanding of the properties and behaviour of fill materials and their impact in a buried environment. There are a number of variables that must be considered when designing and implementing a reburial strategy. These variables will have implications for the techniques and materials employed for implementation and are briefly touched on below.

- *Reburial research and testing needs*. Recognizing how little is known about creating the best reburial environment, research and testing of materials and methods may be required before implementation.
- *Type of remains to be protected*. The type and fragility of the archaeological remains to be protected are important factors in determining the fill materials. Earthen materials (mudbrick, adobe), plaster (floors or on walls), mosaics and wood or other organics may benefit from specialized fills, but are conversely more susceptible to damage from the improper use of such materials.
- *Duration of reburial*. The planned duration of a reburial—temporary, short-term or long-term—may have a direct influence on depth of reburial, the type of horizon marker used (see below) or the need for a capping. Unfortunately, the tendency of the temporary to become long-term serves as sufficient warning against the use of materials or methods that are contingent solely upon intended duration (for instance, the use of an impermeable plastic sheeting).
- *Depth of fill*. Shallow fills have the advantage of requiring less soil, but provide a correspondingly less stable environment and less protection from deep-

rooted plant species, infiltration of water, erosion of soil, frost, heat from surface fire and vandalism. Capping of a reburied site with an additional layer of soil or aggregate to raise it above the original surface is one method used to address these problems. Deep fills provide more protection and allow for greater use of specialized fills, but require more materials, labour and time, all of which need to be considered when budgeting and planning.

- *Horizon markers and separator materials.* A primary concern in reburial operations of every type is the provision of an horizon marker or separator layer between the excavated level or feature and the reburial fill. An horizon marker may be a non-contextual object (e.g. modern coins or glass, plastics), a thin layer of distinctive fill material (e.g. sand, gravel) or a separator material. The type chosen will depend on the size and depth of the excavated area, duration, the fragility of materials and so on. A separator material is also useful in facilitating the removal of the final layer of fill when it is re-excavated (e.g. between excavation seasons). The ideal separator material would be: permeable to liquid water and water vapour; sufficiently strong and durable to withstand biological degradation and to allow the lower layer of fill to be lifted (if the fill is to be removed); sufficiently pliable and flexible to conform to the contours of excavated features; and discourage the growth of roots into the underlying stratum. Two materials (fine-meshed plastic netting and geotextiles) meet many of these requirements and have been commonly employed.[26]

- *Bulk fill materials.* Soil will constitute the bulk of most fills. For both practical and conservation (physical and chemical compatibility) reasons, it is generally recommended that the excavated soil be retained or a local source found. The practical requirements of reburial can be considerable and retention of the excavated soil heap, while not always feasible, will substantially reduce the logistical and financial burdens of a large reburial operation. Consideration needs to be given to the effects of soil types on archaeological artefacts and materials such as wood, lime stucco or plaster, adobe and mud plaster; compaction and other variables such as the contamination of soils by chemical fertilizers; and continuity of capillarity between fill and archaeological substrate.

- *Specialized materials and fills.* Specialized materials refer to either natural or synthetic materials that perform a specific function within a reburial matrix. These functions are generally to encourage drainage or, conversely, impede the flow of water, promote capillarity, provide insulation and facilitate or impede removal. Existing soil matrix, weather, patterns of surface erosion and sub-surface hydrology may play a critical role in the selection of specialized materials. Specialized fills may require the use of a separator fabric to prevent inter-mixing of different fills. Commonly used specialized fills are sand, pozzolana, expanded clay pellets (for mosaics) and gravel; many of

these are simply coverings rather than fills, especially on mosaics. There is increasing experimentation with and use of lightweight materials such as vermiculite (heat-expanded mica), polystyrene, perlite, geosynthetic materials and specialized fabrics, such as Goretex®, and impermeable membranes or clay barriers such as bentonite.[27]

- *Differential fills*. Partial reburial of excavated structures represents an important strategy for protecting archaeological remains that are to be kept open for public presentation, but often creates problems at the exposed wall face as a result of unequal or differential fill levels, such as structural instability, loss of mortar and stone, and erosion of the base of walls, that total reburial avoids. Mechanisms for eliminating or reducing these problems, including more equitable distribution of fills, reducing hydrostatic pressure and controlling lateral migration of water, must be built into the reburial design. Increasingly, geosynthetic products are being employed to address these problems.[28]

In addition to these basic considerations, there may be the need for control of surface erosion, utilizing a protective capping or through re-vegetation. Drainage of surface run-off may be critical to stabilizing the surface and ensuring a dry fill. Post-reburial use of the land, for recreation, agriculture, roads or building development, may also be an overriding consideration in the reburial design. The considerations for reburial in the context of urban development, in fact, constitute a special category of archaeological site reburial, with very challenging technical, stakeholder and managerial requirements.[29] Increasingly, however, a 'conservation ethic' in the form of preservation *in situ* (i.e. leaving archaeological deposits in place) rather than salvage excavation is being espoused for the urban context and the necessary research on the burial environment to support this alternative is being carried out.[30]

Finally, perhaps the single most important consideration in regard to long-term sustainability of reburial is ensuring some level of monitoring and maintenance. Control of vegetation, maintenance of drainage systems and monitoring of performance of new technologies are of paramount concern. The absence of this type of monitoring and maintenance can easily undo even the most sophisticated and well-conceived reburial design. Although monitoring and maintenance need to be considered as part of the technical requirements for a reburial, they are intimately connected to managerial considerations, as discussed below.

Managerial Considerations

The considerations for reburial that flow from an assessment of the management context are most often related to costs, legal implications, security and maintenance. They are frequently inter-related and they often provide a check on what

realistically can be accomplished. The technical design in particular may be constrained by costs of personnel, materials, equipment and the need for further reburial research and testing prior to implementation. As already discussed, maintenance is a critical conservation component of a reburial strategy. In the management context this means that the maintenance strategy must also respond to funding and staffing realities. A complex maintenance regime that cannot be sustained is worthless and may even be dangerous if the integrity of the reburial is dependent on it.

Similarly, security needs may relate to the technical design—e.g. if vandalism is a concern at a remote site, armouring the reburial with a capping may be required—or they may be entirely dependent on regular monitoring by staff, which is a consideration for management.

The legal and management implications of total reburial may be summed up in the phrase 'out of sight, out of mind'. Reburied sites are removed from public view and are consequently easily (or conveniently) forgotten. A forgotten site is subject to neglect, to disturbance from non-compatible land use activities and to vandalism. Any decision to rebury a site must take these consequences into consideration. Thus, if the site is on private land, is there a management agreement with the landowner? If the site is legally protected, is there an effective mechanism for ensuring regular inspection? If the site cannot be protected by these means, is it subject to any immediate threat?

And then there are the political pressures that may be brought to bear to keep a site open, which would have become evident during the assessment stage of the decision-making. Political pressures derive from stakeholders with an interest in keeping sites accessible, often for economic or nationalistic reasons. While these considerations are intimately linked with those of stakeholders, values and benefits, they can impinge strongly on the financial and legal aspects and directly on the managing authority, and are therefore best considered as part of the management context. Compensation and consultation strategies, however, will likely be needed to address these pressures.

Conclusions

Reburial of sites may never become a popular option for preservation of the archaeological heritage. It is anathema to those archaeologists whose world revolves around revealing (i.e. excavating) rather than concealing archaeological remains; it is completely counter-intuitive to the general public, whose perceptions of archaeology are founded upon excavation; and it is threatening to government authorities since it appears to undermine the legal rationale for protection of archaeological sites. These deep pockets of resistance reflect in part the failures or weaknesses of the archaeological and conservation professions.

The dearth of excellent documentation and a poor publication record for excavated sites has left archaeologists with an over-reliance on primary evidence. The low priority given to finding creative ways of interpreting archaeological sites for the interested public has similarly led to a reliance on physical remains, even when these are unintelligible to the non-specialist. In the absence of such remains, there are few good models to point to, but the popularity of replicas and reconstructions (e.g. Lascaux, Jorvik) certainly demonstrate the acceptance by the public of something other than the authentic. Interpretation brings to the fore again the importance of affording compensation for what is being taken away through reburial.

Conservation as a profession has not effectively communicated its message to the general public, government authorities and the archaeological community. It remains one of the profession's greatest challenges. One venue for beginning to address this failure is the archaeological sites themselves or the nearest proxy (museums or orientation centres). Even when we have managed to convince and compensate stakeholders, there remains a lack of confidence among practitioners in the technical requirements of reburial. The conservation professional who is given the responsibility for designing a complex reburial is at present a pioneer and will search the literature in vain for a well-trodden path to the goal.

Overriding all these failures and weaknesses are the long-term implications of reburial. Or, as expressed in relation to the controversies over what to do with Seahenge, 'Is reburial a form of disposal or long-term conservation?'.[31] The premise behind the present paper is that reburial is undoubtedly a form of long-term conservation, but that it can become a form of disposal if we do not find the means of keeping alive the memory and relevance of a reburied site.

Seen in the light of an achievement-driven society, it is not hard to understand the unvoiced resistance to reburial. Excavation and discovery are advances and positive; reburial is negative and a form of retreat. Yet, it need not be so. Like all conservation, reburial is a future-oriented undertaking. Reburied sites are being 'archived' for the future; good documentation and interpretation can provide a degree of sustenance for the present. When this is understood, perhaps reburial will find acceptance and its rightful place as an alternative to the practices prevalent today.

References

1   For a recent review of threats to archaeological sites see Palumbo, G. In: Threats and challenges to the archaeological heritage in the Mediterranean. Palumbo, G. and Teutonico, J.M. (eds) *Proceedings. Management Planning for Archaeological Sites. Threats and Challenges to the Archaeological Heritage in the Mediterranean*. The Getty Conservation Institute, Los Angeles, CA (2002) 3–12.

2 The use of the term 'reburial' rather than 'backfilling' is discussed in the Introduction to this volume [2004], pp. 133–135. Neither reburial nor backfilling should be confused, although they have much in common, with 'capping' of a site. Capping, also referred to as 'intentional site burial', is defined as the 'placement of an engineered protective covering designed to enhance the long-term preservation' of the resource (Nickens, P. Technologies for in-place protection and long-term conservation of archaeological sites. In: Williamson, R.A. and Nickens, P.R. (eds) *Science and Technology in Historic Preservation*. Kluwer Academic, New York (2000) Chapter 14, 309–332).

3 Nordby, L.V., Taylor, M.R. and Propper, J.G. The handwriting on the wall: prospective preservation research strategies for the U.S. Forest Service. In: *Tools to Manage the Past: Research Priorities for Cultural Resources Management in the Southwest*. Symposium Proceedings, 2–6 May 1988, Grand Canyon, AZ (1988) 74.

4 Stubbs, J. Protection and presentation of excavated structures. In: Stanley-Price, N. (ed.) *Conservation on Archaeological Excavations with Particular Reference to the Mediterranean Area*. ICCROM, Rome (1984) 81.

5 For the seminal article proposing the conservation ethic see Lipe, W.D. A conservation model for American archaeology. *The Kiva* **39** (1974) 213–245. Regrettably, it can still be said that nearly three decades after this clarion call for a more rational approach to the use of archaeological resources the exploitative model still governs the practice of archaeology in many parts of the world.

6 Other opportunities exist in the course of excavation for assessing the results of long-term burial and it is hoped that excavators will begin to contribute to documenting the condition of materials upon excavation. Of special interest and a potential source of information about the effects of burial are instances of intentional or ritual burial, such as was practised at Maya sites (see Hansen, E. and Castellanos, C. this volume [2004]).

7 For a review of decay mechanisms see Selwitz, C. Deterioration of the Great Sphinx: an assessment of the literature. *Antiquity* **64** (1990) 853–859.

8 Dowdy, K. and Taylor, M.R. Investigations into the benefits of site burial in the preservation of prehistoric plasters in archaeological ruins. In: *7a Conferéncia Internacional sobre o Estudo e Conservação da Arquitectura de Terra: comunicações: Terra 93*. Direcção Geral Dos Edificios e Monumentos Nacionais, Lisboa (1993) 480–487. See also Ford, D. *et al*. this volume [2004].

9 Bell, M., Fowler, P.J. and Hillson, S.W. (eds) *Experimental Earthwork Project 1960–1992*. Council for British Archaeology, London (1996). For a review see Agnew, N. Book reviews. *Conservation and Management of Archaeological Sites* **2** (1997) 101–104. Macphail, R.I., Crowther, J., Acott, T.G., Bell, M.G. and Cruise, J.M. The Experimental Earthwork at Wareham, Dorset after 33 years: changes to the buried LFH and Ah Horizons. *Journal of Archaeological Science* **30** (2003) 77–93.

10 For a full description of this decision-making process for archaeological sites see Demas, M. Planning for conservation and management of archaeological sites: a values-based approach. In: Palumbo and Teutonico (2002) [1] 27–56.

11 Cooke, L. To fill or not to fill? Retrospective backfilling at Merv, Turkmenistan. In: *Pre-Print of Papers. 9th International Conference on the Study and Conservation of Earthen Architecture. Terra 2003 (Yazd, Iran, 29 November–2 December 2003)*. Deputy of Presentation, Iranian Cultural Heritage Organization (2003) 102–109.

12 Reich, R. The archaeologist's dilemma. In: *ICOMOS 8th General Assembly and International Symposium. 'Old Cultures in New Worlds'*. US ICOMOS, Washington DC **II** (1987) 1009–1014.

13 For Bogasköy see Neve, P. *Archäologie und Denkmalpflege. Diskussionen zur archäologischen bauforschung* **2**. Deutschen Archäologischen Instituts, Berlin (1975) 90. For Chaco and Aztec see Ford *et al*. and Bass Rivera *et al*., both this volume [2004]. For Sherwood Ranch Pueblo see Bryant, K. The preservation of Sherwood Ranch Pueblo. *American Archaeology* **7** (2003) 38–43.

14 Ashurst, J., Balaam, N. and Foley, K. The Rose Theatre. *Conservation Bulletin* (English Heritage) **9** (1989) 9–10. See also Corfield, M., this volume [2004], for the current status of this 'temporary' reburial.

15 See Smith, D.J. *The Great Pavement and Roman Villa at Woodchester Gloucestershire*. Woodchester Roman Pavement Committee (1973); and Woodward, R.N. and Cull, J. *The Wotton Mosaic*. An Illustrated Guide. Photo Precision, St. Ives (1980).

16 There are, of course, exceptions to this general disregard. Those involved in mosaics and earthen architecture conservation have been consistently more active in the promotion of reburial as a method of protection (see, e.g., Mora, P. Conservation of excavated intonaco, stucco and mosaics. In: Stanley-Price, N. (ed.) *Conservation on Archaeological Excavations with Particular Reference to the Mediterranean Area*. ICCROM, Rome (1984) 97–104; Nardi, R. Couverture provisoire pour les mosaïques que l'on ne peut enlever. *International Committee for Mosaics Conservation Newsletter* **5** (1982) 5–13; the Resolutions in the International Committee for the Conservation of Mosaics. *Mosaics No. 2. Safeguard* (Carthage, 1978; Perigueux, 1980). ICCROM, Rome (1983) 6; and the Recommendations of the Santa Fe and Ankara meetings in *Third International Symposium on Mudbrick (Adobe) Preservation*. ICOMOS/ICOM, Ankara (1980) 276, 283. The Indian Archaeological Service annunciated a policy of backfilling for sites with mudbrick structures, excepting the site of Lothal where experimentation and restoration were being carried out (Sengupta, R. Restoration of proto-historic ruins of adobe, Lothal, India. In: Üstüntök, O. and Madran, E. (eds) *Third International Symposium on Mudbrick (Adobe) Preservation*. ICOMOS/ICOM, Ankara (1980) 1–8). In other countries (e.g. England and the USA), reinstatement of the excavated site on private land to its original condition is part of the agreement with the landowner (e.g. Thorne, R.M., Fay, P.M. and Hester, J.J. *Archaeological Site Preservation Techniques: A Preliminary Review* (Environmental Impact Research Program, Technical Report EL-87-3). Waterways Experiment Station, Corps of Engineers, Vicksburg, MS (1987) 31. In these cases, however, backfilling is simply a means of reinstating the land, and neither legal protection nor a conservation aim is intended or implied. The newly developed national guidelines for China provide for reburial of excavated sites as the norm rather than the exception (Article 35, *Principles for the Conservation of Heritage Sites in China*. English-language translation, with Chinese text, of the document issued by China ICOMOS. The Getty Conservation Institute, Los Angeles, CA (2002).

17 For an analysis of this trend at the site of Jerash in Jordan see, e.g., Stanley-Price, N. Patterns of survival among some Byzantine floor mosaics in the Levant. In: *Mosaics No. 3. Conservation in situ. Aquileia 1983*. ICCROM, Rome (1985) 49–56.

18 See Ford, D. *et al*. and Bass Rivera, A. *et al*., both this volume [2004].

19 Field manuals from the USA and England, where excavation is commonly undertaken on private land that must be reinstated, frequently provide suggestions for the removal of turf, location of spoil heaps and work time (e.g. Barker, P. (2nd revised edition). Universe Books, New York (1983) 107; and Coles, J. *Field Archaeology in Britain*. Methuen & Co Ltd, London (1972) 177f).

20 Demas, M., Agnew, N., Waane, S., Podany, J., Bass, A. and Kamamba, D. Preservation of the Laetoli hominid trackway in Tanzania. In: Roy, A. and Smith, P. (eds) *Archaeological Conservation and its Consequences: Preprints of the Contributions to the Copenhagen Congress, 26–30 August 1996*. International Institute for Conservation of Historic and Artistic Works, London (1996) 38–42.

21 See, e.g., Roby, T., and Neguer, J., both this volume [2004], for examples.

22 See Neguer, J., this volume.

23 See, for instance, Ford, D. *et al*. and Bass Rivera, A. *et al*., both this volume [2004]. The impacts of a lack of transparency and clarity of a decision to bury a site (in this case intentional site burial or capping) on Native American and archaeological stakeholders are to be found in the August 2002 ruling on the disposition of the remains of 'Kennewick Man' (Opinion and Order (Civil No. 96-1481-JE) of the United States District Court, District of Oregon).

24 Calarco, D. San Diego Royal Presidio. Conservation of an earthen architecture archaeological site. In: *Terra 2000 Preprints (8th International Conference on the Study and Conservation of Earthen Architecture, Torquay, Devon, UK, May 2000)*. James and James (Science Publishers), London (2000) 20–25, see p. 23.

25 For the Rose Theatre see Corfield, M., this volume [2004]; for Stonehenge, Baxter, I. and Chippendale, C. From 'national disgrace' to flagship monument. Recent attempts to manage the future of Stonehenge. *Conservation and Management of Archaeological Sites* **5** (2002) 151–183; for Seahenge, Miles, D., Ramsar Designation and the case of Seahenge. In: Coles, B. and Olivier, A. (eds) *The Heritage Management of Wetlands in Europe*. Europae Archaeologiae Consilium Occasional Paper No. 1. EAC Sectretariat, Belgium and Centre for Wetland Research, UK (2001) 158–164.

26 Geotextiles are also referred to as filter fabrics, engineering fabrics and geotechnical fabrics. The literature on geosynthetics is extensive; for an overview of the types and uses see Kavazanjian, E. Jr., this volume [2004]. The long-term durability of buried geotextiles has always been one of their assumed properties, but only in recent years has this assumption been subject to close scrutiny and testing by the industry. Exposed geosynthetics, particularly polypropylene, degrade rapidly in sunlight. Expectations by the engineers who use these products are high and claims of a 200-year life expectancy have been made, but such direct references to calendar years is in fact rare in the discussions of durability.

27 Some experimentation with the use of specialized materials has been undertaken but this remains an area in which research and testing is needed. For experimentation with various materials on mosaics see, e.g., Nardi (1982) [18] 5–13; Mora (1984) [18] 97–104; Roby, T. Site conservation during excavation: treatment of masonry, wall plaster and floor mosaic remains of a Byzantine church in Petra, Jordan. *Conservation and Management of Archaeological Sites* **1** (1995) 43–57; and Podany, J., Agnew, N. and Demas, M. Preservation of excavated mosaics by reburial: evaluation of some traditional and newly developed materials and techniques. In: Alarcão, A., Correia, V. H. and Beloto, C. (eds) *Conservation, Protection, Presentation: Fifth Conference of the International Committee for the Conservation of Mosaics, Faro – Conimbriga, 4–8 October 1993. Proceedings (Mosaics 6)*. Instituto Portugues Museus, Lisbon (1993) 1–19. For Goretex experimentation see Altieri, A., Laurenti, M.C. and Roccardi, A. The conservation of archaeological sites: materials and techniques for short-term protection of archaeological remains. In: *Proceedings of the 6th International Conference on Non-Destructive Testing and Microanalysis for the Diagnostics and Conservation of the Cultural and Environmental Heritage (Rome,*

17–20 May 1999). Ministry of Cultural Heritage and the Italian Society for Non-Destructive Testing Monitoring Diagnostics Euroma, Rome (1999). For perlite see Moss, E. Protection and environmental control of the plastered mudbrick walls at Çatalhöyük. MSc Thesis, University of Pennsylvania (1998); see also Matero, F. and Moss, E., this volume [2004]. For geosynthetics see Ford, D. *et al.*; Bass Rivera, A. *et al.*; and Kavazanjian, E., all this volume [2004].

28 See, e.g., Ford, D. *et al.* and Bass Rivera, A. *et al.*, both this volume [2004].

29 See Goodburn-Brown, D. and Panter, I., this volume [2004] and Corfield, M., this volume [2004].

30 Corfield, M., Hinton, P., Nixon, T. and Pollard, M. (eds) Preserving Archaeological Remains *in situ* (PARIS): Proceedings of the conference of the 1st–3rd April 1996. Museum of London Archaeology Service, London (1998).

31 Miles, D. Ramsar Designation and the case of Seahenge. In: Coles, B. and Olivier, A. (eds) *The Heritage Management of Wetlands in Europe*. Europae Archaeologiae Consilium Occasional Paper No. 1. EAC Sectretariat, Belgium and Centre for Wetland Research, UK (2001) 163.

Neville Agnew

Methodology, Conservation Criteria and Performance Evaluation for Archaeological Site Shelters (2001)

An exposed excavation or ruin may be subject to irreversible change and damage. Yet there are good arguments for allowing controlled visitor access to sites so as to enhance the public's appreciation of the past. One response to this dilemma has been the erection of shelters to achieve protection while allowing visitor access for viewing and interpretation. A shelter provides protection from the weather, can be used to manage access, and indicates that the site is valued and curated. However, the erection of a shelter is not a simple matter, although it may appear so to some stakeholders. Damage to the fabric of the site can occur, there may be unacceptable impacts on aesthetic values or authenticity, or there may be significant social issues. Careful planning, analysis of values and threats, and painstaking technical assessment of effectiveness are all required to achieve a successful outcome, but these aims and processes are seldom comprehensively achieved. This overview reading discusses these issues and uses a range of diverse sites, including the controversial intervention at the Peterborough petroglyph shelter in Canada, to illustrate and discuss decision-making and conservation criteria.

Introduction

The complexities of the site sheltering process require a high level of conceptual and integrated decision-making and planning. The starting point, as in all conservation work, is a clear and comprehensive statement of the values of the site, a good description and documentation of the physical remains, a thorough understand-

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ing of threats and deterioration processes and an assessment of the management context of the site. Without these to the fore in all decision-making, it is easy to make wrong decisions, or to overlook decisions that ought to have been made, with consequences that could seriously impair the site, leading to loss of integrity of fabric and significance.

Methodology

No formal methodology has been developed for sheltering. Typically, in many places shelters have been built as a one-off, ad hoc venture. Consequently several aspects of the process are at risk. Clearly, when sheltering is being undertaken without the basis of prior experience and without a methodology, the risk is amplified. How can we break out of this essentially unproductive, nonsystematic way of working? There is a need to apply a methodology that follows what has become accepted as a standard approach to site conservation planning, intervention and management. This method employs a decision-making process that:

- identifies all the values of the site, and orders them by significance
- documents comprehensively the condition of the resource
- identifies the threats and deterioration mechanisms, ranks them in order of severity and, where possible, quantifies the deterioration (so much damage or loss of this or that kind over that much time)
- assesses the management environment of the site, which includes staffing, infrastructure, funding, as well as input from stakeholders to inform and guide decision-making
- considers also options other than sheltering and what their implications for the site might be.

On the basis of these steps the decision whether or not to shelter the site is made. The assessments and decisions above are the key initial steps in the process. Other steps, some of which can occur in parallel, are:

- consideration of how the decision to shelter will fit with the larger objectives of the site's conservation and management
- interim protective measures, such as temporary reburial or sheltering, while the often long and protracted planning, design, approvals and funding stages for a permanent shelter are occurring
- identification of a team with requisite experience and skills
- a process for shelter design review and revision.

Frequently overlooked in the planning process are three vitally important elements:

- assured resources for long-term maintenance of the structure and the site
- supervision of construction: usually construction of a shelter occurs over unprotected (or minimally protected) remains when the site is particularly

vulnerable to damage. For example, covering the site with a combustible material, as a temporary protection during construction, has resulted in fires in two instances reported in the literature

- a monitoring plan to determine whether the resource is being effectively protected. Monitoring should focus on the threats and deterioration processes previously identified.

Criteria for Protective, Aesthetic and Interpretive Functions

Once the decision to shelter has been made, specific conservation criteria are next established in an iterative process by reviewing again the assessments. By conservation criteria are meant those threats, factors or parameters that need to be addressed in a sustainable way in order that the shelter will preserve the values of the site. In this respect the conservation criteria need to go hand-in-hand with the assessments that resulted in the decision to shelter. Conservation criteria must obviously be communicated clearly to the shelter designer or design team and underpin all aspects of the final design.

A good shelter should:

- function effectively to protect the resource, thereby preserving the most important values of the site. Narrowly defined, this protective function should address the specific conservation criteria that follow from the analysis of deterioration processes affecting the site
- be in harmony with the context of the site and the landscape
- fulfill its interpretive/display function well, but not at the expense of protection
- be capable of being maintained within the resources available, since a shelter cannot, in the end, fulfill its primary function of protection if it is not maintained
- be capable of showing proven protective ability, demonstrated over time by the qualitative and quantitative indicators established as components of the conservation criteria.

Protective Function

In terms of its protective function the shelter must protect against environmental and biological effects (rain, wind, frost, acid precipitation and invasive flora and fauna). A considerable literature exists on environmental and biological impacts, including human (vandalism), on sheltered sites, so these aspects will not be further developed in detail here.[1] Identified threats should be ranked in order of severity, and potential side effects need to be thoroughly assessed as outlined below. Whether a shelter is an open structure or entirely enclosed, and whether ventila-

tion and environmental controls are active or passive, is dictated principally by the nature of the site and especially the identified threats, as well as resources available for its maintenance.

Aesthetic Criteria

Regarding the aesthetics of a shelter there are several points to consider. While the scale of the shelter is dictated by that of the site, both lateral and vertical, the aesthetic impact of the shelter in the context of the site itself and the landscape is important. This is not the same as the architecture of the shelter, considered purely from an architectural perspective, though often the two are not sufficiently distinguished. Admiration for the shelter design may overwhelm the more important consideration, that of the appropriateness of the shelter and its relationship to what it protects and the setting. The harmony of the shelter with the site in the landscape is clearly highly subjective, as witness critiques of Minissi's shelter at Piazza Armerina,[2] and a criticism of the Peterborough shelter discussed below. Nonetheless, it is unfortunate when the tail wags the dog and the shelter's architecture takes over. No matter how beautiful the architecture of the shelter is in its own right, inevitably it is an impact on the site, and an alien. Therefore, basic design concepts should be applied to an archaeological site in its landscape. These relate to the aesthetics of proportions, colour, texture of materials and to viewscapes. As part of the process the designer should be briefed to consider these relationships, and also alternative designs.

Interpretive Function

Similarly, the interpretive functionality of a shelter, while of great importance in many instances (as has been pointed out, typically shelters are built because the site will be visited), should be subordinate to the protective function. Among criteria to be considered are how the visitor will enter and exit the shelter, the routing of walkways and their capacity, the location of the best viewing points, interpretive panels and materials and how these might affect the flow of visitors, and so forth.

Although unlikely to be universally agreed upon, an hierarchy of priorities when considering sheltering is suggested: Protective effectiveness > display interpretation functionality > aesthetic of the shelter in context > architectural statement.

The Need for Thorough Process

As stated above, the decision to shelter and conservation criteria are reiterative processes. Not only should these products be the outcome of a thorough methodology, but it is appropriate also to always consider other options besides sheltering. The pressure to shelter can be quite compelling because archaeologists and managing

authorities continue to be reluctant to rebury sites. This is a natural consequence of the profession: archaeologists spend time, often years, and money excavating the site and want it revealed, not concealed; authorities have political agendas and pressure from tourism interests to consider. A shelter seems like the answer: it protects and may allow public viewing at the same time. What could be better?

A number of examples, illustrating the need for thorough process and some pitfalls, follow.

Reburial versus Sheltering

Laetoli Trackway

Sheltering is sometimes not the best way to preserve a site, however important and worthy of preservation. For example, at the fragile site of the Laetoli hominid trackway in a remote part of Tanzania, various groups had proposed a shelter and public access (as well as other options such as lifting the tracks). The condition and management assessments and conservation criteria for sheltering showed very clearly that a shelter could not fulfill its purpose. The strong recommendation not to shelter was based on considerations such as the rapid weathering of the volcanic tuff, its mechanical weakness, remoteness of the site, lack of infrastructure (water, power, access road), lack of trained personnel, security of the site and inadequate maintenance capability, among other considerations. Consequently, the site was reburied, and as part of the project an interpretive display was created with a replica of the trackway at the existing Olduvai Museum some distance away.[3,4]

Lark Quarry

A contrasting case to that of Laetoli is the Lark Quarry dinosaur stampede trackway site.[5] At this remote site in Queensland, Australia, the decision to shelter was the wrong one. The site, in fact, should have been reburied. The scientific values of the site are considerable: the statement of significance reads, in part, 'it represents the largest concentration of running dinosaur footprints thus far known on earth' and 'it holds a large amount of data regarding the gaits, speeds, sizes and behavior of dinosaurs'. The threats to the site were (and are still today) vandalism from the collection of illicit souvenirs, wetting and drying from sheet flooding and direct rain leading to cracking of the soft mudstone, and erosion. The site is not staffed. The decision to open it to visitors was based upon a number of mistaken premises. These were that visitors would come to the site in considerable numbers and that the site could remain unstaffed, being interpreted only through signs and a brochure. In fact, few visitors make their way to the site which is off the beaten track and once there, many are disappointed by their inability to be able to 'read' the trackway's 4,000 footprints, often superimposed upon each other, and, given

the dryness of the semi-desert environment, are often obscured by accumulation of dust in the prints.

That being said, the shelter built in 1979 comprised a pentagonal flat roof set on steel posts in concrete footings. There are a number of cautionary lessons to be learned from both the design and the construction of this shelter. The construction work for the shelter was not supervised and damage occurred where one of the concrete footings destroyed a holotype footprint. The straw and plastic protective covering on the surface was not removed during construction and caught fire during welding. This resulted in darkening and exfoliation of the surface. The shelter roof is open at the sides and does not exclude windblown rain and dust. Today we are all aware that the environments created by shelters also attract unwanted guests; at Lark Quarry these were kangaroos, some of which died on the site during prolonged drought. Additionally, flooding of the site occurred from the hillside above the trackway. Vandalism has repeatedly occurred in the form of taking footprints as souvenirs.

As a result of these and other problems the scientific, and indeed also the interpretive, values of the site were seriously compromised and much conservation work and retrofitting of the shelter had to be undertaken as early as mid-1983. In fact, it is easy to be critical of a shelter such as Lark Quarry which was undertaken by a competent architect, though someone inexperienced with the conservation needs of a fragile palaeontological site in a remote area. There is apparently now a proposal to completely enclose the site in an environmentally controlled building.

In summary, the assessments of Lark Quarry were not thorough and the shelter failed in its primary function. The shelter was designed and built without conservation input or sheltering expertise. Thus, many of the issues were overlooked. As each deterioration problem came up, the shelter required retrofitting as remedy. The methodological process was not in place at that time. The lessons to be learned here are that if the wrong decisions are made early on, there is a multiplier effect with adverse consequences over time.

Stakeholder Issues

Of signal importance in the sheltering process is the management assessment that would have taken place during the decision-making stage. There are many facets to this, but one of particular relevance is the need for stakeholder involvement. Fortunately, today there seems to be better awareness of the important role of stakeholders in conservation. Two examples follow where this was overlooked.

Yunju Temple

At Yunju Temple, an ancient Buddhist site near Beijing (not far from the Peking Man fossil site), some 10,000 stone stele inscribed with texts predicting the end of the world, dating from about the 6th century, were excavated and in recent years

housed on site in a new underground shelter. This was done, presumably, to mimic the original deliberate burial of stele. This is an interesting hybrid of sheltering and 'reburial' of which a number of other examples exist, e.g. Tubac in Arizona and Atri[6] in Italy. Visitors view the stele, through glass, in their nitrogen-filled underground gallery. The stele are stacked in rows one behind the other and are inaccessible. Scholars of the texts have been outraged by being thwarted in their legitimate desire to be able to examine the inscriptions firsthand.

Siqueiros Mural

Similarly, a proposed shelter for the Siqueiros Mural in Los Angeles ran into trouble some years ago. The Getty Conservation Institute had thought that all the stakeholders had been involved. Protracted review of the design by different commissions of the city took place over many months, yet towards the end of the process other claimants, notably the Los Angeles Conservancy and the California State Historic Preservation Office, emerged as critics of some aspects of the design, including its aesthetic appropriateness to the historic architecture of the streetscape. While this shelter was not built for reasons of cost and other considerations, the entry of these two organizations late in the process necessitated additional design modifications after a further series of meetings.

Soluble Salts

Buildup of soluble salts under shelters is often not realized as a consequence of sheltering. Any good shelter will have a rainwater disposal system from the roof and this is obviously an essential requirement, yet capillary rise from soil moisture or ground water, together with lateral migration from the unsheltered surroundings which are wetted by rain, brings soil salts to the surface. Ventilation systems in shelters have the potential to exacerbate this phenomenon by accelerating evaporation from the sheltered surface. If a capillary supply of moisture is feeding this evaporation, the problem is made all the worse. Of course, under the shelter, the accumulation of salts is not reduced by rainfall as the surface is not wetted. The consequences of accumulation of salts on a fragile surface naturally are often quite destructive. This may be an intractable problem, but one which is best addressed by ensuring that site drainage is effective, and capillary rise of moisture is minimized.

Site Security

Olduvai Gorge

In poor countries building materials are a valuable commodity. Where sheltered sites are not staffed the shelter itself may become the target, not of vandals but of

local people wanting materials. A shelter may literally disappear overnight. This might seem an obvious risk given foresight, yet it happens. The so-called DK site, a two-million-year-old hominid site in the Olduvai Gorge, was sheltered by Mary Leakey in the 1960s or 1970s. Within a short while, the valuable galvanized steel roof was stripped. The shelter has never been repaired and today the site is derelict. Other sites in the region have experienced a similar fate.[7]

Dust Accumulation

Dust accumulation under a shelter is not usually perceived as anything more than a nuisance, one requiring regular removal. Yet dust has quite serious consequences for fragile surfaces, e.g. petroglyphs etched in soft rock, fossil footprints, a mosaic pavement. All of these will be damaged by regular cleaning, to a greater or lesser degree, no matter how carefully done. Additionally, dust obscures the 'readability' of the site, in the case of glyphs or footprints to the extent that the visitor is frustrated. And, furthermore, a dusty surface conveys a lack of care, even if this is a quite erroneous impression.

Unexpected Consequences

The unexpected occurs far too frequently in conservation, and site sheltering is no exception to this. With good conservation criteria established and rigorous review of proposals, the consequences of unpleasant surprises can be avoided. The examples above suffice here to illustrate some adverse side effects resulting from failure to follow through the process. Often there is a naïveté when it comes to designing and constructing shelters which translates into a self-deception that the shelter will function well. Perhaps this arises from a natural enthusiasm for the project, the opportunity to create the shelter, and the lack of perceived need for review and critique. Important too, is the mistaken belief that sheltering is not intervening on fabric. The truth is that there is simply not enough prior critical evaluation from every point of view of shelter proposals, whether for unexpected side effects, the shelter's proposed response to deterioration threats and mechanisms, the aesthetics of the shelter in the context of the site and landscape, long-term monitoring and maintenance, staffing, and so on.

Performance Evaluation

Almost no research or experimental work has been done on sheltering of archaeological sites and cultural resources [see ref. 1]. This is interesting because it stands in sharp contrast to other types of conservation interventions. Today one would not think of intervening on a monument with, say, a stone consolidant without it having been tested and evaluated beforehand. Why this situation should be so

in the case of shelters is difficult to pinpoint exactly, but probably it is due to the fact that shelters are invariably constructed in response to an immediate need as a once-only enterprise. Subsequently no systematic evaluation is undertaken. A further important point is that shelters are not seen as an intervention in the fabric of the site. This view is, of course, erroneous; shelters may have repercussions both good and bad. As a consequence there is a dearth of quantitative information on the actual performance of shelters, despite the huge number of shelters of all kinds (from sheds to vast site museum shelters) around the world. These could afford a valuable archive for the critical evaluation of sheltering and a research topic in its own right for anyone with the time and resources to undertake such a study, though, as discussed below, without valid performance indicators established at the outset, evaluation can at best be only subjective in most cases. The notion that shelters per se are a good thing and provide housing for homeless sites, and that any shelter is better than no shelter, plays a part in this attitude. Yet the complex issues that emerge on closer examination of the question contradict this notion.

Evaluation means different things to different people, and may result in different criteria, usually subjective, being applied. To some the architecture of the shelter is important, to others the crucial aspects are the aesthetic of the shelter and its relationship to the setting and the landscape, yet to others its function as an interpretive center is the significant consideration, and so on. In the absence of documented or quantitative data on the primary function of the shelter, i.e. its effectiveness in preserving the resource and thereby its values, it is not surprising that discord may reign, as demonstrated by the contentious issues raised by one of the cases discussed below.

What is implied by performance evaluation? It means the ability to demonstrate how effective the shelter has been over time in preserving the main values of the site from the main threats. Both quantitative and qualitative criteria are important in evaluation; therefore both objective and subjective factors come into play. Two shelters are described to briefly illustrate these criteria. Both have been published, and fuller detail may be found in the literature.

The Fort Selden experimental hexashelter is an example in which quantitative environmental data were collected with an appropriate monitoring control.[8] The Peterborough shelter is an example of a site where a great deal of good planning and research took place in deciding to shelter and then in its implementation,[9] but a qualitative and subjective assessment by others resulted in an extraordinarily contentious situation.[10]

Hexashelter at Fort Selden, New Mexico

In passing, it should be mentioned that 'hexashelter' is a catchword for the hexagonal 'footprint' of each module. This experimental shelter was erected specifically to evaluate its effectiveness (or otherwise) in reducing climatic impact. This

was done in two ways: by quantitative monitoring of meteorological parameters under the shelter and outside, and by monitoring adobe walls likewise beneath and outside the shelter: these were also instrumented. Nearly a year's data were collected before the shelter collapsed from snowload on the membrane roof after an unusually heavy storm. Parameters measured were temperature (air and walls), windspeed, rainfall, and solar radiation. The monitoring walls were photographed regularly. The results were very clear and showed significant reduction in solar radiation, rainfall and windspeed especially. Comparison of the photographic record of the two walls likewise reflected the protective efficacy of the shelter, though no quantitative data were acquired on loss of fabric from the exposed wall.

The point is not that the hexashelter was especially effective, though it was designed as a 'minimalist' shelter. Many other designs would have served as well or better. Rather, it is to show that it is possible to quantitatively monitor a shelter's performance and the condition of the resource fairly simply, provided that an appropriate control is included, in this case the external wall. Although a sophisticated, solar-powered meteorological station was used which logged data every fifteen minutes, simpler recording devices could serve as well in real situations. More important is a means of monitoring the condition of the cultural resource with an appropriate control. In addition to regular standardized photography, preferably under controlled lighting, other techniques appropriate to a particular site may be employed: an erosion meter, sampling for salt accumulation, monitoring biological infestation, and so on.

Peterborough Petroglyph Shelter

The case of Peterborough in Canada is illustrative of the passions that a shelter can evoke. Was the criticism by Bahn, Bednarik and Steinbring a fair evaluation of the protective structure or an unwarranted attack sustained in the journal *Rock Art Research* (edited by one of these authors) [see ref. 10]. The case is included here because it is very specific in the criticisms of the shelter and, as such, qualifies as an evaluation of the functioning of a sheltering structure, though unilaterally undertaken. That the tone of the criticisms is uncompromisingly hostile is unfortunate to say the least. Here is a brief summary of the issues raised.

The shelter was built in 1984 to protect a 1,000–2,000 year old petroglyph site of about 80 m². In 1995 Bahn et al. published a long and detailed article relentlessly critical of every aspect of the shelter, from the decision process to the design, implementation and its performance [see ref. 10]. The paper concluded with recommendations that construction of a shelter (over a rock art site) should be undertaken only if:

- the project manager could guarantee an independent, long-term sophisticated monitoring program over many decades.

- guaranteed high-caliber scientific support would be available, and that identifying the threats precisely was essential.
- all adverse information relating to intervention projects be made available.

In a detailed article published in 1997, one of the most comprehensive in the literature on shelters, Wainwright, Sears and Michalski [see ref. 9] described the design of the structure at Peterborough and the reasons for the decision to shelter the site. The rationale for the design was discussed, as was the form of the building. The authors mentioned prior consultation with the native community: they described earlier studies and documentation, biological, geochemical and geophysical weathering, the petrology of the site, meteorological data, and concluded that damage by frost far outweighed that from other sources. Vandalism was identified as a major threat. They described, at some length. sheltering options and presented the rationale, the exclusion of water, for a totally enclosed shelter. A completely passive design was chosen for reasons of long-term reliability and elimination of costly energy consumption. Access for disabled visitors was included.

The authors emphasized that they were compelled to conclude that sheltering was the only way whereby the site could be preserved. They stated unequivocally that the site has been stabilized and natural weathering prevented.

Apart from the very bitter debate the Peterborough case generated, in which others joined, an important lesson is the complexity of the sheltering issue, one in which compromises must often be made. Among these are the need for thorough studies, and publication, of the threats and deterioration, for continued monitoring and maintenance and, above all, indisputable evidence for the preservation effectiveness of the shelter. The last seems not to have been quantified definitively at Peterborough, though detailed and various monitoring prior to and after construction has been in place. The team responsible for the decision to shelter, its design, implementation, maintenance and condition monitoring also left themselves open to criticism because comprehensive publication on the site's shelter and process, which might have addressed all or most of the criticisms, was delayed for more than a decade.

Conclusions

The approach to sheltering requires a holistic, interdisciplinary approach throughout. Shelters are indeed conservation interventions on the cultural resource, and may, in the absence of a thorough approach, do more harm than good. Of particular importance in the sheltering process is a means of demonstrating, sustained over time, that the shelter is doing its job of preventing deterioration. Good baseline documentation of conditions at the outset is obviously essential if this is to be convincing, but it is difficult or impossible to correlate subsequent conditions of the artefact under the shelter with its protective function without a valid control.

The simplest way to monitor the efficacy of the shelter is to establish a control outside the shelter. Often this is possible when, for example, non-heritage fabric is adjacent to or near the shelter. Otherwise, indicator samples can be set up within and outside the shelter. These need not necessarily be large or costly. Monitoring of both the artefact and the shelters can, and should, also fulfill functions other than purely protective ones. It is suggested that there is a need for the development of a methodology that would permit a more systematic evaluation of qualitative and subjective aspects of shelter performance.

In summary, thorough assessments, diagnosis of threats and deterioration mechanisms and devising conservation criteria to address the threats are key points in the sheltering enterprise. The process is really no different than for any other conservation intervention, but has often been faulty in the past. Without setting the right course at the beginning things will surely go awry.

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References

1 Demas, M. Annotated bibliography on protective shelters for archaeological sites. *Conservation and Management of Archaeological Sites* **5** (1 & 2) (2001) 91–105.

2 Stanley-Price, N. and Jokilehto, J. The decision to shelter archaeological sites: three case-studies from Sicily. *Conservation and Management of Archaeological Sites* **5** (1 & 2) (2001) 19–34.

3 Demas, M., Agnew, N., Waane, S., Podany, J., Bass, A. and Kamamba, D. Preservation of the Laetoli Hominid Trackway in Tanzania. In: *IIC Preprints of the Contributions of the Copenhagen Congress. Archaeological Conservation and its Consequences. Copenhagen* (1966) 38–42.

4 Agnew, N. and Demas, M. Preserving the Laetoli Footprints. *Scientific American* **279** (1998) 44–55.

5 Agnew, N., Griffin, H., Wade, M., Tebble, T. and Oxnam, W. Strategies and techniques for the preservation of fossil tracksites: an Australian example. In: Gillette, D.D. and Lockley, M.G. (eds) *Dinosaur Tracks and Traces.* Cambridge University Press, Cambridge (1989).

6 Scichilone, G. The site of the cathedral at Atri: a case study of *in situ* conservation of archaeological remains. In: *Preventive Measures during Excavation and Site Protection (Ghent Conference, 6–8 November 1985).* ICCROM, Rome (1986) 309–14.

7 Waane, S.A.C. Roofs and shelters: The Tanzanian experience. In: *Preventive Measures during Excavation and Site Protection (Ghent Conference, 6–8 November, 1985).* ICCROM, Rome (1986) 245–56.

8 Agnew, N., Maekawa, S., Coffman, R. and Meyer, J. Evaluation of the performance of a lightweight modular site shelter: Quantitative meteorological data and protective indices for the 'hexashelter'. *Conservation and Management of Archaeological Sites*, **1** (3) (1996) 139–50.

9 Wainwright, I.N.M., Sears, H. and Michalski, S. Design of a rock art protective structure at Petroglyphs Provincial Park, Ontario, Canada. *Journal of the Canadian Association for Conservation*, **22** (1997) 53–76. See also: Young, G.S. and Wainwright, I.N.M. The control of algal biodeterioration of a marble petroglyph site. *Studies in*

Conservation, **40** (2) (May 1995) 82–92; Laver, M.E. and Wainwright, I.N.M. An investigation of the dissolution of a marble petroglyph site by acidic precipitation. *Studies in Conservation*, **40** (4) (November 1995) 265–73; Wainwright, I.N.M. Rock painting and petroglyph recording projects in Canada. *Association for Preservation Technology Bulletin*, **22** (1 & 2) (1990) 55–84 [Reprinted in *Ontario Rock Art Conservation Association Newsletter*, (Summer–Autumn 1991) 30–59].

10   Bahn, P.G., Bednarik, R.G. and Steinbring, H. The Peterborough petroglyph site: reflections on massive intervention in rock art. *Rock Art Research* **12** (1) (1995) 29–41. See also: *Rock Art Research* **13** (1) (1996) 47–60; **14** (1) (1997) 53–8.

Fani Mallouchou-Tufano

Thirty Years of Anastelosis Works on the Athenian Acropolis, 1975–2005 (2006)

Even when the methodology of a particular restoration is considered best practice for its time, sites that are subject to a series of interventions over a long period inevitably develop a range of problems that are themselves the result of earlier interventions and that in turn require even further intervention. Modern practitioners increasingly strive to avoid or minimize this cycle, and the future will reveal their degree of success. Mallouchou-Tufano's account of anastelosis (anastylosis) at the Acropolis, beginning at the end of the nineteenth century, illustrates the nature of this cyclical and compounding problem and discusses the issues and problems related to anastylosis and its application over a long period at this complex and iconic site. While anastylosis is usually considered to fall under the rubric of minimal interventions, the term has been widely interpreted by a range of practitioners and can be a very subjective and interventionist process. A new thirty-year campaign of repair and anastylosis at the Acropolis was made necessary by the urgent problems apparent by the 1970s arising in part from previous works. Mallouchou-Tufano outlines the principles that distinguish the second conservation campaign from the first and illustrates an important transition in practice from individual, often subjective decisions by the project director to multidisciplinary work and peer review. The reading concludes with a thoughtful discussion of the psychological nature of the changes that the current anastylosis work has caused to the established image of the Acropolis, itself a result of earlier interventions.

Introduction: Previous Restoration Work

The year 2005 saw the completion of thirty years of restoration work on the monuments of the Athenian Acropolis. The Acropolis monuments are expressions *par excellence* of the values and cultural accomplishments of the Athenian Democracy of the 5th century BC. Moreover, they represent the ideals of classical beauty. The monuments survived, through centuries of perils and changes in use and in form, wounded and in ruins but still standing, into the third decade of the 19th century when the modern Greek state was founded. Since the new state anchored its national identity in its ancient patrimony and heritage, the Acropolis was quickly to become *the* national monument of modern Greece, a source of pride and affirmation for its inhabitants and the main point of reference for modern Greece on the part of the other, older European states.

It was in this context that, throughout the 19th century and the first half of the 20th century to the time of World War II, the Acropolis monuments began to undergo successive interventions. The main purpose was to re-establish an impression that would be as close as possible to the conception that existed at that time of how they had been in Classical times.

The interventions that most affected the appearance of the Acropolis monuments were: the thorough destruction during the 19th century of the remains of later, non-Classical historical phases of the monuments on the Acropolis rock; the great excavation of 1885–1890 which included the entire Acropolis plateau and reached the natural bedrock; and the anastelosis[1] projects of Balanos.

Under the direction of the civil engineer Nicolaos Balanos, the work of anastelosis was to last around forty years, from 1898 to 1939, and it was to include all the monuments of the Acropolis rock, forming as a result the image that is known throughout the world. Although to a great extent the interventions of Balanos neither respected nor adhered to the structure of the monuments (which, in fact, they altered), visually they may be considered successful, for he managed to retain the character of the monuments as ruins—by using to a great extent ancient material, adding very little that was new. Yet, from a technical standpoint, the interventions were catastrophic. Applying the technology of the time in an inappropriate way, Balanos incorporated iron reinforcements, some large, some small, within the architectural members of the classical monuments, and encased them in cement, following the contemporary belief that this would counter the problem of their corrosion.[2]

During the years after World War II, the rusting of these reinforcements—which was rapid because of the drastic change in environmental conditions[3]—was to cause breakage and disintegration of the monuments, making a new anastelosis inevitable. The new intervention, moreover, also had to take account of the rapid deterioration of the marble surface of the monuments resulting from environmental pollution, the faulty static efficiency of the monuments because of their ruined condition, and the problems and damage to the monuments caused by the

constantly increasing numbers of visitors to the Acropolis. Nor was the Acropolis rock, itself a monument bearing the traces of a long history, immune to similar destruction.

The New Anastelosis Project in Theory and in Practice

The initial purpose of the new intervention was purely to rescue the monuments. The sections already restored had to be dismantled, the architectural members had to receive conservation on the ground, the rusted iron pieces had to be replaced, and the conserved members re-set on the monuments. In the course of this work, however, various situations emerged, most of them indeed unforeseen, which led to more extensive interventions on the monuments. This resulted in correcting the errors made in the earlier interventions, in improving the general state of preservation of the monuments and in displaying their inherent values and quality in all their richness. To a certain degree, these interventions alter the conventional image of the Acropolis in a way that is significant but not dramatic.

The first step towards the new intervention was made in 1975 with the foundation of the Committee for the Conservation of the Acropolis Monuments (known as ESMA from the initials of the Greek words) within the Hellenic Ministry of Culture. After a preparatory phase of surveying and studying the state of preservation of the monuments, and defining the theoretical principles as well as the techniques and materials of the programmed intervention, works were properly launched in 1979 on the Erechtheion, and subsequently expanded to encompass all the monuments of the Acropolis.[4] In 1987, the anastelosis of the Erechtheion was completed, while in 1986 the anastelosis of the Parthenon had begun. Because of the scale of the monument, the intervention in this case was divided by area into separate programmes. The east façade, which had been badly damaged during the earthquake of 1981, was restored in 1986–1991. From 1995 to 2004, the pronaos of the monument was restored and between 1997 and 2004 the opisthonaos.[5] Work is continuing on the north colonnade of the Parthenon and plans for the future include a new anastelosis of the side walls of the cella, the south colonnade and restoration of its western part.

In the Propylaia, the sections that had been restored early in the 20th century (the ceiling of the west hall of the central building and the section of the colonnade, the entablature[6] and ceiling of the east portico) were dismantled. Their new anastelosis began in 2000 at a rapid pace, a project expected to be completed in the first months of 2007. Also in 2000, the new anastelosis of the Temple of Athena Nike started—the third such project.[7]

In addition to interventions on the monuments, pathways for the circulation of visitors have been constructed on the plateau of the Acropolis rock and the rocks on the slopes of the hill have been consolidated. This was carried out during the years 1979 to 1993. The project included securing those rocks in danger of falling
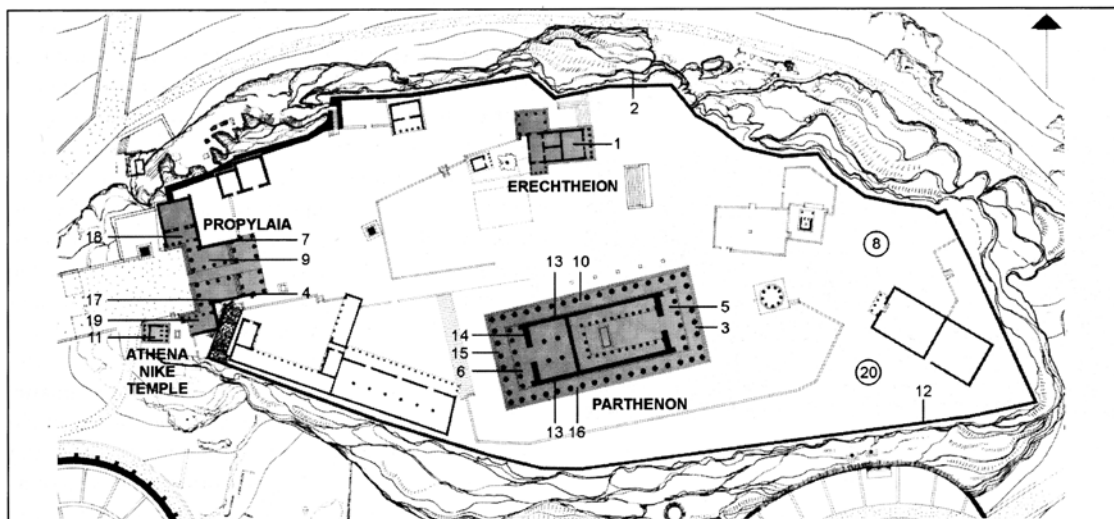
ANASTELOSIS WORKS ON THE ATHENIAN ACROPOLIS, 1975–2005

Completed Works

1. Anastelosis of the Erechtheion
2. Consolidation of the rocks of the Acropolis slopes
3. Anastelosis of the Parthenon east façade
4. Anastelosis of the eastern part of the south wall of the Propylaia
5. Anastelosis of the Parthenon pronaos
6. Anastelosis of the Parthenon opisthonaos
7. Partial anastelosis of the north wall of the Propylaia

Current Works

8. Recording and tidying up the scattered ancient material on the Acropolis plateau
9. Restoration of the coffered ceilings of the central building of the Propylaia

10. Anastelosis of the Parthenon north colonnade
11. Anastelosis of the Temple of Athena Nike

Future Works

12. Consolidation of the Acropolis circuit wall
13. Anastelosis of the lateral walls of the Parthenon cella
14. Restoration of the west wall of the Parthenon cella
15. Restoration of the Parthenon west façade
16. Anastelosis of the Parthenon south colonnade
17. Partial anastelosis of the south wall of the west hall of the central building of the Propylaia
18. Restoration of the Propylaia north lateral wing
19. Restoration of the Propylaia south lateral wing
20. Display of the surface of the Acropolis plateau

Figure 1
General plan of the Acropolis with indication of the completed, current and future interventions on the monuments. Drawing: P Psaltis. Reproduced by permission of Ministry of Culture and Tourism—Acropolis Restoration Service.

by anchoring them to the rock mass using an alloy of stainless steel under pressure. In addition, inventorying and tidying up of the ancient stone material scattered about the Acropolis plateau is under way. Future work is to include consolidation of the circuit wall of the Acropolis and the final arrangement and display of the plateau (Fig. 1).

The current works on the Acropolis are financed by the Greek State and the European Community (Programme 'Culture' of the 3rd Community Framework)

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with a budget of €27,500,000 for the years 2000–2006. They are carried out by a specific service of the Hellenic Ministry of Culture, the Acropolis Restoration Service (known as YSMA from the initials of the Greek words).

In the course of the interventions, sections of the monuments restored in the past are dismantled and the cracked or fragmentary architectural members are placed on the ground. The rusted iron joining or reinforcement elements are removed and replaced with titanium, and the ancient fragments are joined—and, where needed, completed—with new Pentelic marble. The purpose is to restore the structural autonomy and structural efficiency of the members. The structurally restored members are then re-set on the monument, with an attempt to place them in the positions that they occupied in antiquity. If this is not possible, the members are re-set on the monument to occupy the position that they had following the previous anastelosis. In the case of those architectural members that are being re-set for the first time on the monument, they are positioned in places similar to their original locations, i.e. in places that are compatible with the form and function they initially had.

To date, no suitable material with proven long-term performance has been found for protecting the marble surfaces of the monuments, which are continuously and irreparably damaged by atmospheric pollution. For this reason, the sculptural decoration of the monuments whose further erosion would be irreversible—the Caryatids of the Erechtheion, the east metopes of the Parthenon, a number of the pedimental statues, the west frieze and the frieze of the temple of Athena Nike—have all been removed to the Acropolis Museum. They are replaced on the monuments by accurate copies made of artificial stone. Finally, since 1986, conservation of the surfaces of all the monuments has been carried out together with the works of structural restoration of the members. This includes the filling of cracks and joins, the stabilizing of surfaces with minor damage, cleaning and preserving against biological attack, and so forth.

Principles Underlying the Anastelosis Work

From the start of the project, a special effort was made to ensure a high quality of work on a level appropriate to the exceptional artistic, cultural and symbolic value of the Acropolis monuments. It was based on a number of principles, scholarly presuppositions and procedures that were immediately implemented. These are:

- An interdisciplinary approach to the work in all its phases, both theoretical (studies) and practical (application). This is achieved through the interdisciplinary composition of the ESMA (architects, archaeologists, civil engineers, chemical engineers, conservators), which programmes and supervises the execution of the projects, together with the scholars and other personnel in charge of the worksites of the monuments.

- Ensuring an objective approach to decision-making about interventions on the monuments, in order to minimize the possibility of errors. This was achieved through enacting procedures for multiple inspections of the proposed interventions (first by the members of ESMA, then by the Central Archaeological Council, the supreme advisory institution of the Ministry of Culture) and through the adoption, in relation to the decisions made and to the interventions underway, of an attitude that was transparent and open to criticism, as is shown by the successive International Meetings for the Restoration of the Acropolis Monuments held in Athens in 1977, 1983, 1989, 1994, 2002[8] and the prolific debates among the experts who participated. (It must be noted that the establishment in 1975 of an interdisciplinary committee of experts for the Acropolis and of objective and qualified decision-making procedures constituted an absolute innovation for Greece. The country had a well-rooted tradition of unilateral, single-minded, arbitrary and uncontrolled approaches towards monument restoration, a tradition that developed around the dominant figures of Nicolaos Balanos (until World War II) and of Anastasios Orlandos (in the post-War period until the political handover of 1974).[9] The foundation of the Acropolis Committee reflects the hopeful, optimistic and innovating spirit that prevailed in the country immediately after the fall of the 1967 military dictatorship in 1974. Moreover, the principles and procedures that the Acropolis Committee established for approaching intervention exercised a great influence and contributed to the formation of the modern 'school' of restoration of ancient monuments in Greece.)

- Basing the interventions on scholarly research. The publication prior to any intervention of a comprehensive, interdisciplinary study of the state of preservation of the monuments from all points of view—historical, architectural, structural and physico-chemical—had been considered absolutely necessary for the formulation of the restoration proposals. The publication of the 'Study for the Restoration of the Erechtheion' in 1977, a collective and original work at that time, opened the way to the subsequent publication of more than fifteen volumes of studies on the restoration of the different parts of the Parthenon, the Propylaia and the Temple of Athena Nike, and to a great number of unpublished studies, held in the ESMA Archives, concerning problems and issues that have emerged during the execution of the works.[10] All this re-animated scholarly research, resulting in rich and important new information, not only on the architecture, structure and sculptural decoration of the monuments being restored, but also on their later historical phases and the earlier restoration interventions that they had undergone. It also helped identify both the errors in earlier interventions and a great many ancient architectural members that had remained scattered on the ground, which can now be re-set on the monuments from which they had become detached.

- Meticulous documentation and recording of the interventions by various means (descriptions, drawings, photographs, mapping, etc.) through all phases of the work, followed by the best possible use and management of the records, through specially designed computer applications.
- The use and application of traditional building materials and methods during the intervention, for example, the use of Pentelic marble—the same building stone as used in the original Acropolis monuments—for completing existing architectural members or for replacing missing pieces. The use of natural stone, preferably of the same type as the original building, is again a well-rooted tradition in monumental restoration in Greece.[11] The new marble, moreover, is worked with traditional methods and tools (the ancient art of stone working remains equally alive in Greece today).
- The use of modem materials that are compatible with the ancient building stone. For example, the titanium employed in joining fragments of the members was chosen because, in addition to its durability and excellent anti-corrosive qualities, it has mechanical properties that are remarkably compatible with those of Pentelic marble. Materials are selected that have an established and reversible behaviour through time. Thus, polymeric materials have been excluded for stone conservation and only non-organic materials are used.
- The use of up-to-date modern technology in carrying out research, in organizing the worksites, in managing documentation and in performing a number of interventions of a special nature. The hoisting and handling technology of the worksites is particularly developed, with a variety of machines (bridge cranes on elevated rails, portal cranes on ground-level rails, slewing cranes, etc.), which are used according to the specific requirements of each monument. Since the year 2000, in order to accelerate the pace of the works, mechanical means—both those commercially available and others specifically designed (such as the machine on the Parthenon worksite for making flutes in the new marble drums of the columns) are being used for the cutting and the rough working of the stones. The final touches are always by hand in the traditional way, the manual quality, finishing and texture of the work remaining a distinctive feature and a constant desideratum. As for advanced technology, laser radiation in an original application combining ultraviolet and infrared laser pulses has been used for the cleaning of the Parthenon west frieze.
- Retention of the original structural system of the monument during the interventions, through a choice of solutions for static strengthening that respects and complements the original structural characteristics (this is one of the main principles of the new anastelosis). The characteristics comprise mainly the articulated system of construction, that is, joining autonomous architectural members by means of metal clamps and dowels in dry masonry, without

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mortar; the structural independence of the separate architectural members; and achieving their static efficiency with their own weight (the structural restoration described above aims specifically to re-establish their structural autonomy and efficiency).

- Carrying out the interventions to be both non-destructive and, to the extent possible, reversible (another main principle of the current anastelosis). Reversibility means that contemporary anastelosis must not interfere with the possibility of future interventions for improving the monuments. As far as possible, it should make today's work obvious and comprehensible to future generations. This is ensured by the fullest possible documentation of the work, and by publicizing and fully publishing it. Likewise, interventions on the architectural members are reversible and non-destructive. This is achieved, wherever possible, by avoiding making new cuts in the stone (for example, new cavities for dowels or clamps) and by retaining the break surface in the member for joining and infilling with new marble. The modern non-destructive method—using a pointing device—is contrary to the old destructive method that involved levelling the break surface of the ancient member before attaching new marble material. Using a pointing device, a surface that is the negative of the break surface on the ancient member is created on the new marble infill. Thus, if the missing ancient piece is identified in the future, it will be possible to remove the modern replacement and re-set the original fragment in its place.

- Information about the work itself and the additional knowledge it provides is made known as widely as possible through publications (ranging from the strictly scholarly to publications for the general public), exhibitions and films and, finally, through educational programmes in cooperation with primary and secondary schools, the chief aim being to inform and inspire the very young.

From a Rescue to an Anastelosis Intervention

As mentioned above, during the course of the interventions various factors, most of them previously unforeseen, became apparent, which helped change the original character of the work. In fact, it shifted from a straightforward rescue operation to a broader anastelosis, extended to a greater part of the monuments than those included in the initial project and extended in time. These factors may be summed up as follows.

- Discovery of fractures in architectural members in sections of monuments that had never undergone anastelosis in the past (a fact that became evident after dismantling the areas that had been restored earlier). It was therefore necessary to extend the interventions into those areas. Characteristic cases

were the area of the north wall of the Erechtheion above the north doorway, the entablature and central section of the east pediment of the Parthenon, and the eastern end of the south wall of the central building of the Propylaia. In all cases, these sections were dismantled, the architectural members conserved on the ground and then re-set on the monument. The advantage of these extra interventions (apart from strengthening these sections of the monuments) was the great amount of new information gained about the art and technology of ancient building.

- Discovery that the extent of Balanos' interventions was much greater than that known from archival and bibliographical sources. This made it absolutely necessary to extend the interventions into parts of the monuments that had not been included in the original plan of work. Relevant examples include the columns of the east colonnade of the Propylaia, where it was found that the Balanos intervention had extended finally to twenty-nine column drums (rather than only eight as originally known); and the north wall of the central building of this same monument, where earlier—and completely unknown—interventions were revealed on a total of fifty-five architectural members. In both cases, the areas restored by Balanos had to be dismantled, repaired, conserved and re-set.

- Adoption of a critical approach towards Balanos' methods of intervention, which are contrary to modern principles and perceptions of anastelosis, in most cases meant that his earlier reconstruction was abolished during our modern intervention. The conditions created by previous interventions that had to be confronted include the following. (a) Correcting the errors in Balanos' anastelosis in which the architectural members of the monuments were placed in the wrong positions. Characteristic examples are seen in the new setting in their original positions of the blocks of the side walls of the Erechtheion cella, the column drums and members of the entablature of the north colonnade of the Parthenon, and the cella wall blocks of the Athena Nike Temple. In this way much of the authentic structure and form of the ancient monuments was recovered. In addition, their aesthetic and architectural quality and refinement were now displayed, and their relation with the environment re-established and their impact increased.[12] (b) Correcting the errors in Balanos' anastelosis of adding missing parts in new marble, a characteristic example being the backing blocks of new stone in the Parthenon west frieze. In the new intervention, the errors in their number, shape and positioning on the monument have been corrected (the backing blocks have been proven to be seven only instead of the eleven used in the previous restoration, and rectangular in shape—similar to the architraves below and not quadrangular as they had been restored by Balanos). (c) Abandoning in most cases the widely used 'Balanos method', that is, the creation of architectural members that were suitable for anastelosis by combining different

ancient fragments of various provenances. These are now replaced by others comprising ancient pieces that match together or ancient fragments that join and are filled in with new marble (characteristic examples are the restoration of drums, column capitals and members of the entablature of the north colonnade of the Parthenon, and of beams and ceiling coffers or Ionic capitals of the Propylaia).

- Finally, identification of a great number of ancient members and fragments that were lying scattered on the ground, in terms of their origin and position in the monuments undergoing restoration. Thus we have identified ancient architectural members that had been replaced during the Balanos intervention by new ones (relevant situations of this sort are the resetting, in the recent intervention, of two ancient architrave blocks in the Parthenon opisthonaos, where Balanos had used new marble and, in a project planned for the future, the re-building of the lintel of the west door of the Parthenon with three of the original four ancient beams). With this newly re-discovered ancient material in hand, it is possible to extend the anastelosis to a greater extent than in Balanos' intervention. (Examples are the new anastelosis of the ceiling of the central building of the Propylaia and, planned for a future project, the anastelosis of the side walls of the Parthenon cella, which are expected to include 400 additional stones that have been identified in recent years.)

Review and Reaction

The anastelosis works on the Acropolis during the past thirty years have received international recognition. Particularly respected are the interdisciplinary approach of the entire operation, the transparency accompanying it, the scholarly research that imbues it and gives it its special character, the documentation, the quality of its execution and its technologically advanced applications.

It is true that from time to time objections, disapproval and reservations have been expressed about various aspects of the work. Some are of an aesthetic and therefore subjective nature, referring to the percentage of the new marble incorporated in the monuments during anastelosis, its chromatic impact on the overall impression of the monuments, the technique of infilling the inner faces of walls destroyed by fire and the final finish of the restored surfaces. All these are problems without a clear answer. The degree to which these issues will be successfully resolved depends on many factors: the passing of time, the results of various and repeated testing, the acquisition of experience and, above all, the aesthetic sensitivity of those who carry out the interventions, in particular those who oversee them.

Other speculation is of a psychological nature concerning the changes that the current anastelosis work causes to the established image of the Acropolis monuments, especially as a result of the anastelosis of a great number of the

architectural members that had lain scattered on the rock. The changes to the archaeological site of the Acropolis originate in but also respond to the scholarly presuppositions of modern anastelosis: the necessity of re-setting the restored architectural members in the unique and distinct position they had in the articulated, dry-masonry system of classical monumental construction; the consideration of the individual architectural members as monuments in their own right—bearers, each and every one, of the form and function of the whole—and the resulting requirement that they be preserved in the best possible way, by means of their anastelosis on the monuments from which they came.

The changing archaeological site of the Acropolis upsets the time-honoured perception of the visitor. It is a matter about which *people are very conservative*, as Zacharias Papantoniou wrote in the newspaper *Eleutheron Bema* dated 17 May 1930, on the occasion of the completion of the similar project of anastelosis of the north colonnade of the Parthenon.[13] The metamorphosis of the Acropolis landscape, however, also belongs to a long tradition, which began immediately following the establishment of the modern Greek state and continues to our time. It is a tradition that includes a host of interventions, each representative of its special period and inventing the Acropolis site as a symbol of a collective national vision, but also of a fantasy.

In its turn, the new anastelosis of the monuments of the Athenian Acropolis during the past thirty years represents the scholarship and technology of the end of the 20th and beginning of the 21st centuries. It also responds to one main social demand of our time for greater and more immediate comprehension and enjoyment of, and participation in heritage possessions. One danger emerges: does the new anastelosis of the Acropolis perhaps respond in a similar fashion to the other main contemporary demand, that of cultural hyperconsumption? One can trace here both a threat and a goal, the achievement of which will be determined by the education of those who are responsible for the interventions.

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Notes and References

1 The term *anastelosis*, used in the text, designates a specific type of intervention in which the existing but dismembered parts of monuments are reassembled, with the addition of new material necessary for the repositioning of the ancient parts. This operation is (under the erroneous spelling anastylosis) especially recommended in the Charter of Venice for monuments preserved in a state of ruin. It is eminently compatible with the articulated system of construction used in the classical Greek monuments, which consists of independent architectural members bound together in dry masonry, that is without mortar, with horizontal and vertical iron clamps and dowels. In this system of construction the idea of the assembling and disassembling of the blocks is inherent.

2 For the history of earlier interventions on the Acropolis, including those by Balanos, see Mallouchou-Tufano, F. *The Restoration of Ancient Monuments in Greece (1834–*

1939). *The Work of the Archaeological Society at Athens and the Greek Archaeological Service*. Library of the Archaeological Society at Athens no. 176, Athens (1998) (in Greek with a summary and captions of the illustrations in English).

3   The drastic change in the environmental conditions of the Acropolis is due to the transformation of Athens from a medium-sized city to the metropolis of Greece in the post–World War II period.

4   For the works of the Committee for the Conservation of the Acropolis Monuments (ESMA) see the following publications: *The Acropolis at Athens, Conservation, Restoration and Research, 1975–1983*. ESMA, Athens (1985); Economakis, R. (ed.) *Acropolis Restoration, the CCAM Interventions*. Academy Editions, London (1994); Bouras, Ch. and Zambas, K. *The Works of the Committee for the Preservation of the Acropolis Monuments on the Acropolis of Athens*. Publication of the Archaeological Receipt Funds of the Hellenic Ministry of Culture, Athens (2002); Filetici, M.G., Giovanetti, F., Mallouchou-Tufano, F. and Pallottino, E. (eds) *Restoration of the Athenian Acropolis, 1975–2003. Quaderni ARCo*, Gangemi Editore, Rome (2003); *The Acropolis Restoration News* 1–6 (2001–2006) (Annual Newsletter of the Acropolis Restoration Service).

5   *Pronaos* and *opisthonaos* are the two inner porches of the Parthenon, behind the east and west façades, respectively.

6   The *entablature* is the part of a classical building above the columns of a colonnade. It comprises the architraves, the frieze and the cornices.

7   The Temple of Athena Nike was restored for the first time in 1835–1836 and for the second in 1935–1940; see Mallouchou-Tufano (1998) [see n. 2] 21–26, 217–229.

8   For the International Meetings of the Acropolis: see Mallouchou-Tufano, F. The International Meetings on the Acropolis. In: M.G. Filetici, F. Giovanetti, F. Mallouchou-Tufano and E. Pallottino (eds) (2003) [see n. 4] 19–22; *International Meeting on the Restoration of the Erechtheion, Reports, Proposals, Conclusions, Athens* (8–10 December 1977). ESMA, Athens (1977); Mallouchou-Tufano, F. (ed.) *Proceedings of the 2nd International Meeting for the Restoration of the Acropolis Monuments, Parthenon, Athens, 12 September 1983*. ESMA, Athens (1985); *Proceedings of the 3rd International Meeting for the Restoration of the Acropolis Monuments, Athens, 31 March–2 April 1989*. ESMA, Athens (1990); Mallouchou-Tufano, F. (ed.) *Proceedings of the 4th International Meeting for the Restoration of the Acropolis Monuments, Athens, 27–29 May 1994*. ESMA, Athens (1995); Mallouchou-Tufano, F. (ed.) *Proceedings of the 5th International Meeting for the Restoration of the Acropolis Monuments, Athens, 4–6 October 2002*. ESMA, Athens (2003).

9   See Mallouchou-Tufano, F. (1998) [see n. 2] for Balanos and *Anastasios Orlandos, o anthropos kai to ergon tou* (*Anastasios Orlandos, the man and his work*), Publication of the Academy of Athens, Athens (1978) for Orlandos.

10   For the full titles of the studies for the restoration of the various monuments published by ESMA, see the website of the Committee at http://www.culrure.gr.

11   The systematic use of natural stones for filling in or the replacement of ancient architectural members began with Balanos and was established by Orlandos. In his time in the Service for the Anastelosis of Ancient and Historic Monuments, which he directed from 1939 to 1958, he employed a large number of marble sculptors, thus keeping alive the tradition of marble working. This tradition is continued today by the numerous marble technicians of the Acropolis Restoration Service (YSMA) (around 110 in 2006), employed at the worksites of different monuments. Most of them

originate from the Aegean islands, especially the island of Tenos, where there is also a specialized school of marble sculpture.

12 The re-setting of the architectural members, during the current anastelosis, in their original positions is particularly important for revealing the hidden aesthetic refinements for which the Acropolis monuments, and especially the Parthenon, are known around the world, e.g. the curvatures of the *crepis* (the three-stepped base) and of the columns (the *meiosis* and the *entasis*), the inward inclinations of the walls and columns, etc.

13 Zacharias Papantoniou was a well-known Greek art historian and critic of the 20th century. His text, entitled 'Aesthetic evaluation of the anastelosis of the north colonnade of the Parthenon' (in Greek), is fully reproduced in Mallouchou-Tufano, F. (1998) [see n. 2] 338–339.

Augusto Molina-Montes

Archaeological Buildings: Restoration or Misrepresentation (1982)

Excessive restoration or reconstruction is commonly condemned as damaging the authenticity and cultural values of archaeological sites. The Venice Charter and countless primers on conservation methodology make this clear. Yet such projects have occurred frequently. Techniques such as restoration and reconstruction are often an irresistible temptation to archaeologists seeking to find and interpret the essence of a site (ironically, usually with the opposite effect). In addition, these approaches may be demanded by authorities seeking to maximize the site's attraction for visitors or its importance as a national symbol. A range of such reasons are adduced in the two readings that follow. In the first, presented below, Molina-Montes briefly traces historical attitudes to the conservation of the monumental sites of Mexico and provides a graphic example of excessive and often conjectural reconstruction. He describes and analyzes the reasoning behind past practice and traces the development of a gradual change in outlook in conservation practice in Mexico.

The practice of architectural restoration extends back into the centuries; it is probably almost as old as architecture itself. The conservation and restoration of architectural masterpieces is well documented since at least the times of Imperial Rome. It is not until the eighteenth century, however, that restoration begins to take form as a specific activity upon the basis established by Neo-Classicism and by the Romantic Movement which, incidentally, were also prime movers in the

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development of archaeology. Early in the nineteenth century, restoration began to develop a philosophy, a theoretical framework, with the writings of Louis Vitet, the first Inspector General of Monuments in France, and those of his successor Prosper Merimée. It was towards the middle of that century that the first dichotomy or confrontation developed in the new art; this confrontation is best exemplified by the personalities and philosophies of two great figures: Eugene Emmanuel Viollet-le-Duc and John Ruskin.

To Viollet-le-Duc, restoration implied the remaking of a building to a complete state—to leave it, if possible, in mint condition. He stated that "to restore a building is not to conserve it, to repair or to reconstruct it—but to reestablish it to a complete state such as may have never even existed at any given moment" (Viollet-le-Duc 1967: 14). True, he insisted upon a thorough appraisal of the remains and upon a comparative study of contemporaneous architecture of the region as a prerequisite of restoration, but in general, his insistence on returning the building to its pristine state opened the door to imagination and whimsy, and, especially in the hands of his followers, his doctrines served to falsify numerous architectural monuments.

Ruskin, on the other hand, proclaimed an absolute respect for the original material and the fabric of ancient buildings; he reacted against the massive reconstruction that buildings were subjected to in his own time, and stated: "Restoration . . . means the most total destruction which a building can suffer. . . . a destruction accompanied with a false description of the thing destroyed. . . . Do not . . . talk of restoration. The thing is a lie from beginning to end. . . ." (Ruskin 1963: 199).

Ruskin's demand for honesty is particularly touching: "Restoration may become a necessity. . . . look the necessity full in the face and understand it on its own terms. It is a necessity for destruction. Accept it as such, pull the building down, throw its stones into neglected corners, make ballast of them or mortar, if you will; but do it honestly and do not set up a lie in its place. . . ." (Ruskin 1963: 200). Ruskin's critics say that his is a doctrine of fatalistic renunciation, that he preaches the decay of monuments, and that to him the fundamental value of an ancient building is its ruinous state. But this is not so. The truth is that Ruskin was a zealous conservationist recommending to all "to preserve, as the most precious of inheritances [the architecture] of past ages." And he pleads: "Watch an old building with anxious care; . . . bind it together with iron where it loosens; stay it with timber where it declines; do not care about the unsightliness of the aid; better a crutch than a lost limb. . . ." (Ruskin 1963: 200).

Another great confrontation that arose in the theory and practice of architectural restoration, concerned the aesthetic as against the historical values of a building. Cesare Brandi has stated that the dialectic of restoration is represented by the equilibrium and conciliation between these two main values of a monument. Yet strong tendencies towards interventions destined to retain the "unity" and "purity" of style in architectural monuments destroyed much of their historical

value by eliminating valuable dements that had, in time, become part of the historical stratification of the building.

An imposing figure in the history of restoration, the Italian architect Camillo Boito (1836–1914) was the first to attempt to reconcile the opposing tendencies and to establish standards in the restoration of architectural monuments. His work and that of his followers, particularly Gustavo Giovannoni, led to the International Congress of Restoration of Monuments, held in Athens in 1931, which issued the "Charter of Athens," the first international document to establish guidelines for architectural restoration.

The enormous destruction caused by World War II and the urgent need of tending to so many damaged buildings brought about a crisis in the practice of architectural restoration in Europe. Soon, however, the need was felt to return to the established principles, which were reaffirmed and reexpressed in the Second International Congress, out of which arose, in 1964, the Charter of Venice.

We obviously do not have time [. . .] to go deeper into the many and complex aspects of the theory of restoration. Let it suffice to say that there are three very basic and important principles that are universally accepted:

1) Restoration attempts to conserve the materiality–the material aspects—of the monument;
2) The monument has a double value: a historical value and an aesthetic value;
3) It is necessary, in restoration, to respect both aspects so as not to falsify either the historic or the aesthetic document.

Despite the formulations and recommendations contained in the Charter of Athens, the Charter of Venice, and in other international documents that deal with the conservation of our cultural patrimony, the fact is that in practice, and in theory as well, the confrontations still exist; many architectural monuments are still suffering from overdoses of reconstruction or from the precedence given to aesthetic over historical values. However, even though there are differences of opinion and of execution in the restoration of buildings that still retain their functionality and the usefulness of their original architectural space, there is unanimity in the criteria that in archaeological buildings there is no need for either reconstruction or for massive intervention. There is almost universal agreement, at least in theory, as to the validity of the norms expressed in the Charter of Venice forbidding reconstruction and establishing consolidation and anastylosis as the only proper procedures in the restoration of archaeological buildings.

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Needless to say that by "reconstruction" the Charter's prohibition means the rebuilding, with new materials, of parts or elements that have been lost, even when there is proof that those parts or elements existed in the past. It follows that it is

even less permissible to rebuild parts or elements that only hypothetically could have existed in the original building.

And there are good and sound reasons for these norms. In buildings that can still be used functionally, there might be very pragmatic reasons for more latitude in the interpretation and application of the rules; but in edifices that are far removed chronologically from our culture and civilization, in buildings that can no longer be utilized for architectural purposes as the integral abode of man; in sum, in what I have been calling archaeological buildings, there is absolutely no need, in terms of practical use, aesthetic reasons or historic values, to reconstruct or to try to return the monument to its original state. In these instances, the architectural monument, through the ages, has taken on new cultural aspects and dimensions; it has lost many of its original architectural and aesthetic values and has acquired others, of a different kind; its value as a historical document, however, is enhanced by its condition as a "ruin," and this value is not to be tampered with for economic, touristic, nationalistic, pseudo-artistic or pseudo-didactic reasons. Conservation? yes!—Anxious care? Certainly!—but not the gross reconstructions (even where there are good hypothetical evidences) that turn these great buildings into sad falsifications, cold and grotesque mockeries of their ancient glory.

In this regard, Cesare Brandi says: "It is manifest that a work of art has a life in time. For this reason, which is the same one which forbids falsification, the work of art cannot be taken back to its starting point as if time were reversible" (Brandi 1951: 21).

Restoration of Pre-Hispanic buildings in Mesoamerica formally began at the beginning of this century. Leopoldo Batres was appointed Inspector of Monuments in Mexico in 1885 and completed small-scale excavations in Teotihuacan and other sites, but it was not until 1901 that he was "commissioned to repair and consolidate" the Building of the Columns in Mitla. Batres also carried out work on buildings in several other archaeological zones, among them Teotihuacan in 1905 and Xochicalco in 1910. Within a few years the restorations associated with the archaeological projects sponsored by the governments of Mexico, Guatemala, and Honduras, as well as by several private institutions, were initiated. In 1910 work was begun in Quiriguá. Between 1917 and 1920 extensive restoration work was carried out in the Temple of Quetzalcoatl and other buildings in Teotihuacan, in connection with the large archaeological project directed by Manuel Gamio. The Carnegie Institute projects at Uaxactún and Chichén ltzá were initiated almost simultaneously in 1934, and in 1935 work by the same institution was begun at Copán. The pyramid at Tenayuca was explored and restored between 1925 and 1926 by the Dirección de Arqueología of Mexico.

It can be said that with the notable exception of the work at Uaxactún, where several buildings were excavated and abandoned to their fate, the conservation and restoration of archaeological monuments and sites during this period was acceptable and in some cases very good, especially considering the time when this was being done. These projects, carried out before the Charter of Athens of 1931 and before modern ideas on conservation had received wide diffusion in America,

showed respect for the integrity and authenticity of the buildings, for their aesthetic and historical values and for their original materials. In many restorations there was an evident intention to be absolutely truthful, to stop where hypothesis began, to reject reconstruction by analogy, etc., thus in several ways anticipating many of the present concepts of restoration theory and the norms dictated in the Charter of Venice.

This situation, however, did not last for long. As the number and rhythm of archaeological projects increased, the quality of restoration work decreased considerably, despite the improvements in archaeological techniques and despite the advances that had been made in Europe in restoration theory and practice.

In the decades between the 1940s and the 1960s, undue and exaggerated importance was given to the massive reconstruction of Pre-Hispanic architecture in Mesoamerica. These reconstructions have undoubtedly and seriously diminished the historic and even the aesthetic value of the many monuments subjected to the process. The examples are myriad; I will mention only a few.

The Tlahuizcalpantecuhtli pyramid (or Pyramid B) at Tula was first explored and reconstructed in the years 1940–42. The building had been considerably destroyed and it is quite obvious from the photographs and drawings of those years that there was little evidence as to the original form of the stairway on the south side. As a matter of fact, there is reason to believe that it was first reconstructed without a stairway; the archaeological report covering the year 1942 states: "now that the pyramid has been reconstructed . . ." (Acosta 1944: 132). No mention of the stairway is made, and photographs of this period show no stairway.

In 1946, however, it was decided to reconstruct the stairway of Pyramid B. Again the archaeological report corresponding to that year reads:

> On the south side of the pyramid restoration was begun on the central stairway, whose state of conservation was very poor. . . . the search for data and elements . . . gave the following results:
> 1) The width of the stairway was 7.14 mts. based on the remains of the alfardas.
> 2) The *imprint left by the first step* on the stucco floor.
> As can be appreciated, these elements were insufficient to attempt a restoration. . . . But *although not one step remained*, we did know that the pyramid had a stairway and that it was located towards the Great Plaza. . . . In view of the fact that any solution . . . would have been hypothetical, we decided to build a *conventional stairway* using the measurements of the steps on Building C, which most resembles Building B. In the alfardas we found the information that at the height of the eighth step [the eighth step according to Building C standards?] there are rectangular holes that served to support wooden beams vertically in the fashion of jambs to support a lintel. . . . there must have been additional supports in the central part of the stairway. This is the reason why the ninth and tenth steps were built in rough masonry . . . to show the possible places where the intermediate supports could have been originally, *as is the case in the*

Temple of the Warriors at Chichén Itzá. (Acosta 1956: 40; italics mine) [Brackets in original.]

About fifteen years later, however, the intermediate supports were totally reconstructed in one of the many "possible places" and the ninth and tenth steps were changed from rough to finished masonry. There was absolutely no basis for the reconstruction of these pillars; no new evidence had been found which would justify it.

If the west stairway was reconstructed on the basis of the imprint left by a step on a stucco floor, the colonnade in front of Pyramid B was also reconstructed with no more evidence than that offered by imprints of pillars on the same floor; there was little indication as to how those pillars were originally built or how they looked. The report of the 1943–44 excavations at Tula state:

> A curious fact should be noted; although 48 imprints of pillars have been found, *there has not been a single indication of the bodies of the pillars themselves.* It seems that at a certain epoch everything was destroyed and the materials carried away. The great amount of debris found at the site was largely made up of material carried there by rain runoff. (Acosta 1945: 48; italics mine)

The indications as to what these pillars may have looked like came not from the colonnade of Pyramid B, but from the colonnade in front of the Palacio Quemado. These were tenuous indications at best, and furthermore, I do not think that we can be certain that the pillars in front of Pyramid B were necessarily identical to those of the colonnade of the Palacio Quemado. Acosta generalized and stated that:

> After several years of hoping, we at last found the datum that was necessary to attempt, with justification, the restoration of the many columns in different buildings, in order that the public may have a more realistic idea of what these sumptuous Toltec constructions were like when they were in use. (Acosta 1960: 48)

I cannot accept these generalizations and analogies as valid nor can I believe that a small fragment can justify the reconstruction of hundreds of pillars and columns in different buildings of an archaeological site. At Tula the deceit is heightened by the fact that the pillars were made to look old; as reconstructed, they are of different heights, the stucco covering is irregular and incomplete, etc. There was a deliberate attempt to deceive. The public in general, and even many professionals, think that they are looking at the original pillars and not at twentieth century recreations.

What has been said of the pillars of the colonnades applies as well to the columns and pillars on the inside of the Palacio Quemado. [. . .]

It should by now be obvious that Pyramid B at Tula was reconstructed by analogy, that in some aspects it was tailor-made to resemble the Temple of the

Warriors at Chichén Itzá. The problem is that reconstructions in archaeological building have a tendency to become fossilized and accepted as archaeological evidence, to be accepted as truth. Pyramid B is now used as proof of the relations between Tula and Chichén Itzá; I do not mean to imply that these relationships did not exist—there is much other evidence to indicate that they did—but I do believe that arguments for these relationships, if based on certain elements of the reconstructed Pyramid B at Tula, are worthless because these elements were *made* in the twentieth century to resemble those at Chichén Itzá.

In 1962 and 1963 the building called the Palace of Quetzalpapalotl in Teotihuacan was totally reconstructed. The report on this building indicates the objectives of the reconstruction:

> . . . in the Palace of Quetzalpapalotl our project was much more ambitious, since we intended to make a total reconstruction of the building, making a [new] roof of wood and masonry as similar as possible to the original. (Acosta 1964: 38)

This was, of course, a serious mistake; it implied a deliberate falsification since it pretended to be as similar as possible to what was *supposedly* the original. An important and accepted norm in restoration theory and practice is that any completion of missing parts that is necessary for technical or aesthetic reasons, should be clearly differentiated from the old and should be frankly contemporary, although harmonious with the original.

The report on the Palace of Quetzalpapalotl further states that the reconstruction is hypothetical and largely based on analogy; the report reads:

> Of course we did not have all the antecedents, but we did have 80% of them, and could obtain the missing ones by analogy with other sites, or from the representations of indigenous temples painted on walls, and, in the last instance, the problem could be solved by deduction. . . . (Acosta 1964: 38)

Here again we have the same problem as with Pyramid B at Tula; the reconstructed palace will become fossilized and accepted as archaeological fact, when it actually is largely hypothetical and based on analogy. Just to mention one aspect, the proportion between the height of the pillars and the entablature is most probably wrong. Any studies of Mesoamerican architecture, based on comparative analysis, will be on very doubtful ground if they take the Quetzalpapalotl palace into account.

The two examples we have seen are basically problems of historical falsification or, to say the least, of *probable* historical falsification. There are also cases of aesthetic falsification, based primarily on a lack of respect for the original materials and an unnecessary desire to "complete" the monument.

The Pyramid of the Magician at Uxmal was a noble building, but its huge and very steep platform showed the marks that time had left and was in need of urgent repair. A good consolidation of the loose stones of the facing and of the outer pan of the core was necessary and would have been sufficient—as well as good restoration practice—and would have preserved the historic and aesthetic values of the monument. It was decided instead, in 1970, to reconstruct the structure by totally encasing it with a facing of new stone. This was inexcusable from the point of view of good restoration practice and was unjustified on economic, aesthetic, or technical grounds. The result is a cold caricature of the original. The reconstruction was also uneconomical, since a thorough consolidation of the core and facing stones should have been made before attempting to cover it with a new facing, which would then have been superfluous as well as undesirable.

The reconstruction of Building F at Cholula, in 1968–70, was a falsification from the historical and from the aesthetic point of view. A relatively small section of the original building and scant information about the rest, was used to reconstruct a huge pyramidal platform.

You will notice that I have selected examples of Mesoamerican buildings in Mexico reconstructed by Mexican archaeologists. This is so, because these are examples to which I have closer access and on which I have firsthand information. But I would venture to say that much the same situation exists in other Mesoamerican sites. We know what happened at Zaculeu. I do not know, but I wonder, what happened as regards reconstruction at Tikal, Copán, Mixco Viejo, and other sites.

What was the cause of the massive reconstruction of Mesoamerican buildings? There is a saying that states: "name the sin but not the sinner." As a parenthesis I want to name, and render tribute to, a sinner. Jorge Acosta was one of the most competent and prolific practitioners of reconstruction. But he was a good archaeologist; he certainly did not intend to mislead, and he was honest in reporting the reconstructions that he executed, the analogies he used, and his reasons for doing so. That is why it is so easy to pick on Jorge Acosta and single him out for criticism. Yet he was, in all good faith, sincerely attempting to conserve the archaeological buildings. The same thing can probably be said about all the individual archaeologists who reconstructed so many Pre-Hispanic buildings. On another occasion I have referred to these reconstructions as "atrocities"; perhaps these "atrocities" are the price we have had to pay for the privilege of still having Monte Albán, Xochicalco, Tula, Uxmal, Teotihuacan, and so many other archaeological sites, even if reconstruction has diminished their factual value.

If it was not individual archaeologists who caused the widespread practice of reconstruction, what then can explain this phenomenon? I think there are many causes and factors; we cannot analyze them all but some of them should be mentioned:

1) There was little or no knowledge of the basic principles of modern restoration theory and practice. This led to a misunderstanding of the objectives of restoration.

2) Many archaeologists wrongly supposed that the concepts and norms developed in other countries, mainly in Europe, were not applicable to Pre-Hispanic buildings in Mesoamerica.

3) Governments and institutions wanted a visible and, if possible, grandiose, return on their investment. They wanted buildings to be "finished" and complete, reconstructed as much as possible to their original appearance.

These and other factors brought about the institutionalization of massive reconstruction.

The situation took on such alarming proportions, that by the beginning of this decade protests began to appear against the degradation of our archaeological monuments and zones. In its Resolutions, the First Latin American Regional Seminar on Conservation and Restoration, meeting in Mexico City in 1973, stated: "The participants condemn the proliferation of works that—removed from the spirit of the Charter of Venice—falsify and annul values of the monument. . . . They reject reconstructions such as practiced at Cholula and Tiawanaku . . ." (SERLACOR 1973).

Earlier, a few isolated voices had demanded more authenticity in the conservation of archaeological monuments, but in general they had gone unheeded.

Of great importance was the First Technical Meeting on Conservation of Archaeological Monuments and Zones held in Mexico City in July of 1974, jointly sponsored by the Instituto Nacional de Antropología e Historia, the Sociedad Mexicana de Antropología, and the Universidad Nacional Autónoma de México. The conclusions and recommendations of this meeting have been published in the *Boletín del Instituto Nacional de Antropología e Historia* (INAH 1974: 51–54) so we won't repeat them. It is important, however, to point out that for the first time, archaeologists, architects, conservationists, and others thoroughly discussed the problems related to the restoration of Pre-Hispanic monuments in Mesoamerica. The recommendations, in general, were towards closer adherence to international standards in the conservation of monuments, and specifically to avoid the practice of reconstruction in the restoration of archaeological buildings.

The recommendations were just that; recommendations that were not mandatory. Some archaeologists left them unheeded but others adopted the recommendations and, more importantly, the general spirit of the resolutions and set out to put them into practice in the field.

The restoration of buildings at Yaxchilán, directed by Roberto García Moll, were executed under the guidelines and according to the recommendations of the "First Technical Meeting on Restoration." They can be included among the good restorations of Mesoamerican buildings.

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The restorations carried out by archaeologists in the Centro Regional del Sureste, under Norberto González, are excellent examples of good conservation practice. This is especially so in the recent restoration of the Ball Court at Uxmal, where the combination of good archaeological techniques and sound concepts of restoration have resulted in one of the best examples of anastylosis in Mesoamerican buildings.

Their work, and that of others, has demonstrated that the concepts and norms universally accepted and recommended for the conservation of architectural monuments are applicable to Mesoamerican buildings. We can no longer accept that—in order to save it—we must falsify or misrepresent our archaeological heritage.

Bibliography

Acosta, Jorge R.

 1944 La tercera temporada de exploraciones arqueológicas en Tula, Hgo., 1942. *Revista Mexicana de Estudios Antropológicos* 6 (3): 125–164.

 1945 La cuarta y quinta temporadas de exploraciones arqueolóogicas en Tula, Hgo., 1943–1944. *Revista Mexicana de Estudios Antropológicos* 7: 23–64.

 1956 Resumen de las exploraciones arqueológicas en Tula, Hgo., durante las VI, Vll, VlII temporadas, 1946–1950. *Anales del Instituto Nacional de Antropología e Historia* 8 (37): 37–115.

 1960 Las exploraciones arqueológicas en Tula, Hgo., durante la XI temporada, 1955– . *Anales del Instituto Nacional de Antropología e Historia* 11 (40): 39–74.

 1964 *El Palacio del Quetzalpapalotl*. Instituto Nacional de Antropología e Historia, Mexico.

Brandi, Cesare

 1950 Principes de la restauration des oeuvres d'art. *Italie, L'amour de l'art* 30: 21–26.

ICOMOS

 1971 *The Monument for the Man*. Marsilio Editor, Padua.

INAH

 1974 La conservación de monumentos arqueológicos. *Boletín del Instituto Nacional de Antropología e Historia* (ep. 2) 10: 51–54.

Ruskin, John

 1963 *The Seven Lamps of Architecture*. Everyman's Library, London.

SERLACOR

 1973 *Conclusiones del primer seminario regional latinoaméricano de conservación y restauración*. Centro Regional de Estudios para la Conservación y Restauración de Bienes Culturales, México.

Viollet-le-Duc, Eugene

 1967 *Dictionnaire raisonée de l'architecture française du XIe au XVIe siècle* 8. F. de Nebele, Paris.

Koji Mizoguchi

Archaeology in the
Contemporary World (2006)

Mizoguchi analyzes a situation similar to that discussed by Augusto Molina-Montes (reading 49), explaining why the practice of reconstruction is a part of current national discourse on heritage conservation and nationalism in Japan. In the case he examines, simplified and conjectural reconstruction became an essential part of the foundation narrative used to gather support for conservation of the site, as opposed to industrial development. This conjectural restoration is recognized as such by archaeologists, but many argued that the practice was necessary for strategic reasons. Ironically, although an important reason for conjectural restoration of the site was to make it available to visitors and thereby support its significance, visitor numbers are now in sharp decline.

1.1 A Scenario of Contemporary Archaeology

A cluster of pristine-looking wooden structures suddenly appear in front of those who approach a low-lying hill sticking out of the heavily wooded mountain range rising steeply from the rice paddy-covered terrain. [. . .] Against this background, the Yoshinogari Historical Park, which consists of a number of 'reconstructed' archaeological features, an on-site museum, and a huge visitor centre with large car parks, looks like a gigantic theme park pretending to be an exotic ancient fortress in a setting most unusual and at the same time most mundane. These pristine-looking wooden structures are 'reconstructed' Late Yayoi period buildings. The Yayoi period was the first fully fledged agrarian period in Japanese history.

The park is the first of its kind designated by the state, and under the care of, interestingly, the Ministry of Land, Infrastructure and Transport (MLIT), not of the Agency of Cultural Affairs (ACA), which is in charge of scheduling and protect-

ing 'cultural properties' including archaeological sites and monuments, both tangible and intangible. The MLIT's legislative responsibility is 'to utilize, develop and conserve land in Japan in an integrated and systematic way; develop infrastructure necessary for attaining those goals; implement transportation policies; promote the progress of meteorological tasks; and maintain marine safety and security' (Article 3 of the Ministry of Land, Infrastructure and Transport Establishment Law). [. . .]

The land now incorporated in the park,[1] owned by the state and the prefectural government of Saga, was once a mixture of forests, arable fields, tangerine groves, farmsteads and a local shrine. Back in June 1982, a plan was drawn up by a prefecture-led committee to turn the area into an industrial complex.[2] The existence of 'buried cultural properties' had been known throughout the area well before the decision was taken, and a series of test-trenchings was carried out between July and November of the same year, with another series between January and March 1986, which confirmed the dense distribution of archaeological features and artefact depositions. As a result, it was decided to preserve four pieces of land, where the distribution of archaeological features was particularly dense, about 6 hectares in total, tiny considering the size of the area to be destroyed, as 'cultural property greens', and to develop the remaining c. 30 hectares of land with known buried properties. The huge rescue work commenced in May 1986, with the plan being a three-year rescue dig and two additional years of post-excavation work (Saga PBE 1994, 18–24).

What the excavation revealed, however, exceeded everyone's wildest expectations. It was almost the first time that a large Yayoi settlement with the characteristics of a regional centre, or 'central place', had been subjected to a large-scale excavation by stripping more than a couple of hectares, let alone literally tens of hectares, at one go. The sheer number and scale of features and the number of artefacts which suddenly emerged from the soil simply overwhelmed, first, the archaeologists, and subsequently, when the discovery was made public, the general public (Saga PBE 1994, 45).

The feeling of 'everything-happened-at-one-go' due to the stripping of the vast area seems to have determined the course of what has happened since then, both to the site and to the discourse which the site has generated. The initial stage of the rescue work revealed that the site was continuously occupied, at different scales and in different manners, at each phase, throughout the Yayoi period. This period, dating between c. 600/500 BC and AD 250/300, witnessed the introduction and establishment of systematic rice paddy-field agriculture in the archipelago of Japan (cf. Mizoguchi 2002, Chapter 5). Naturally, the features constituting the site and spatial structure they made up underwent a number of changes (Saga PBE 1997). However, the complexity of these spatio-temporal 'differences' needed to be 'reduced' in order to enable the general public to make sense of and appreciate the importance of the site. The support of the general public was desperately needed in order to stop the planned destruction. This simplification had to be guided and

guarded by the principle that the narrative, or way of talking about and describing the site, should be coherent, attractive and persuasive, and so a powerful narrative line was chosen. It functioned as the principle by which to differentiate what is and what is not desirable to be retained in the simplified version: selecting features, regardless of the phases they belonged to, and comparing them with what are depicted to have constituted the court of the famous Queen Himiko, the figure recorded in the Chinese official imperial chronicle of Weizhi. The queen, Weizhi records, was chosen to reintegrate the polity of Wa, thought to have covered wide areas in the western and parts of the eastern portion of the archipelago, in a momentary turmoil sometime during the earlier half of the third century AD (cf. Wada and Ishihara 1951, 37–54). The story of Queen Himiko contains many 'riddles', such as the location of Yamatai, the polity where she reigned, the location of her court, effectively the capital of the polity of Wa, how she was chosen, and the nature of the religion practice Weizhi recorded she conducted. These questions have attracted immense public attention and curiosity, and the quest for answers has developed into a popular and highly marketable genre in the publishing world in Japan. [. . .] What is important to note here is that the selection of the excavated features, to be presented as most appropriately exemplifying the character of the site, was made despite their different dates of construction and use, because they fitted into the description in Weizhi as *the* residence of Queen Himiko (Wada and Ishihara 1951, 37–54). These were:

1. outer and inner moats/ditches (the former dug in the late Middle and early Late Yayoi and the latter Late Yayoi),
2. the structures situated where the inner moat/ditch protrudes, inferred to have been 'watch towers' (the validity of this inference is strongly disputed),
3. a rectangular-shaped tumulus containing a number of jar burials many of which contained a bronze dagger and some other grave goods (dating from the early Middle Yayoi: cf. Mizoguchi 2002, 142–147).

In spite of their different dates, they have all been 'reconstructed', and today stand as if they actually constituted a unified entity that was the Yoshinogari, the embodiment of the story of Queen Himiko (Saga PBE 2000, 2003, 1; Sahara 2003, 302–306).

In other words, the significance of the site was represented as being mediated by a type of *origin* narrative, the origin narrative of the Japanese nation in this case (cf. Saga PBE 2000, 1; see also Chapter 4.3 of the present volume [2006; not included here]), and was packaged by tacitly ignoring the flow of time during which the site underwent a number of changes and transformations.

The stripping of a vast area in one go revealed an 'archive' of the traces of human activities accumulated through time and enabled the selection of features which fitted a specific narrative line. In other words, the depth of time through

which the site was formed, and the timelessness of the site as a phenomenon situated in the present/now, came together, deliberately confused, and was all used to promote the importance of the site.

Once the initial outcome of the excavation, packaged with the above-mentioned narrative, was released to the media, the reaction by the general public was literally explosive: within two months of the press release, a staggering one million people had visited the site (Saga PBE 1994, 45). Both the importance of the site and the human drama behind the struggle to protect the site from imminent destruction to make way for an industrial park attracted media attention. This even included TV coverage of the family life and family history of Mr Tada'aki Shichida, who was in charge of the excavation (cf. Notomi 1997, 56), adding a sense of humility and contemporaneity to the movement. [. . .] Overwhelming pleas for the preservation of the site came from academic communities and various other sectors. Finally, the then prefectural governor decided to halt the planned construction of the industrial complex (cf. Saga PBE 1994, 45; Sahara 2003, 301–338).

It is as if the rescue excavation worked as a theatre production in which various interest groups, each with its own value judgments, both economic and emotional, played mutually affected parts, and created a drama which particularly well reflected the conditions in which we live. First of all, there was a group which tried to revitalise the local economy by constructing an industrial complex on the land. Retrospectively, the idea of stimulating the stagnant agriculture-based local economy by simply introducing production industry had come to the end of its currency by the late 1980s; [. . .].

Interestingly, the above-mentioned transformation from heavy to light industry in Japan coincided with a transformation in the logic used for the protection of cultural resources ('cultural properties' in Japanese terminology) from a Marxist-oriented logic to a logic appealing to the rather naive sentiment of the general public. The former condemned the destruction of cultural properties as the exploitative destruction by monopolistic capitalist corporations of the heritage of the nation in socio-economic, in other words fairly hard, often academic, terms, and the latter evoked the sense of attachment to threatened sites/cultural properties by depicting them as the heritage from 'our' ancestors in a soft, non-academic narrative style. [. . .] [T]he narrative created by the archaeologists, another interest group involved in arguing in favour of the protection of the Yoshinogari, exactly embodied this trend. This narrative, regardless to what extent it was consciously designed as such, evoked a sense of attachment to the site by depicting it as one to which the origin of the Japanese nation, whose culture is widely regarded as being fundamentally based upon rice agriculture, could be traced back (Saga PBE 2000, 1). It also depicted those who were involved in the rescue, and the protection movement for the site, as slightly eccentric local heroes, men of the earth in the world of deindustrialisation, struggling for the sake of the threatened heritage of the nation

inherited from *our* ancestors. No need to say that, in the narrative, our ancestors also were the people of the earth toiling to make ends meet by cultivating the land.

What is most remarkable about this narrative is that, initially created for the promotion of the importance of the site, it came to actually influence the way the academic discourse of the site was constituted. What you see at the Yoshinogari today are mostly reconstructed features which either date from the time of the recorded reign of Queen Himiko, i.e. the late Late Yayoi, or which do not date from that time but fit into the description in the record, the Chinese imperial chronicle of Weizhi. The buildings had to be reconstructed from mere postholes, their configuration, sizes and structures, artefacts excavated from and in the vicinity of them, and their function inferred from their reconstructed structure and location in the site. The argument is bound to be circular, e.g., inference (A) from the configuration of the postholes the building would have been like this, and inference (B) if the building had been like this, the configuration of the postholes would be understood to fit the structural demand (cf. Kensetsu-sho 1997). Without inferential/speculative reference to ethnographic data or other sources such as documents like Weizhi, this circular argument cannot be resolved. From this, it can be deduced that there were only two choices for those who are involved in the presentation of the site: (1) do not do any reconstruction on the grounds that no reconstruction supported by convincing evidence and reasoning is possible; or (2) reconstruct, admitting that the outcome is speculative, and adding an explicit description of the way the speculation was made.

In the case of the Yoshinogari, the latter was chosen, and the choice was made with certain conviction: a series of volumes have been published which list the sources referred to in the reconstruction of buildings, including ethnographic parallels, figurative depictions on artefacts, excavated architectural parts, documents, and so on, and a number of experts in individual subjects were involved in the compilation of the volumes and in reasoning the references and decisions taken (e.g. Kensetsu-sho 1997, 2000). What has to be noted here, though, is that the involvement of a large number of expert scholars and the meticulous listing of numerous pieces of relevant (or inferred to be relevant) information does not itself ensure the validity of the speculative inferences, although that might enhance the *authoritative* value and aura attached to the inferences (e.g. Kensetsu-sho 1997, 12).

Tada'aki Shichida, the prefectural government officer who played a vital role in the rescue excavation and the movement for the preservation of the site, and has been a key figure in the management of the site since it was designated as a national historical park, informed me that from his perspective the reasoning behind the reconstruction at the Yoshinogari site went thus: without reconstructing them in one way or another, further argument cannot be generated concerning how they could be better reconstructed or amended in future, or indeed how the site itself should be taken care of (Tada'aki Shichida pers. comm. March 2004).

His comment sounds as if it is inspired by reflexive sociological theory or theory of communication; should the horizon of uncertainty, which leads to various attempts to make sense of it, not be generated, communication could not and would not continue (e.g. Luhmann 1995, Chapter 4; and Chapter 3 of this volume [2006; not included here]). In other words, Shichida is justifying what has been done to the site by claiming that without *problematisation* there would *be* no research progress. This sounds reasonable enough, provided problematisation is undertaken by making clear the limitations and potential shortcomings of the work, e.g., listing as many potential referents for the reconstruction of an archaeological phenomenon as possible, checking how/to what extent the reconstructed picture is coherent, and examining how well the picture fits the configuration of the archaeological evidence available. However, in the case of the Yoshinogari the work does not appear to have been conducted in this way. Instead of listing possible referents, the description in Weizhi was used as the dominant framework by which the range of the referents used for the inference was determined, and other possibilities and indeterminacy were either ignored or not mentioned. Of course, other types of knowledge such as architectural history, the ethnography of other rice paddy-field agricultural communities in Asia, and archaeological evidence from elsewhere were mobilised (Kensetsu-sho 2000). However, when no substantial clue is available, the Weizhi description appears to be prioritised and referred to as the 'last instance' (e.g. Kensetsu-sho 2000, 54, especially bullet point 3: 'Documental evidence').

The media, yet another interest group/stakeholder, and newspapers in particular, invariably covered the matter by quoting the similarities between the site and the Weizhi description of the residence/court of Queen Himiko. It is a well-proven fact that Himiko- and Yamatai-related stories sell very well, and the comparison by archaeologists of the site with Weizhi was most welcome from the media's point of view; or rather, it is most likely that the archaeologists, who knew it quite well, utilised this tendency of the media in order to arouse public interest.

Immediately after the initial decision was taken for preservation, criticisms concerning the accuracy and validity of the comparison began to be expressed (e.g., Oda 1990), many of which touched upon the difficulty of reconstructing standing structures from postholes, and the validity of reconstructing the features on the areas where the inner ditched compound protrudes as 'watch towers' depicted in Weizhi in particular (Oda 1990). These criticisms were expressed in a rather muted manner from fear that expressing them out loud might reduce the effectiveness of the campaign for the preservation of the site. However, it is important to note that, at that stage, the boundary between utterance for the sake of preservation of the site and that for the development of archaeological knowledge was acutely felt and sharply drawn. Ironically, the fact that the site was worth preserving, even if some potentially erroneous over-inference had to be made, made the archaeologists aware that it was of vital importance to clearly draw the boundary between what

could and *could not* be said 'archaeologically' with confidence. When necessary, things which could not be said with confidence had to be told to the public for 'strategic' reasons, and in such cases the potential damage needed [to] be minimised by maintaining the credibility of the discipline in the form of fully grasping what could and could not be said. However, as time has gone by, this boundary appears to have become blurred. In particular, once the reconstructed buildings came into existence, the subject of debate inevitably shifted from how the preserved site could be better represented to how good or bad/accurate or inaccurate the reconstructed features were, and because the range of referents for the reconstruction had already been determined to be within what was written in Weizhi, the debate naturally came to concentrate on the appropriateness of the 'reading' of the referents, i.e., the reading of Weizhi, rather than on examining the validity of the range of the referents chosen. Consequently, the discursive space generated and reproduced around the site has ended up being dominated by arguments about Weizhi and Queen Himiko, regardless of whether the opinions expressed were to promote the importance of the site or to advance archaeological knowledge (Kensetsu-sho 2000, 22–25).

The most interesting thing about all this is that the majority of those who took part in the reproduction of this discourse appear to have been aware of its problematic nature in one way or another. A number of criticisms on specific points of the reconstruction and on the understanding of the character of the site have been put forward (e.g. Takesue 1990, 25–27). However, they are neither put together to form a coherent alternative narrative which can replace the present one nor are they uttered *within* the discourse itself. In other words, the mainstream Yoshinogari discourse can carry on unscathed despite the number of criticisms hurled at it. There even seems to exist an atmosphere in which those who are not involved in the Yoshinogari project and who criticise elements of it are labelled irresponsible bystanders. It is as if the discourse generated and reproduced around the Yoshinogari has come to form a protected, autonomous domain in which people are obliged to conform to a rule of communication unique to the domain. Outside it, people communicate about the Yoshinogari quite differently and sometimes harshly criticise the way the Yoshinogari discourse reproduces itself, but they never do so when they are within the domain itself.

What is tacitly but widely recognised to matter most here seems to be how to *continue* the discourse *without disruption* even if it might imply the reproduction of erroneous remarks and understandings. The risk of losing the discourse altogether appears to be judged more serious than the risk of continuing it with errors and misunderstandings, perhaps because the errors and misunderstandings can be amended later as long as the discourse continues. This can be described as the tactic of delaying judgment and avoiding the catastrophic termination of the dialogue, which is one of the viable choices; at least a much better choice than closing down the dialogue altogether and making amendment impossible for ever. [. . .]

The above observation of the formation and reproduction of a site-specific discourse suggests that archaeology as a discipline is no longer a *unified discourse* seeking a unified goal but constitutes a *discursive space* accommodating various interest groups. In the perception of those who define themselves as archaeologists, a unified goal may still exist for archaeology as an academic pursuit/practice. However, those who do not define themselves as archaeologists and yet become involved in social practices dealing with matters regarded as 'archaeological' are dramatically increasing in number and have come to have certain impacts upon the way archaeological practice is perceived as well as conducted. The impacts the latter have brought to archaeology, in that sense, are ontological and operational, and they are interconnected and interdependent.

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The Yoshinogari today stands amidst [. . .] ongoing discourses, that do not aim to reach anywhere specific but just to continue, hopefully in lively fashion and making (cultural and economic) profit. The discourse concerning the reconstruction of intangible features is well packaged in order to carefully avoid giving any *definite* conclusion, in curious contrast with the imposing and definite material existence of the reconstructed features and buildings in the middle of typical contemporary Japanese countryside. This experience is not confined to the Yoshinogari; the Japanese countryside is dotted with archaeological sites with 'reconstructed' features and buildings, though many of them are on a much smaller scale than the Yoshinogari, and more or less identical sorts of tales can be heard from those who are involved in those site reconstruction projects. The concern they share most widely is not the academic credibility of the reconstruction but the decline in annual visitor figures: as long as reconstructed sites are situated in the node of different, often contradictory, interests concerning, without exception, economic matters, albeit to differing degrees, they are bound to be *consumed*. It seems as if there is a sell-by date attached to each of these sites, and those sites that fail to 'renew' their appearance and/or visitor attractions begin to bore the general public and be forgotten. At the Yoshinogari, despite the national park project being ongoing with new reconstructions and small-scale excavations constantly in progress, the annual visitor figure is in steep decline (Tada'aki Shichida, pers. comm. 2004). It is extremely difficult to sustain site-specific discourses in the face of public apathy and the relativisation of the value/meaning of reconstructed sites.

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Notes

1   117 hectares (1,170,000 square metres), see Saga PBE 1997, 1.
2   Saga PBE 1994, 18; Notomi 1997 provides precious firsthand accounts and thoughts of a member of prefectural personnel directly involved in the series of events described below.

References

Kensetsu-sho. 1997. *Kokuei Yoshinogari rekishi-koen tatemono to fukugen kento chosa houkokusho (Report of the reconstruction of the buildings of the Yoshinogan site for the display at the Yoshinogari National Historical Park)* (in Japanese). Kanzaki: Kensetsu-sho Kyushu chiho kensetsukyoku kokuei Yoshinogari rekishi-koen koji jimusho.

———. 2000. *Kokuei Yoshinogari rekishi-koen seikatsu fukugen tenji kihon sekkei houkokusho (Report of the reconstruction of the lifeways of the residents of the Yoshinogari site for the display at the Yoshinogari National Historical Park)* (in Japanese). Kanzaki: Kensetsu-sho Kyushu chiho kensetsukyoku kokuei Yoshinogari rekishi-koen koji jimusho.

Luhmann, Niklas. 1995. *Social systems.* Stanford, CA: Stanford University Press.

Mizoguchi, Koji. 1995. Fukuoka-ken Amagi-shi Kuriyama iseki C-gun boiki no kenkyu (A reexamination of location C of the Yayoi cemetery site of Kuriyama, Amagi City, Fukuoka Prefecture) (in Japanese with English summary). *Nihon kokogaku (Journal of the Japanese Archaeological Association),* 2: 69–94.

———. 2002. *An archaeological history of Japan, 30,000 BC to AD 700.* Philadelphia: University of Pennsylvania Press.

NKK (Japanese Archaeological Association), ed. 1971. *Maizo bunkazai hakusho (A report on the protection and destruction of buried cultural properties)* (in Japanese). Nihon Koko-gaku Kyokai (Japanese Archaeological Association). Tokyo: Gakuseisha.

———. 1981. *Dai niji Maizo bunkazai hakusho (The second report on the protection and destruction of buried cultural properties)* (in Japanese). Nihon Koko-gaku Kyokai (Japanese Archaeological Association). Tokyo: Gakuseisha.

Notomi, Toshio. 1997. *Yoshinogari iseki: Hozon to katsuyo eno michi (The Yoshinogari site: toward the preservation and public use)* (in Japanese). Tokyo: Yoshikawa-kobunkan.

Oda, Fujio. 1990. Yayoi shuraku iseki no chosa to hozon mondai (The rescue excavation and failed preservation attempt of a Yayoi site) (in Japanese). *Kobunka danso: Journal of the Society of Kyushu Prehistoric and Ancient Cultural Studies,* 22: 215–224.

Saga PBE. 1994. *Yoshinogari* (in Japanese). Saga: Saga Prefectural Board of Education.

———. 1997. *Yoshinogari iseki: Heisei Ni-nendo~Nana-nendo no hakkutsu-chosa no gaiyo (A preliminary report on the excavation of the Yoshinogari site: 1990–1995 field seasons)* (in Japanese). Saga: Saga Prefectural Board of Education.

———. 2000. *The Yoshinogari site: Japan's largest site of an ancient moat-enclosed settlement.* Saga: Saga Prefectural Board of Education.

Sahara, Makoto. 2003. *Gishi-Wajinden no kokogaku (An archaeology of Gishi-Wajinden)* (in Japanese). Tokyo: Iwanami.

Takesue, Jun'ichi. 1990. Murasaki-gawa no Yoshinogari: Kitakyushu-shi Kamitokuriki iseki (A site comparable to the Yoshinogari: Kamitokuriki site, near the river Murasaki, Kitakyushu City). *Kobunka danso: Journal of the Society of Kyushu Prehistoric and Ancient Cultural Studies,* 23: 25–34.

Tomoeda, Toshio. 1991. Kozo to hendo (Structures and their changes) (in Japanese). In *Shakai gaku no kiso (An introduction to sociology)* (ed. by T. Imada and T. Tomoeda), pp. 121–149. Tokyo: Yuhikaku.

Wada, Sei and Ishihara, Michihiro (trans.). 1951. *Gishi Wajinden, Gokanjo Waden, Sojo Wakokuden, Zuisho Wakokuden* (in Japanese). Tokyo: Iwanami.

CATHERINE WOOLFITT

Preventive Conservation of Ruins: Reconstruction, Reburial and Enclosure (2007)

Readings 49 and 50 (Molina-Montes and Mizoguchi) provide examples of what might be considered conjectural reconstruction, illustrating its potential damage to authenticity. But can reconstruction of archaeological sites ever be justified? What are the contemporary arguments? In this reading, from Woolfitt, and in the reading that follows, from Nicholas Stanley Price, the authors, relying on the same conservation principles and using the same examples in some cases, put forward slightly differing contemporary views on this issue. Woolfitt, in an extract from a more comprehensive article on ruins conservation, argues for elements of reconstruction in certain circumstances: where interventions bring wider benefits such as raising the profile of a site in a positive way or providing a greater degree of accessibility; and where the primary objective is to ensure the long-term physical survival of historic fabric rather than its presentation and interpretation. Woolfitt discusses reinstatement/reconstruction as a preventative measure and assesses its acceptability. The main argument presented is that although reconstruction has many negative connotations, it has a role to play in preventive conservation on a limited scale and in certain circumstances. Woolfitt addresses appropriateness, degrees and types of reinstatement, past uses, and examples of good and bad practice.

Introduction

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The number of ruined sites formally recognised as being of international importance by inscription on UNESCO's list of World Heritage Sites grows annually.

At a national level, archaeological excavations continue to reveal new sites, many with ruined structures, which require some form of protection, and often masonry consolidation if they are to be exposed to the weather. It is not an exaggeration to state that need far exceeds available resources for protection and maintenance of ruins, even in the most affluent nations. It has been reported, for instance, that the total budget currently required for protection and treatment of the ruins of Pompeii in Italy exceeds the present annual budget by a factor of 10.[1] Consequently, it is essential to define and apply the term 'preventive conservation' as broadly as possible. The concept of preventive conservation is well known in objects conservation but little used in the context of ruins. Essentially, preventive conservation denotes an approach whose primary objective is to ensure the long-term physical survival of historic fabric; other objectives, relating, for example, to presentation and interpretation, are considered secondary. In general, preventive conservation entails modification of the ruin's environment by measures such as reburial and shelters, and the role of remedial work is minimised. However, reconstruction can modify the environment of a ruin, locally or on a larger scale, to secure the survival of vulnerable fabric. When used in special circumstances, to meet specific conservation-based objectives, reconstruction or reinstatement of missing elements has a role in preventive conservation. Proposals for any form of protection or intervention must be founded on respect for the essential values and integrity of a site and its structures, and seek to ensure that these are not compromised. In most cases, however, proposals that require permanent construction work on a large and multi-layered site will inevitably have some adverse impact: In these situations any negative aspects must carefully be weighed against the long-term benefits of a scheme.

The Statutory Framework

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The Venice Charter of 1964 was fundamental and set out the key definitions and principles to be applied in 'conservation' and 'restoration' of monuments. The definitions of terms such as restoration and reconstruction have evolved since then. Two of the most recent charters address the specific issues of authenticity and reconstruction: the Riga Charter of 2000 'On Authenticity and Historical Reconstruction in Relationship to Cultural Heritage' and the 'Nara Document on Authenticity' of 1994. It is worth setting out the definitions provided by English Heritage in 2001 in the 'English Heritage Policy Statement on Restoration, Reconstruction and Speculative Recreation of Archaeological Sites Including Ruins', which are adopted from the Burra Charter of 1999:

- Restoration—returning the existing fabric of a place to a known earlier state by removing accretions or by reassembling existing components without the introduction of new material.

- Reconstruction—returning a place to a known earlier state; distinguished from restoration by the introduction of new material into the fabric.
- Recreation—speculative creation of a presumed earlier state on the basis of surviving evidence from that place and other sites, and on deductions drawn from that evidence using new materials.

This English Heritage policy document includes the following important principles: that restoration and reconstruction should be approached with caution and never be carried out on a speculative basis, and that only minimum conservation work necessary for long-term survival should be done. These are key principles which guide the implementation of work to ruins in the UK and elsewhere. It should be noted, however, that it is almost impossible in practice to carry out 'restoration' work to a ruin, however minimal in scope, without introducing some new material. Reassembly of rubble and some types of ashlar masonry will, for example, necessarily entail introduction of new mortar. Most masonry conservation activities [. . .] involve the introduction of new materials, mainly those based on lime. Usage and implicit definitions of the words restoration and reconstruction vary quite substantially in conservation literature and even more widely in the 'heritage' industry generally. Confusion and imprecision in the language of conservation and restoration is a problem, which sometimes hinders the progress of proposals for preventive conservation. It is not uncommon for proposals to be rejected on the basis of the use of the word reconstruction or restoration, when the same intervention couched in terms such as consolidation or reinstatement might find acceptance.

It is important to recognise that some of the issues surrounding protective measures, such as visual or aesthetic impact, can be subjective, and that the principles and policies set out in various charters and guidelines, like the terms reconstruction and restoration, can often be interpreted in more than one way. Consequently, opinions may diverge substantially when policies must be translated into firm proposals for protective measures and actual implementation of work on site. This is the case particularly in the context of proposals for reconstruction and enclosure, which can substantially alter the appearance of ruins and their settings.

Reconstruction

Should 'reconstruction' even be considered as 'preventive conservation'? This is potentially a divisive and controversial issue. To include it may risk abuse by zealous restorers, but to exclude it denies the legitimate role illustrated in the case work provided. The test, of course, must be a rigorous assessment of the motivation and justification for its use.

The success or failure of any scheme of reconstruction must be judged in its local, regional and national contexts. The kind of reconstruction work carried out by the Canadian federal government at the site of the town and Fortress of

Louisbourg in Cape Breton, Nova Scotia, begun in the 1960s, which entailed complete rebuilding of a section of the eighteenth century French fortifications and settlement on the original ruined masonry remains, is alien in the British context, where there is a tradition of conservation and historic rejection of reconstruction and restoration. In Canada, however, this work was conceived as an act of preservation, motivated by a combination of cultural and socioeconomic factors: the need to stimulate an economically depressed and isolated region of the country, where the impact of the collapse in the coal mining industry was sorely felt, and the growth of a national heritage preservation movement. The reconstruction is an interesting example of how federal government policy and intervention at several levels, including in this case the economy and tourism, can impact directly on a ruined heritage site. The subject of the Rand Royal Commission of 1959 was the economy, and in particular the coal industry, but its report extended to cultural resources and it concluded: 'That site [Louisbourg] marks a salient occasion in the transplantation of a civilization significant to the history of Canada; and to allow it to sink into ruin and obliteration would be a grave loss to the civilizing interests of this country.'[2] Based on extensive archival research in Canada, France and England, and on extensive archaeological investigation of the site, the reconstruction involved faithful replication of original eighteenth century structures, generally executed in the same materials and constructed on the remains of the original masonry. The reconstruction attracts many visitors who would not otherwise visit the site, which is located in a remote part of Nova Scotia. In combination with the interpretive measures, which include costumed animation, characters in historic costume enacting scenarios and interiors furnished in the style of the period, it provides a vivid picture of life in the eighteenth century French settlement.

There is always scope for criticism of this approach in terms of authenticity and the scale of physical intervention, but in this case, where reconstruction relied on thorough research rather than speculation and the forms of many of the buildings, especially the public ones, could be established by a combination of archaeological investigation and documentary research, the benefits of reconstruction were considered to outweigh such concerns. The reconstruction has brought tangible educational benefits for visitors and extended the life of the site, beyond that of many excavated sites, where the nature of the low-lying masonry remains is such that they will not attract many visitors, other than those with a specialist or informed interest. If the impact of the Fortress Louisbourg reconstruction were measured against the various international charters, the assessment would vary depending on which one is applied. The charters differ in the strands of conservation philosophy, ethics or values that are emphasised. Judged by the terms of the Burra Charter and the English Heritage policy statement on restoration and reconstruction, the work at Louisbourg might be criticised as bordering on recreation. If considered by the terms of the Nara Document, with its emphasis on the cultural context of authenticity, the conclusion might be more favourable, allow-

ing for factors specific to the Canadian context, such as the comparative scarcity of eighteenth century architecture standing above ground and the importance of the site as the strongest fort on the Atlantic coast of North America at that time.

Other recent examples of reconstruction discussed below are much more limited in scope and typically motivated by a combination of factors. An important point is that the aim of reconstruction can be, entirely or partly, to ensure the preservation of ruins, through not only physical interventions but also the wider benefits brought by these interventions, which can include raising the profile of a site in a positive way, increasing accessibility, and enhancing visitors' experience and understanding of sites and their history. The objectives in reconstruction can extend far beyond the physical preservation of ruins. Fortress Louisbourg is an extreme example in the sense that it is at one end of the spectrum of ruins reconstruction—complete rebuilding of entire structures, albeit of only a section of the site.

This extent of reconstruction is unusual on an archaeological site. More typical in the context of ancient sites is the re-erection of original masonry, with or without the introduction of new material to replace missing elements. This has long been practised on Mediterranean and Near Eastern sites and is generally referred to as *anastylosis*. Traditionally, masonry units which have fallen for whatever reason, earthquake, erosion or otherwise, are re-erected after excavation and recording. Well-known examples include the Treasury of the Athenians and other monuments at Delphi, in Greece, the Library of Celsus at Ephesus in Turkey and vertical elements of the Northern Palace at Masada, Israel. Columns are favourite subjects for this form of reconstruction since they deliver an immediate visual impact, their verticality defining space on sites where masonry remains are often otherwise low in height. The aim, in many cases, has been as much visual and interpretive as explicitly for the physical preservation of the ruined fabric of the site.

When to Reconstruct or Reinstate

It is difficult to specify precisely when reconstruction is appropriate, since any proposals for such work must be tailored to the particular conditions and needs of individual sites and contexts, but there are some general guiding principles. As a very general rule, the older the ruins, the more potential problems and complexities may be expected in attempting to carry out authentic reconstruction, or reinstatement of lost elements. The extent of documentation, drawings and written accounts to inform reconstruction work tapers off from the present through the past and into prehistory, where only physical evidence of structures and the material culture survives. For this reason and others, reconstruction of ancient ruins typically entails some degree of speculation and should only be carried out in special circumstances, to meet specific conservation-based objectives.

However, the age of a ruined monument is only one aspect of its significance. The historic significance of the ruined sites of the Second World War, which are comparatively recent, is undeniable. Oradour in France, site of a terrible massacre and destruction of an entire town, and the Cathedral of St Michael in Coventry, destroyed by bombing in 1940, and its counterpart, the Kaiser Wilhelm Gedacht-niskirche in Berlin, are important examples. In the case of these sites, reconstruction was considered inappropriate. Their significance lies in their ruined condition, which is meant to capture the moment of their destruction; they are to be left 'frozen in time' as reminders of the horrors of war. The ongoing challenge at these sites, as at any ruin which has lost its roof, is to ensure the preservation of the fabric and prevent deterioration with minimal intervention.

It is easy to find fault with early attempts at reconstruction of ancient ruins, but it must be acknowledged that much has been learned from past mistakes. The reconstruction of parts of the Bronze Age Minoan Palace of Knossos on Crete under the direction of Arthur Evans in the early twentieth century illustrates two principal issues, which have been addressed by later conservation charters: lack of authenticity and speculative work. Criticism of the Knossos reconstruction has focused on the use of materials alien to Minoan architecture (such as reinforced concrete) and the sometimes scant evidence for quite extensive reconstruction, including wall paintings. In the 1950s the American School of Classics at Athens carried out the complete reconstruction of the second century BC Stoa of Attalos at the site of the ancient Athenian Agora, building on the surviving foundations, and incorporating sections of the original, mainly at the south end.[3] The new stoa provides accommodation for the Agora museum and store, and for a conservation laboratory and offices for the Agora excavations. Although the new materials and design followed the original, as far as these could be determined from the archaeo-logical remains and from nineteenth century photographs, there are some varia-tions, for example in the modern terrazzo floor, which is quite different in character from the original, a section of which was preserved in the 1950s. Both the Knossos and Stoa of Attalos reconstructions might equally be described as recreations by the definitions of these terms set out above. The new stoa is a large structure and, inevitably, as the only complete classical building in the vicinity standing to a height of two storeys above ground level, it dominates the site of the Agora. It provides welcome shade in an otherwise exposed site during hot weather, but has nevertheless attracted criticism due to its impact on the original ruins and its scale and completeness in the context of the surrounding low-lying ruins.[4]

Dismantling and reconstruction of ancient ruins is sometimes necessary to rectify the failure of past interventions. Corrosion of ferrous fixings in ashlar masonry is a common problem and one that afflicted the ruined monuments on the Acropolis in Athens. The current, extensive programme of work on the Acropolis entails localised reconstruction—dismantling of ashlar masonry, removal of the ferrous fixings and other defective repairs installed in past reconstruction work—as

well as some introduction of new stone to fill lacunae and replace missing blocks. The general approach and scale of reconstruction work contrasts markedly with the treatment of the Stoa of Attalos, although, in fairness, the two schemes of work are separated by several decades, during which period the international conservation movement grew. Sculpture is removed to a museum environment and replaced with replicas; the threat posed by the corrosive Athenian environment is considered too great to risk ongoing exposure of the remaining sculpture.

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The issue of authenticity can be complex when discussing ruins that have been subject to frequent rebuilding and repair in the past. As Mary Beard writes of the Colosseum:

> It is a well-known axiom among archaeologists that the more famous a monument is . . . the more likely it is to have been restored, rebuilt, and more or less imaginatively, reconstructed. There is an inverse correlation, in other words, between fame and 'authenticity' in the strictest sense.[5]

Recent examples from Israel illustrate the use of reconstruction on a small scale and with specific conservation-based objectives—to restore structural integrity and protect against erosion and loss. The Northern Palace at Masada, built by King Herod in the first century BC, is a remarkable feat of engineering; its structures on three terraces cling to steep precipices. On completion, lime plasters protected the earth and gypsum bedding mortars and undercoats against weather. Since excavation in the 1960s the site's vulnerability has been realised, and study and recording has revealed the sometimes precarious condition of the masonry, the causes of which included the proximity to the salt-laden Dead Sea, infrequent but torrential rainfall, and the nature of the rock formation on which the masonry was erected.[6] The decision was taken to reinstate sections of missing masonry to stabilise surviving fragmentary masonry remains. The broken vault of the bath house has been completed, both to protect what survived and to prevent further damage to the plaster lining of the bath, which had been damaged by stones thrown or fallen from the viewing platform above. Eroded and missing sections of the tholos (middle platform) have been repaired or reconstructed to protect the wall core. One factor in the decision to reconstruct was the inaccessibility of the site, which makes scaffolding very difficult and expensive, and prevents routine maintenance. [. . .]

Vandalism can be a problem at remote sites. An interesting example is the Nabataean site of Mamshit, in the Negev desert of Israel. Here a team of Italian conservators from the Centro di Conservazione Archeologica (CCA) carried out recording and conservation of the mosaic pavement in the west Byzantine church.[7] At the end of the work the mosaic was smashed overnight and much damage done to sections of detail. The decision was made to restore the mosaic, dislodged tes-

serae were retrieved and, using the records, which fortunately had been produced before conservation work had commenced, the damaged sections were reassembled remotely in Italy and sent back to the site for reinstatement.

Reconstruction of part of a ruined monument is sometimes carried out to permit or facilitate its particular use. Seats and steps in ancient Greek and Roman theatres are often reinstated, either partially or completely, to provide access for modern performances. This has occurred, for example, at the theatres of Epidaurus (Sanctuary of Asklepios, mainly in the 1950s and 1960s) and Athens (Odeion of Herodes Atticus) in Greece, and more recently at Caesarea and Beit She'an in Israel. In the case of Caesarea this involved very substantial reconstruction and introduction of new concrete elements to support upper levels of seats. One principle of reconstruction on archaeological sites is that new work should be visually distinguishable from the original. The pristine condition of new ashlar stonework often contrasts strongly with the weathered original, but this initial contrast may become less obvious with weathering. Seating in a different material would be more readily obvious as a modern insertion. A section of new seats at the amphitheatre of Beit Guvrin in Israel has, for example, been erected in timber on a metal frame.

In raising masonry walls the original work is sometimes differentiated from the new by a line applied to the face of the masonry joint fanning this interface. Such markings can be aesthetically unsatisfactory, for example when carried out in a material such as black paint over comparatively wide rubble masonry joints. A more aesthetically pleasing and durable alternative for use in rubble masonry is the incorporation of small stone or tile 'nails' incorporated or driven into the bedding mortar to delineate the new work from the original.

Although it is sometimes difficult to draw a hard line between the two types of ruin or ruin context—historic and archaeological—reconstruction of historic ruins is, in general, likely to be less complex and problematic. In some contexts, for example, historic landscapes and gardens where ruined structures have fallen into disrepair and ruin, repair and reconstruction is the only viable option without losing important architectural elements within the historic landscape. The repair and localised reconstruction of the ruined garden walls (listed grade II) at Lauderdale House, Waterlow Park, Highgate, London, completed in 2004, is an example of reconstruction in the context of a historic garden. The terraced brick walls were built as part of the landscaped gardens for the sixteenth century house and adapted and altered over subsequent centuries. Work to the ruined walls was part of a larger scheme to restore the historic landscape and enhance visitor use and awareness of the park; the Heritage Lottery Fund supported the scheme undertaken by the London Borough of Camden. The garden retaining walls had become so overgrown by plants that they were barely visible. Large sections of the walls had collapsed or been invaded by roots of woody species. Initial survey work included clearance of as much growth as possible, identification of brick dimensions and types to classify the walls and to produce new bricks, which were made by hand by Bulmer Brick-

works, to match the physical and visual properties of the originals.[8] Accompanying this work was archaeological analysis of the original brick details, copings, mouldings at the base of the walls and evidence for original iron railings. These original details were recorded and drawn and formed the basis for reconstruction work.

Re-roofing and Reinstatement of Internal Structures

Re-roofing and reinstatement of internal floor structures are classed here under the heading 'Reconstruction', although in some respects they equally well fit under the heading of 'Protective enclosures and shelters'. Where a ruin comprises a masonry shell standing to sufficient height that the original roof and floor levels are legible, re-roofing and reinstatement of floors may be a viable option. Such measures bring a number of benefits, including protection of internal masonry and other features from weather, protection of wall heads (depending on the form of the roof), improved access to more parts of the structure for maintenance and associated interpretive benefits of defining internal spaces. Proposals must be based on buildings' archaeology—study and interpretation of the structure. Evidence for the original roof level is typically in the form of masonry offsets or other features (cuttings) which provided support for a timber roof structure. Rainwater outlets through masonry walls are another form of evidence for roofs set behind parapet walls. Both offsets and sockets for timbers may be evidence for floor levels, as well as the level of openings in walls above ground level. It should be noted, however, that in ruined buildings of multiple phases of reuse and rebuilding or adaptation, the 'original' roof or floor levels may be unclear or the levels may have changed.

As a class of ancient monument, the tower is a form that lends itself to re-roofing and installation of new floors/stairs, provided, of course, that the condition of the masonry is adequate to support the roof and these interventions would bring other justifiable benefits. A programme of repair, conservation and investigation of the masonry of the Norman great tower of c. 1100 at Guildford Castle in 2003 led to the discovery of two early Norman construction phases and confirmation of the earliest roof level. Proposals were adapted to include the installation of a new roof and floor at principal (first floor) level. Evidence for the original roof level and crenellated parapet was found in the course of repair work; this included infilled embrasures, the line between the original parapet and the raised section of masonry above defined across large sections of all external elevations by a fine white line of plaster. Study of the masonry also revealed channels through one masonry wall for drainage of rainwater from the roof. The new roof was designed to make use of these channels, with large lead chutes projecting to throw rainwater clear of the building.

The rationale for re-roofing at Guildford was based on two main premises: evidence for the earliest roof level and the benefits for the condition of the tower. The interior of Guildford's tower had suffered from abundant organic growth and a

generally damp environment; the wall heads had been covered in a screed, formed with falls which directed rainwater into, rather than outside, the tower. The damp environment caused early decay of the oak viewing gallery and ground-level access stair, within 10 years of their installation in 1989, and created an unpleasant environment, exacerbated by nesting pigeons and their guano. The great tower closed to visitors in 1998 due to health and safety concerns. Re-roofing and a new floor offered the opportunity to improve the internal environment dramatically, to provide access to the entire principal floor level, including a garderobe chamber discovered in the course of work, and gave access to the upper sections of the walls above the level of the new roof for routine maintenance, mainly removal of plant growth from the wall head, since a number of harness points were installed, as well as fixings for a ladder. The design of the new roof and floor makes no attempt to recreate the Norman construction. The roof construction is of prefabricated softwood, covered with lead, and the soffit (ceiling) is boarded internally with ventilation gaps. The floor and access stair are of steel with oak boards and both are independent of the historic fabric.

More contemporary designs and materials are sometimes used for new roofs. At Rochester Castle a new tensile fabric roof has been installed over the forebuilding to the great tower. The glass roof installed over the ruined remains of the medieval Juval Castle (section of the ruin adjacent to the keep) in Alto Adige, in Italy, was designed to preserve the walls from further decay and to make the internal space available for various uses, such as sculpture exhibitions.[9] In a sense it is a shelter rather than a form of reconstruction, but is mentioned here as a contrast to the Guildford Castle re-roofing, where traditional material, lead, was employed for roof cover. The roof design at Juval Castle employs a minimal supporting structure of small section steel beams (I-beams) and tension rods. The roof structure is fixed to the masonry at only a few points and extends beyond the wall heads between 250 and 400 mm, with gaps between the often irregular profile of the walls and the new roof. The roof cover is of 16 mm laminated (toughened) safety glass and consequently the roof appears almost to float over the ruin.

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Reconstruction—Summary

It is difficult for the word reconstruction to shed its past associations with schemes of rebuilding work, which were sometimes speculative, and unsympathetic in scale and materials to the original ruin. This is unfortunate, for reconstruction (or reinstatement, if this term carries less negative connotations) has a role to play in preventive conservation, on a limited scale and in certain circumstances. Where ruins suffer accelerated rates of erosion and loss after exposure, reinstatement or restoration of missing elements, such as plaster, may be appropriate as a protective measure. Re-plastering has been used very successfully for the protection of

rubble masonry at a number of important historic buildings in England, notably at the early churches of St Mary's at Ifley near Oxford and at Bosham in West Sussex. Where fabric is structurally unstable and has lost its integrity through degradation of constituent elements, whether corework or facework or both in the case of masonry, or where there is a risk of collapse and loss, reconstruction or reinstatement may be the best option.

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Notes

1 Slayman, A. L. (1997). *Archaeology*, Magazine of the Archaeological Institute of America, 50(6). Abstract available online: http://www.archaeology.org/9711 / abstracts/pompeii2.html. The poor condition of the ruined remains of Pompeii and Herculaneum has been widely reported; see, for example, Dr Salvatore Ciro Nappo. 'Pompeii: its discovery and preservation' at http://www.bbc.co.uk/ history/ancien /romans/pompeii_rediscovery_shtml and http://www.channel4.com/history/microsites /P/pompeii.

2 MacLean, T. (1995). *Louisbourg Heritage: From Ruins to Reconstruction*, p. 21, citing the Rand Royal Commission Report of 1959. University College of Cape Breton Press, Sydney, Nova Scotia. This book provides an excellent summary of the philosophy, research, planning and interdisciplinary research that underpinned the reconstruction.

3 Thompson, H. A. (1992). *The Stoa of Attalos II in Athens*, Excavations of the Athenian Agora Picture Book No. 2.

4 See, for example, Schmidt, H. (1999). The impossibility of resurrecting the past: reconstructions on archaeological excavation sites. *Conservation and Management of Archaeological Sites*, 3(1/2), 61–68; and Binder, J. (1994). Review of Athens. *The Ancient Heritage and the Historic Cityscape in a Modern Metropolis*. The Archaeological Society at Athens. In *The Bryn Mawr Classical Review*, 97.9.12, at http://ccat.sas.upenn.edu/bmcr/1997/97.9.12.html.

5 Beard, M. (2005). *The Colosseum*, p. 122. Profile Books, London.

6 Ashurst, J. and Woolfitt, C. (1999). Proposals for the Preservation and Conservation of the Northern Palace, Masada, April, prepared for the Israel Nature and National Parks Protection Authority (unpublished report).

7 Zizola, C. (1999). The conservation and restoration of the mosaic floor of the Byzantine Church (Western) in the Nabataean town of Mamshit in the Negev desert. *Proceedings of the VIIth Triennial International Meeting on the Conservation of Mosaics*. ICCM, Arles.

8 Ingram Consultancy (Graham Abrey and Prof John Ashurst) (2000). Terraced garden walls, Waterlow Park, Highgate: Report on the condition of the brick terraced garden walls with recommendations for repair, conservation and reinstatement. Unpublished report, prepared for London Borough of Camden, November.

9 Schittich, C. *et al.* (1999). *Glass Construction Manual* (P. Green and G. Sööäffker, trans.), pp. 298–299. Birkhäuser, Berlin.

NICHOLAS STANLEY PRICE

The Reconstruction of Ruins: Principles and Practice (2009)

Stanley Price cites instances in which reconstruction may be acceptable for reasons of social value and concedes that anastylosis often for technical reasons entails a degree of reconstruction. However, he firmly states his view that reconstruction of ruins is not conservation; it is the creation of a new building and should be accepted as such. While professional consensus has developed that the arguments against reconstruction outweigh the justifications, vanished buildings continue to be reconstructed. The gulf between conservation charters and actual practice demonstrates this point. Is there a way out of this paradox? Stanley Price reviews the literature, defines reconstruction in the context of site conservation, and discusses the reasons for its continued prevalence and the significant theoretical and practical issues raised by the reconstruction of ruins. He reluctantly provides some principles for occasions when reconstruction is being considered but concludes that an ability to appreciate the authenticity of the past depends in the end on the observer, not on the observed: "Or, put another way, it is the visitor who should be treated, and not the building."

Introduction

Reconstruction has always been one of the most controversial issues for those with an interest in the material evidence of the past. The urge to make whole again a valued building or work of art that is incomplete is a very strong one, similar in some ways to the urge to improve or correct someone else's text. Both involve a strong desire to see an object that is complete and integral to one's own

satisfaction, rather than tolerate a creative work that has been diminished in its intelligibility.

The idea that the object may have a greater value in its incomplete state than if it is reconstructed, runs counter to this strong compulsion. Yet that idea has been central to much of the theory of conservation and restoration that developed primarily in the Western world and has subsequently been diffused worldwide.[1] The core of Western conservation theory is epitomized in the question as to how far restoration should be taken.

Different attitudes towards this fundamental question have given rise to some of the most notorious controversies in conservation. For instance, disagreements over the extent to which paintings at the National Gallery of London should be cleaned, and what methods should be used, led to official Commissions of Enquiry in 1850 and 1853 and remarkably, a century later, were revived following the criticisms by Cesare Brandi and others of what they considered the Gallery's excessive cleaning of early paintings.[2] Another example is John Ruskin's critique in the nineteenth century of the 'stylistic restoration' of historic buildings that aimed at reviving earlier styles rather than respecting the age-value and patina that a building had accumulated through time.[3]

A number of important concepts, such as reversibility (or, better, retreatability) and minimum intervention, are at the heart of an ever-growing library of Codes of Ethics and Charters. Nevertheless, there are no textbook rules about when restoration should be carried out or how far it should go. Instead, each case is deemed to be different and must be judged on its merits.[4] This is perhaps what gives conservation/restoration much of its perpetual fascination.

In order to examine the question here, I consider the reconstruction of ruins, which represents in many respects an extreme example of restoration. In order to define the question as clearly as possible, I limit the discussion to buildings from the past whose existence was known primarily from their excavated remains before being reconstructed. In other words, although there may be other references—literary, folkloric or pictorial—to their previous existence, it is mainly through their insubstantial visible remains that they have become known again.

I have deliberately limited the argument in this way, in the hope of avoiding the confusion that could be introduced by including other types of building reconstruction. I do not consider here buildings that have been reconstructed immediately following a natural disaster or a war. These differ because there usually exists ample documentary evidence of the destroyed buildings. Examples include the main hall of the Horyu-ji Temple at Nara in Japan, burnt in 1949; the Campanile in the Piazza di San Marco, Venice, that suddenly collapsed in 1902; the Old Town of Warsaw; the Frauenkirche in Dresden destroyed during WWII; and the Old Bridge at Mostar destroyed during the recent war in the Balkans.

Nor do I consider projects to reconstruct historic buildings that are known to have existed in the distant past but for which only sparse literary and pictorial

references survive. (This practice is often referred to as re-creation, if the result is highly conjectural.) The strong trend, especially in former Communist states, towards reconstructing such vanished buildings, often on the basis of flimsy documentary evidence of their original appearance, is generating its own critiques.[5] Several of the arguments adduced below are relevant to these cases, but they are not the focus of this chapter.

So the question that is posed here is: When should such excavated and incomplete buildings be reconstructed to a state similar to how they might once have appeared? The chapter examines in turn the following questions: What widely accepted principles are there concerning reconstruction? How has the practice of reconstruction been justified (whatever the accepted principles may be)? What are the arguments against it? And finally, in the light of arguments for and against, what principles can be proposed to help guide issues of reconstruction?

Principles Enshrined in Conventions and Charters

In international legislation and guidelines, the answer to the question as to whether incomplete buildings should be reconstructed is clear. It is strongly discouraged.

At the highest level of international consensus, the obligations of UNESCO's World Heritage Convention (1972) are legally binding on the states party to it; the number of states party is in fact the highest of any UNESCO Convention. The Operational Guidelines for the Implementation of the World Heritage Convention address the question of reconstruction of buildings as follows:

> In relation to authenticity, the reconstruction of archaeological remains or historic buildings or districts is justifiable only in exceptional circumstances. Reconstruction is acceptable only on the basis of complete and detailed documentation and to no extent on conjecture.[6]

To repeat, the obligations of international conventions of the United Nations are legally binding on their states party. Charters, on the other hand, tend to have an exhortatory role in encouraging professionals to adopt commonly agreed principles in their work. The content and eventual impact of a Charter depends, de facto, on the authority of those who drafted and approved it, and thence its acceptability to the professional field in general. Several Charters in conservation have addressed the question of reconstruction of sites on the basis of their archaeological remains.

For example, the influential Charter of Venice (1964) states with regard to the reconstruction of archaeological sites (Article 15): 'all reconstruction work should however be ruled out. Only anastylosis, that is to say, the reassembling of existing but dismembered parts, can be permitted.'

The strong presumption against reconstruction expressed in the Operational Guidelines for the Implementation for the World Heritage Convention and in the

Venice Charter is echoed in many subsequent documents. For instance, the revised version (1999) of the Burra Charter of Australia ICOMOS, originally developed for the Australian context but cited much more widely as a coherent set of guidelines, states:

> Article 1.8. Reconstruction means returning a place to a known earlier state and is distinguished from restoration by the introduction of new material into the fabric.
>
> Article 20. Reconstruction.
> 20.1. Reconstruction is appropriate only where a place is incomplete through damage or alteration, and only where there is sufficient evidence to reproduce an earlier state of the fabric. In rare cases, reconstruction may also be appropriate as part of a use or practice that retains the cultural significance of the place.
>
> 20.2. Reconstruction should be identifiable on close inspection or through additional interpretation.

The language of the Venice Charter is uncompromising in proposing what constitutes acceptable reconstruction on archaeological sites ('the reassembling of existing but dismembered parts'). But the interpretation of reconstruction in the Burra Charter (Article 1.8 above) as being 'distinguished from restoration by the introduction of new material into the fabric' is at variance with the Venice Charter and with common usage outside Australia. There must be few restorations that do not require the introduction of any new material. If the Burra Charter definitions were to be widely adopted outside Australia for where they were developed, they could not fail to cause confusion. For instance, the current long-term project on the Acropolis of Athens would have to be characterized as a reconstruction, a term that would be rejected by the Greek authorities.[7]

What is common to all such documents, whether they are international conventions or charters produced by groups of professionals, is that reconstruction constitutes an exceptional case and should be carried out only when there exists sufficient primary evidence. As the World Heritage Operational Guidelines state, reconstruction is 'acceptable only on the basis of complete and detailed documentation and to no extent on conjecture.'

In reality, the strictures of these international documents have prevented neither the continued practice of reconstruction nor the inscription of sites with reconstructed buildings on the World Heritage List nor new reconstructions on sites already so inscribed. It is striking that a recent volume of essays on site reconstructions contains but one reference to the Charter of Venice, and mentions World Heritage only in the context of sites inscribed on the List that feature reconstructions, e.g. the prehistoric Aztec Ruins and Mesa Verde in the USA.[8] It is as if such reconstructions are justified for their public interpretation value whether or not they meet the criteria of international restoration documents.

In fact, and not only in the USA, despite the almost universal consensus of the charters against reconstruction unless firmly based on evidence, it still holds a strong appeal—both for cultural heritage managers and for the public. So how has the reconstruction of buildings known from their excavated remains been justified, and what are the arguments against the practice?

Justifications for Reconstruction

A number of justifications have been given for the reconstruction of buildings that are known primarily from excavated evidence.[9] These include:

1. **National symbolic value.** The building played an important role in the country's history, or was associated with an outstanding figure.

   I give only two examples of what is probably the commonest impulse towards reconstruction, both of them from former capitals in their countries. Because of its important role in what was the capital of Virginia until 1775, the Governor's Palace (1706–1791) was the first major building to be reconstructed after the project to 'restore' Colonial Williamsburg began in 1927.[10] Much of today's reconstructed Palace interior is quite hypothetical, but the footprint for the reconstructed building was established by non-expert excavation in the 1920–1930s to expose the original foundations (the first professional archaeologist was not appointed at Williamsburg until as late as 1957).

   In Japan, at the eighth-century AD Heijô Palace site of Nara, a place of immense symbolic value in Japanese history, the insubstantial traces of the wooden buildings revealed by excavation have led to full-scale reconstructions of the Suzakmon Gate (1990–1997) and, since 2001, of the Daigokuden Hall of the Palace.

2. **Continuing function or re-use.** The reconstructed building can continue to serve its previous function or makes possible a new, different function.

   Rarely are excavated buildings reconstructed to serve their previous or original function. The principal exceptions are Greek and Roman theatres and other places of performance. Buildings that have been extensively reconstructed from archaeological evidence to serve new functions would include the Stoa of Attalus in the Athenian Agora, reconstructed in 1953–1956 to serve as a museum, store and workspace for finds from the continuing excavations there.[11]

3. **Education and research.** The process of reconstruction can be a rewarding research project, and the resulting building is an important didactic tool for visitors. 'Visitors love them.'

If interpreted broadly, this justification holds true for the great majority of reconstructed sites. Whatever the primary motivation for it, a reconstructed building has the potential to have a high educational and research value. The very process of researching, testing and building unfailingly leads to a better understanding of the past by specialists. Non-specialists benefit from the new knowledge accumulated during the process and from viewing the built embodiment of it. The many reconstructions of timber buildings based upon archaeological evidence in the USA, northwest Europe and Japan exemplify the combined research and popular education roles of reconstructions.

4. **Tourism promotion.** A reconstructed building can attract tourism and thus generate income for the public or private authorities that manage it.

   The massive reconstruction of pre-Hispanic sites in Mexico, Guatemala, Belize and Bolivia (Tiwanaku) in the 1950s and 1960s aimed to promote tourism while also demonstrating national pride in the pre-Columbian past.[12] The motivation behind the proposed reconstruction of the Hwangnyongsa Temple in Gyeongju (Republic of Korea) is first and foremost the economic development of the city, especially through increased tourism, and not its potential re-use as a Buddhist temple.[13]

5. **Site preservation.** Reconstruction, by showing that the site is being actively used, helps protect it from development pressures; alternatively, it may serve to stabilize precarious ruined structures.

   If a salvage excavation has taken place in advance of commercial development, reconstructing the building whose foundations have been excavated can prevent the alternative development going ahead.[14] A classic case of reconstruction (or reconstitution as he called it) being justified in order to stabilize excavated ruins is Arthur Evans' work at Knossos.[15] In fact, as C. Palyvou perceptively observes,[16] it was Evans' concern for preservation through reconstruction that led to his interest in site presentation (aided also by his communication qualities as a journalist), rather than the more common path of a concern for site presentation leading to reconstruction.

If these points summarize some of the main justifications that have been cited for reconstructing buildings from excavated remains, what are the arguments against this practice?

Arguments against Reconstruction

A. *The evocative value of ruined buildings*. A ruined building left as it is can be more evocative of the past than that same building reconstructed.

The romantic appeal of ruins has been extensively written about,[17] if sometimes rather simplistically attributed to nostalgia for the past, which is supposedly characteristic of the European Romantic tradition. But the creative role of ruins in inspiring art, literature, and music cannot be discounted, nor the deliberate retention of ruins as memorials to tragic events. The preservation as a ruin of the A-Bomb Dome at Hiroshima is one example from outside Europe.

B. *The difficulty (impossibility?) of achieving authenticity*.[18] Reconstructed buildings are de facto new buildings, tending to reflect the culture and times of their creators, rather than being faithful reproductions of the original.

Very few reconstructions from excavated remains would meet the standard requirement of the Charters that they be based on full and complete documentation. It is hard to see how excavated remains alone could provide that. Because reconstructions do involve conjecture to a greater or less degree, the tendency will be for their architects to be unconsciously prone to other influences. Thus the influence of Beaux-Arts ideals has been noted in the reconstructed Capitol building at Colonial Williamsburg and as a possible inspiration for Evans' use of colour in the Knossos reconstructions.[19,20] But the latter seem also to have been strongly influenced by contemporary Art Deco styles.

C. *The ethical issue of conveying erroneous information*. Inaccurate reconstructions can mislead the professional and lay publics unless identified as such.

Despite the laudable justification of education and research goals (see point 3 above), if the reconstruction is inaccurate or simply wrong, both scholars and the lay public can be misled if not warned. The use of comparative evidence from other pre-Columbian sites for reconstructing Pyramid B at Tula in Mexico led astray future scholars who were unaware of what had been reconstructed and how.[21] If professionals can be misled, what false impressions are non-specialist visitors to gain unless informed as to what has been reconstructed on a conjectural basis?

D. *The destruction of original evidence*. Many reconstructions have either destroyed or rendered inaccessible the evidence on which they are based, to the detriment of future scientific research.

The reconstruction of buildings *in situ* on their original foundations, however credible it may be, is likely to limit the options for future research as ideas change. The ICOMOS *Charter for the Protection and Management of the Archaeological Heritage* (1990), Article 7, evidently has this risk in mind:

'Where possible and appropriate, reconstructions should not be built immediately on the archaeological remains and should be identifiable as such.' The horizontal displacement of any reconstruction work to another site as 'experimental archaeology' avoids this problem, as does 'vertical displacement' to some extent—I refer to the practice in Japan of leaving a layer of earth or concrete to separate the original subsurface remains from the foundations of the reconstruction.[22]

E. *The disruption of landscape values*. A reconstructed building in an otherwise ruined landscape distorts visual and spatial relationships.

If only one or two buildings are reconstructed on an otherwise 'flat' site, they tend to influence visitors' 'desire lines' (preferred circulation routes around the site). The reconstruction may enhance an appreciation of the original form of those particular buildings but the inequalities of scale will risk diminishing an understanding of the site as a whole. The monumental scale of the reconstructed Stoa of Attalus in the Athens Agora, already referred to (see point 2 above), the Gymnasium of the Baths at Sardis and the Temple of Hatshepsut at Luxor exemplify this phenomenon.

F. *Distorted site interpretation*. The complexities of sites with a long history are obscured if they are reconstructed to feature a single period.

In technical terms it is relatively easier to reconstruct to a single period, but the evidence of other periods may have to be sacrificed. At Knossos 'the casual visitor—and often even the specialist—can forget that Knossos is the largest Neolithic site on Crete . . . and . . . is one of the two largest Greek and Roman sites on the island.'[23] On the Acropolis of Athens, almost all evidence of post-Classical building had already been demolished in the nineteenth century as part of the post-Independence glorification of the remains of Classical Greece, thus facilitating the current project.[24] In other cases, political pressures may require a specific historical occupation phase to be emphasized on a multi-period site.[25]

G. *Cost*. Reconstruction projects tend to be very expensive and often can only be financed by the political authorities who insist they be undertaken.

Without the support of a Rockefeller (who financed the plan to restore Colonial Williamsburg), it tends to be public authorities, using public funds, who make possible major reconstruction projects. So the decision to undertake them, and the criteria that define their scope and result, are usually not those of professional heritage managers. Moreover, the subsequent maintenance costs are often not taken into account, and the costs of reconstructed

sites tend to reduce the budgets available for other, less spectacular sites. An extreme case is the lavish reconstruction of Babylon, undertaken for political reasons while Iraq was engaged in a long-term and costly war with its neighbour Iran.[26] In a different kind of war, B. Mackintosh describes several battles, some successful and some not, fought by the National Park Service (NPS) in the USA to counter reconstruction projects advocated by Congressional representatives in their home districts.[27] The very popularity of the conjectural restorations of Colonial Williamsburg from their earliest results created amongst members of the public expectations that sites would be reconstructed, even where the evidential basis was lacking. Politicians did not hesitate to exploit their populist appeal and to make the necessary funds available, despite the official NPS policy or the views of the professionals.

Towards Some Principles for Site Reconstruction

On this controversial topic, it is difficult to propose guidelines—the gulf that exists between the statements of Charters and the World Heritage Convention guidelines and actual practice demonstrates this point. Nevertheless, in this concluding section I try to propose some principles. They take into account the previous discussions of justifications usually made for reconstruction and of arguments against it.

1. A reconstructed building—if based primarily on excavated evidence—must be considered a new building (reconstruction as a creative act).

2. Reconstruction of one or more buildings is to be considered only if the values (including the landscape value) of a site will be better appreciated than if the buildings are left in a ruined state (the ruin as a source of inspiration or as a memorial).

3. The surviving evidence for the former building must be fully documented in such a way that this record is always available in the future (a scientific and ethical obligation to record for posterity).

4. The surviving evidence for the former building, or for different historical phases of it, must not be destroyed or made inaccessible by the very act of reconstructing it (a scientific obligation to allow (built) hypotheses to be verified or rejected).

5. The evidence—its strengths and its limitations—for the reconstructed form must be interpreted clearly to all visitors (an ethical obligation not to mislead or misinform the public).

6. Buildings that have been wrongly reconstructed in the past could, on a case-by-case basis, be preserved as they are (reconstructions as part of the history of ideas).

It seems axiomatic that reconstructions of the kind described here are to be considered new buildings (as they are by contemporary architects who adopt bold solutions for adapting old buildings). They are not incomplete old buildings that have been 'restored to their former glory,' in the phrase beloved by the media. How many reconstructions have even attempted really to reproduce the conditions that are assumed to have obtained in the past? Criticisms of the 'too-clean Williamsburg' are well known and could be applied to all reconstructed sites. Evans' use of colour at Knossos is an exception to the general rule of non-painted architectural reconstructions in Classical lands. Significantly, Evans' colours were later toned down in the 1950s in accordance with changing taste, but have now been revived as part of the conservation project that considers Evans' work as part of the history of the site.[28] So, in short, reconstructions are new buildings; they do not reproduce original conditions.

The obligation to record and preserve evidence for future investigators must be inherent to any field of study that considers itself scientific. So any reconstruction should avoid impact on the original remains by means of either vertical or horizontal displacement (see D above). Equally, a reconstruction should aim at respecting the integrity of a building that has evolved through time. The removal of the remains of any one phase in the interests of the reconstruction of other phases must be justified and fully documented.

The requirement to convey to visitors accurate information about the fidelity of a reconstruction to the current state of knowledge seems paramount. Knowingly to convey inaccurate information without disclosure is unethical (or actually criminal) in other spheres of communicating with the public. Why should conjectural reconstructions be exempt from this requirement? The standard criterion in restoration of 'visibility of the intervention' applies here. It can be met either by employing subtle differences in the technique or texture of materials or more strikingly by using quite modern materials, perhaps reproducing only the volumes of the vanished buildings and not their solid form (i.e. volumetric reconstruction, as practiced for example at Benjamin Franklin's House in Philadelphia, the Forges St Maurice industrial installation in Quebec, and the Temple of Apollo at Veii, on the northern outskirts of Rome).

A different argument can be made for retaining erroneous reconstructions carried out in the past, on the basis that they possess their own value in reflecting the history of taste and ideas (as in Evans' work at Knossos). A parallel exists with the restoration of antique sculpture, for which there is a value in retaining previous restorations even though erroneous.[29]

Conclusion

There is no doubt that the international normative documents and the ever-growing number of Charters guiding conservation practice have had a strong

influence on conservation practice. But within the built heritage field the particular case of reconstruction exhibits a clear divergence between principles and practice.

In this chapter I have attempted to summarize some of the justifications that have been used for reconstructing buildings now known mainly from their excavated remains, and also some of the arguments against this practice. The hard line taken against reconstruction in the normative documents must stem from experience; in other words, a consensus has developed among professionals that the arguments against outweigh the justifications for. And yet vanished buildings continue to be reconstructed. Is there a way out of this paradox?

One way out lies in responding differently to the enormous popular appeal of reconstructed buildings. The advent of multimedia and virtual realities makes it possible to explore competing hypotheses about the past without requiring any intrusion into the original physical remains on-site. The high costs associated at present with the development of such projects will decline as technology evolves. Thus a visit to the 'real thing' in the field, appropriately conserved and interpreted as found, will be a test of the credibility of the electronically generated image of the past. An ability to appreciate the authenticity of the past depends in the end on the observer, and not on the observed. Or, put another way, it is the visitor who should be treated, and not the building.[30]

Notes

1 As it has spread, the philosophy of 'conserve as found' has come into conflict with traditions that provide for the regular renovation of buildings of continuing religious or other functions. It is now more widely admitted that it is the preservation of the spiritual values of such buildings ('living heritage') that is more important than conservation of their physical fabric alone.

2 See various readings in Part VI "Cleaning Controversies," *Issues in the Conservation of Paintings*, eds. D. Bomford and M. Leonard (Los Angeles: The Getty Conservation Institute, 2004) 425–547.

3 See introduction and readings in Part V "Restoration and anti-restoration," *Historical and Philosophical Issues in the Conservation of Cultural Heritage*, eds. N. Stanley Price, M.K. Talley, Jr. and A. Melucco Vaccaro (Los Angeles: The Getty Conservation Institute, 1996) 307–323.

4 See the different contributions in W.A. Oddy, ed. *Restoration: Is It Acceptable?*, British Museum Occasional Paper 99 (London: British Museum Press, 1994) and in *Faut-il Restaurer les Ruines?* (Actes des Colloques de la Direction du Patrimoine). Entretiens du Patrimoine (Paris: Picard, 1991).

5 For example, H. Stovel, "The Riga charter on authenticity and historical reconstruction in relationship to cultural heritage (Riga, Latvia, October 2000)," *Conservation and Management of Archaeological Sites*, Volume 4, Number 4, (2001): 240–244; N. Dushkina, "Reconstruction and its Interpretation in Russia – 2," *Proceedings of the Scientific Symposium*, Session II, paper 12, ICOMOS 15th

General Assembly, Xi'an, China, 17–21 October 2005, accessed 6 February 2007, www .international.icomos.org/xian2005/papers.htm; and J. Pirkovic, "Reproducing lost monuments and the question of authenticity," *Varstvo spomenikov*, Volume 40 (2003): 209–221.

6   *Operational Guidelines for the Implementation of the World Heritage Convention* (Paris: UNESCO, revised 2005) §86. The wording is almost identical in the previous version of the Operational Guidelines concerning authenticity, with the significant addition of the words 'of the original': '(the Committee stressed that reconstruction is only acceptable if it is carried out on the basis of complete and detailed documentation of the original and to no extent on conjecture)' (Paris: UNESCO World Heritage Committee, 1998) §24(b) (I).

7   F. Mallouchou-Tufano, "Thirty years of anastelosis work on the Athenian Acropolis, 1975–2005," *Conservation and Management of Archaeological Sites*, Volume 8, Number 1, (2006): 27–38.

8   J.H. Jameson, ed., *The Reconstructed Past. Reconstruction in the Public Interpretation of Archaeology and History* (Walnut Creek: Altamira Press, 2004).

9   See, for example, J.M. Fitch, *Historic Presentation. Curatorial Management of the Built World* (Charlottesville: University Press of Virginia, 1990); P.G. Stone and P.G. Planel, eds., *The Constructed Past. Experimental Archaeology, Education and the Public*, One World Archaeology 36 (London: Routledge, 1999); and J.H. Jameson, ed., *The Reconstructed Past. Reconstruction in the Public Interpretation of Archaeology and History* (Walnut Creek: Altamira Press, 2004).

10   M.R. Brown III and E.A. Chappell, "Archeological Reconstruction and Authenticity at Colonial Williamsburg," *The Reconstructed Past. Reconstruction in the Public Interpretation of Archaeology and History*, ed. J.H. Jameson (Walnut Creek: Altamira Press, 2004) 47–63.

11   H.A. Thompson, *The Stoa of Attalos II in Athens*, Excavations of the Athenian Agora Picture Book no. 2 (Athens: American School of Classical Studies, 1959).

12   A. Molina-Montes, "Archaeological Buildings: Restoration or Misrepresentation," in ed. E.H. Boone, *Falsifications and Misreconstructions of pre-Columbian art, Dumbarton Oaks*, 14–15 October 1975 (Washington, DC: Dumbarton Oaks Institute of Meso-American Studies, 1982) 125–141; D. Schávelzon, *La Conservación del Patrimonio Cultural en America Latina. Restauración de Edificios Prehispánicos en Mesoamérica: 1750–1980* (Buenos Aires: Instituto de Arte Americano e Investigaciones Estéticas "Mario J. Buschiazzo," 1990).

13   H-S. Kim, "Utilization Plan of Hwangnyongsa Temple after Reconstruction," *Preprints of International Conference on Reconstruction of Hwangnyongsa Temple, April 28–April 29, 2006, Gyeongju-si, Korea* (Seoul: National Research Institute of Cultural Heritage, 2006) 385–401.

14   K. Okamura and R. Condon, "Reconstruction Sites and Education in Japan: a Case Study from the Kansai Region," *The Constructed Past. Experimental Archaeology, Education and the Public*, One World Archaeology 36, eds. P.G. Stone and P.G. Planel (London: Routledge, 1999) 63–75.

15   A.E. Evans, "Works of reconstitution in the palace of Knossos," *Antiquaries Journal* Volume 7 (1927): 258–267.

16   C. Palyvou, "Architecture and Archaeology: The Minoan Palaces in the Twenty-first Century," *Theory and Practice in Mediterranean Archaeology: Old World and New World Perspectives*, Cotsen Advanced Seminars I, eds. J.K. Papadopoulos and

R.M. Leventhal (Los Angeles: The Cotsen Institute of Archaeology, University of California at Los Angeles, 2003) 205–233.

17 For example, C. Woodward, *In Ruins* (Vintage, 2002).

18 H. Schmidt, "The impossibility of resurrecting the past: Reconstructions on archaeological excavation sites," *Conservation and Management of Archaeological Sites*, Volume 3, Number 1–2 (1999): 61–68.

19 C.R. Lounsbury, "Beaux-arts ideals and colonial reality: the Reconstruction of Williamsburg's Capitol 1928–1934," *Journal of the Society of Architectural Historians*, 49.4 (1990): 373–389.

20 C. Palyvou, "Architecture and Archaeology: the Minoan Palaces in the Twenty-first Century," *Theory and Practice in Mediterranean Archaeology: Old World and New World Perspectives*, Cotsen Advanced Seminars 1, eds. J.K. Papadopoulos and R.M. Leventhal (Los Angeles: The Cotsen Institute of Archaeology, University of California at Los Angeles, 2003) 218–219.

21 A. Molina-Montes, "Archaeological Buildings: Restoration or Misrepresentation," *Falsifications and Misreconstructions of pre-Columbian art, Dumharton Oaks, 14–15 October 1975*, ed. E.H. Boone (Washington, DC: Dumbarton Oaks Institute of Meso-American Studies, 1982) 125–141.

22 H. Kanaseki, "Reconstructing a Ruin from Intangible Materials," Nara Conference on Authenticity, UNESCO World Heritage Centre, Agency for Cultural Affairs Japan, ICCROM, ICOMOS, ed. K.E. Larsen (Trondheim: Tapir, 1995) 337–338; K. Okamura and R. Condon, "Reconstruction Sites and Education in Japan: A Case Study from the Kansai Region," *The Constructed Past. Experimental Archaeology, Education and the Public*, One World Archaeology 36, eds. P.G. Stone and P.G. Planel (London: Routledge, 1999) 63–75.

23 J.K. Papadopoulos, "Knossos," *The Conservation of Archaeological Sites in the Mediterranean Region: an International Conference organized by the Getty Conservation Institute and the J. Paul Getty Museum, 6–12 May 1995*, ed. M. de la Torre (Los Angeles: Getty Conservation Institute, 1997) 115.

24 F. Mallouchou-Tufano, "Thirty years of anastelosis work on the Athenian Acropolis, 1975–2005," *Conservation and Management of Archaeological Sites*, Volume 8, Number 1 (2006): 27–38.

25 For example, A. Killebrew, "Reflections on a Reconstruction of the Ancient Qasrin Synagogue and Village," *The Reconstructed Past. Reconstruction in the Public Interpretation of Archaeology and History*, ed. J.H. Jameson (Walnut Creek: Altamira Press, 2004) 127–146.

26 R. Parapetti, "Recenti Interventi sul Patrimonio Archeologico in Iraq," *Restauro*, Volume 19, Number 110 (1990): 94–102.

27 B. Mackintosh, "National Park Service Reconstruction Policy and Practice," *The Reconstructed Past. Reconstruction in the Public Interpretation of Archaeology and History*, ed. J.H. Jameson (Walnut Creek: Altamira Press, 2004) 65–74.

28 C. Palyvou, "Architecture and Archaeology: the Minoan Palaces in the Twenty-first Century," *Theory and Practice in Mediterranean Archaeology: Old World and New World Perspectives*, Cotsen Advanced Seminars 1, eds. J.K. Papadopoulos and R.M. Leventhal (Los Angeles: The Cotsen Institute of Archaeology, University of California at Los Angeles, 2003), 227; J.K. Papadopoulos, "Knossos," *The Conservation of Archaeological Sites in the Mediterranean Region: an International Conference organized by the Getty Conservation Institute and the J. Paul Getty Museum, 6–12 May 1995*, ed. M. de la Torre (Los Angeles: Getty Conservation Institute, 1997) 116.

29   G. Vaughan, "Some Observations and Reflections on the Restoration of Antique Sculpture in the Eighteenth Century," *Sculpture Conservation. Preservation or Interference?*, ed. P. Lindley (Aldershot: Scolar Press, 1997) 195–208.

30   M. Gauthier, "Traiter la Ruine, ou le Visiteur?," *Faut-il Restaurer les Ruines?* (Actes des Colloques de la Direction du Patrimoine). Entretiens du Patrimoine (Paris: Picard, 1991) 72–73.

Jean Clottes and
Christopher Chippindale

The Parc Pyrénéen d'Art Préhistorique, France: Beyond Replica and Re-enactment in Interpreting the Ancient Past (1999)

Replication of archaeological sites or their individual elements provides an alternative visitor experience of sites that may be too fragile to allow general public access. Replication also offers an alternative to reconstruction or "hardening" of the site to protect it from visitors. ("Hardening" is essentially a process of preparing a site to receive visitors, not necessarily by reconstruction, but by installation of features such as walkways or hardened surfaces that can impinge significantly on the visitors' experience of the site in its natural setting.) But other issues arise in replication: what is the effect of the replica on the authenticity of the site and the visitors' experience and the quality and accuracy of the replication? One famous replica is that of Lascaux Cave, created to divert visitors from the original cave paintings, which were suffering extensively from the effects of overvisitation. Clottes and Chippindale discuss the Lascaux replica and describe a different replication project based on Niaux Cave—another important French Paleolithic rock art site where visitation is limited for conservation reasons. Clottes and Chippindale, involved in the Niaux project, rejected the idea of a replica such as Lascaux II at Niaux on the basis that it would provide an experience that gave the message, "This is what it was like,"—a limited truth, however effective it is at Lascaux. Instead, Niaux Park aims to provide visitors with an experience that combines exact replication with other impressionistic interpretive elements to convey impressions of prehistoric life and its cultural distance from the present. In describing this interesting experiment, Clottes and Chippindale also provide a stimulating discussion of the nature of the visitor experience at archaeological sites.

Introduction

The Parc Pyrénéen d'Art Préhistorique, near Tarascon-sur-Ariège in the French Pyrenees, was the 'brainchild' of the President of the Ariège Department Council, Robert Naudi. After a number of years of discussion, during which a scientific committee met on a number of occasions and contributed advice and suggestions, the Park was finally built by the cultural project consultants B. Ayrault and J.-L. Pivin. Following a partial opening for several months at the end of summer 1994, the Park opened fully from 8 April to 15 November 1995 and in that year received an encouraging 54,000 visitors. It had cost about 42 million French Francs to construct. In 1997, its third year, it received 55,000 visitors.

Much of the Park is based upon palaeolithic art found in the nearby cave of Niaux. Careful monitoring of the cave's atmosphere, especially in the famous, painted *Salon Noir*, has been used to define the very small number of people who may enter the cave each day without upsetting the atmospheric balance. Hence the Park was created to go some way to satisfying the tourist demand at Niaux in a way that would not damage the caves. The primary aim of the park project was not only to inform the general public about the cave's contents, but also to entertain them. The Park attempts to offer a quality experience, accessible to everyone, while at the same time remaining faithful to the prehistoric archaeological record.

Demand and Supply at the Palaeolithic Painted Caves

As the Park marks a new initiative in the presentation of palaeolithic art in the French caves, a brief notice of previous work is in order. Attitudes to public access and conservation have changed a great deal over time, and the requirements of conservation are now decidedly placed before those of access. For example, it is not expected there will ever be public access to the magnificent new Grotte Chauvet, whose preliminary publication shows it to contain art even more impressive than that at Lascaux.

When the first palaeolithic art was rediscovered there was a period of access in response to demand, controlled only by local circumstances. This was an obvious and natural response to a new phenomenon. With a limited amount of tourism, demand, even given the physical restrictions of the caves, was manageable. Necessary and reasonable provisions (for example lights, ladders) were—and still frequently are—made, in the light of what seemed/seems reasonable. However, such access naturally has an inescapable impact. Wherever, for instance, lights are installed in caves that are illuminated for any significant length of time, one can expect the green algae to grow around them which require light. At Rouffignac, where the paintings are quite some distance from the entrance, 'reasonable provision' extended to building a light railway and a battery-powered train to run on it. At other sites external facilities were provided. At Gargas, for example, there

is a substantial building containing tourist facilities, and outside Niaux a big steel sculpture by the entrance makes the inconspicuous cave opening into a substantial landmark on the hillside. At the same time, other caves are not open to the public at all, including some of the best and most famous. At some of these, the norm is to allow extremely limited access. Individual attitudes and arrangements largely depend on the proprietor, often a private individual or body, whose policy may be to allow a great deal of access or very little. Attitudes are also decided by precedent, in terms of what existed already or was done at the time when the art was initially rediscovered.

Responding to Demand

The catastrophe of Lascaux brought demand-led access to an end: it proved that it is not sane or sensible to be driven solely by *demand* for visitor access. Instead what matters is *supply* of visitor access, that is, the maximum human presence that a cave can withstand. This is not always easy to define, but can reasonably be estimated. Those responsible need to keep a good record of the cave's known and stable environment, by way of temperature, humidity, and other measures; restrict the human presence to not too many visitor groups of not too many visitors for not too many minutes per group; watch with care the record of the cave environ-ment to be sure it is not being negatively changed by the visitor numbers: reduce visitor presence if such a change is observed. Applied to Niaux, for example, this approach means a restricted number of groups, and therefore of individuals, on any one day even at the height of the tourist season. Tourists wishing to visit the Niaux cave now have to book on arrival. In mid-summer, the next free spaces will be quite some days ahead, and the visitor who arrives expecting to go in straight away, or at least in a day or two, will be disappointed. The maximum number of visitors accepted on any one day is eleven groups, each of a maximum of twenty people, making 220 altogether; and so large a number is only permitted for a limited number of days at the height of the season. Even without active marketing, the annual number of visitors allowed into Niaux, 26,000 in 1997, is well below demand.

Once the crisis of its microbiological infestation was stabilized, a similar strategy was introduced at Lascaux. At Lascaux, it is thought, the safe 'carrying capacity' of the cave is very small, so access is restricted to those who in some way have special reason to see it. As a result of the restricted access to the real cave, the reconstruction, Lascaux II, was built (Delluc and Delluc 1984; and see Debaye and Duchadeau-Kervazo 1994). Lascaux II aims to provide for the large numbers of the public who wish to visit, and to recognize also the substantial dependence of the immediate region, and especially the neighbouring settlement, on income derived from the painted cave.

The English-language account of Lascaux II (Delluc and Delluc 1984) calls it a 'faithful copy'; and so it is, an exact replica, in that the visitor is intended to

see exactly the same images in the same colours on surfaces with the same texture as in Lascaux itself (also see Ucko 1992). The appearance, the placing, the way the visitor is shown the place, even the name of Lascaux II carry through this spirit. Lascaux II is adjacent to the real Lascaux (therefore 'Lascaux I'), in the shoulder of a low wooded hill. To create Lascaux II, a concrete structure was built at the top of the slope, and covered with earth to incorporate it into a natural-seeming profile, as if the hill-top extended a little further; now also under trees and bushes, it has the appearance of just another part of the natural hill. There is a building with postcards and ticket sales, and the procedure is just like that one finds at the other archaeological sites and painted caves of the Dordogne. The visit is guided, so on buying a ticket, you are told the time of your tour, perhaps minutes, perhaps an hour later. At the appointed time, the group gathers around the guide, who sports a thick jacket because of the difference in temperature between inside Lascaux II and outside. You go down a set of steps let into the earth, and there is a locked door. The door is opened for you, and in you go. Immediately inside is not a damp cave, but a dry rectangular room, a clearly artificial chamber, with displays about the place. Then the group moves into the second portion of the replica itself, which is 'as if a cave'. It is not very damp, as a cave usually is, and the floor is black rubber, very conspicuously a most unnatural material, but the place does have the feel of a cave in many other respects. Some theatre with the lighting assists in the 'authenticity' of the experience. One leaves by a different way, squeezing through a narrow passage, and climbs up stairs into the light of the day once more. As Lascaux II is close to a simulacrum of Lascaux, so the procedure by which one visits Lascaux II suggests a simulacrum of a visit to Lascaux.

Although Niaux has not suffered the environmental problems encountered at Lascaux, the experience of Lascaux has been a warning—to all of the cave owners—of the dangers of over-visiting. Writing in 1998, one must remember the changes since the 1960s, when Lascaux I was open to the public. Tourists are far more numerous, and the season when they travel is more extended. They are perceived to require more elaborate and higher-quality facilities, to be less inclined to physical effort, and to be less prepared in their clothes and footwear for a cold or wet experience outside a bus, car, building, or artificial landscape. All this increases demand, both in terms of how many visitors a given attraction may hope to attract, and in how much a natural place such as a limestone cave may need to be adapted and interfered with for the visitors' convenience. Increasing formal concern for requirements of health and safety means perceived risks need to be avoided or reduced. With tourism increasingly seen as a key economic activity, all the interests concerned with prosperity in the immediate and broader region will look to a famous place like Niaux as a commercial asset, and not wish it to be closed or scaled down as a venture.

One option was therefore to create a Niaux II, on the Lascaux model, a simulacrum which would divert pressure from the authentic cave on to a 'faithfully

copied' artifice engineered to suit the visitors and their needs. Such a development was considered but rejected.

Authenticity at the Painted Caves

The usual—and good—justification for restorations, replicas, and re-enactments is that they provide a fuller sense of what a given place was like than do the actual remains—so often fragmentary and worn. Instead of a 'hut circle', a rough ring of small stones among the grassy tufts of an English moor, one can offer a reconstructed hut, a standing building which visitors can actually experience. Seeing how it looks from outside, going in the low door to see how dark the interior is, discovering—should a shower of rain pass—how effective turf or grass thatch is as a waterproof roof. The message is: 'This is what it was like.' This, however, is only partly true as we should be saying 'This is what it was like, as the individual presently experiencing it finds it.' The modern tourist visiting, say, the Biskupin wooden fort in Poland is not an Iron Age person, but makes sense of it in terms of their own cultural experience and background, a quite different set of cultural norms from those of north central Europe twenty-five centuries ago. This truth, which always applies, is the stronger the further the visitor is removed in cultural experience from what is presented. Living in an artificial world of constructed rectilinear spaces and objects, we are less struck by straight lines and right angles than perhaps we should be because they are not rare in our experience but universally mundane. Artificially separated from the lives and deaths of the creatures which we eat, we are more struck by the nature of large living creatures close to, and by the experience of killing them, than, again, perhaps we should be. Accustomed to the vast built structures of our own technology, we find prehistoric structures less large and [impressive] than they may have seemed in their own times. These considerations apply with special strength to later palaeolithic Europe. One is at least there dealing with our own species, *Homo sapiens sapiens*, rather than remote creatures like the *Homo erectus* of the earlier European palaeolithic sites, with whom such fundamentals as speech may not even be held in common. But these are culturally remote *Homo sapiens sapiens*; and their being hunter-gatherers is only the first of many profound differences. Deep caves, strange places in the earth, prompt strong cultural reactions (as one sees from the varied cultural interpretations and responses in recent recorded experience). One can reasonably think both that the palaeolithic response to them was strong (their use for painting being one proof of that) and that the response is unlikely to have much culturally in common with how we feel today when in a cave.

Therefore a replica such as Lascaux II at Niaux would provide an experience that gave the message 'This is what it was like', but that would be a limited truth, however effective it is at Lascaux. Instead, the public facilities at Niaux take a different approach that suggests 'This can never be what it was like—even if it were

to be physically the same.' Such interpretation is not a replica or a re-enactment, but a more modest and original kind of ambition: it attempts to evoke aspects of Niaux, and the world the people of Niaux lived in; to point out aspects of that world in terms we in the late twentieth century find striking: and to admit openly that there is a gulf between life as experienced then and the same life as we seek to grasp an essence of now.

With this approach, the fundamentals of a Niaux II change: not necessarily a cave, nor necessarily underground, not necessarily exactly like Niaux except in those few aspects we choose so to treat and identify. Without obligation to re-make the form of a given underground cave, it can take whatever physical form is suitable.

The Park

The Park contains a cave, but not this time a replica intended to re-create real Niaux, 'Niaux I', but something bolder. Besides a shop, with a good number of books on prehistory, and where an excellent restaurant (serving, if one is fortunate, a prehistoric creature for lunch, in the form of a fine and strong-tasting *civet de bison*!) is situated, the park is divided into two main areas: an interior building (the *Grand Atelier*) and an extensive open-air site around it.

The Park is near the edge of the neighbouring town, not far from but not close to or in sight of Niaux. It is situated in a deep bowl of a superb mountainous landscape, on a slope and with a river below. The architects have succeeded well in setting the immense *Grand Atelier* and the adjacent buildings into the landscape; no attempt has been made to sink this large building into the ground as an artificial cave, or to pretend it does not have bulk.

The Landscape

Much of the landscape has been designed for the family to be able to explore in the sun: a waterfall you walk behind, a lake with stepping stones, a fantasy stone landscape with little cliffs and hollows, overhangs, caverns, pools, gravel, running streams. Zooming about there, children will fall across some bits of prehistory—almost by accident: here a hand stencil, there a little painting, here a cluster of antique bones half-embedded in the ground. In the *Torrent des Traces*, visitors follow the stream through a cave-like sequence. On the ground there are human footprints and, further along, bear, wolf and bird prints.

Down the hill, through the wood, one suddenly comes across a clearing of more open ground, and in it a herd of bison. They are not live, and they are not model replicas either. This is a herd of massive *concrete* bison with the spirit of the beast transformed into this static material. You can climb on these fine high creatures, and if you are as young [as] 5 or 7, you will need an adult to lift you on. Most

of the bison are in a tight group, and when you go up close, you find you can walk inside the massed herd, and find yourself within a circular diorama, the 'Hunting Scene', the work of Gilles Tosello, prehistorian and artist. Tosello details a day in the life of the people of the Magdalenian period; from when they leave their camp in the morning, through to their evening camp-fire activities, with a reindeer hunt as a centrepiece.

Along the slope from the *bison béton* is another odd contrivance. a 'Labyrinth of sounds'. Here small trees and bushes create a maze-like series of paths, and the varied and startling sounds of the 'jungle', or of some other equally exotic faraway world, are set off as the visitor passes by.

The Building

The *Grand Atelier* is a huge space on several different levels. On entering, visitors are provided with earphones. Explanations, in several languages, with a special version for children, are given as visitors pass well-concealed reception stations positioned at strategic points of the display. In this way visitors can move at their own pace. Although no attempt is made to replicate a cave as such, and the building is above ground, it is made a big windowless place of lighted areas within an overall darkness, in an overt attempt to recreate the atmosphere of deep Pyrenean caves. A myriad of tiny lights on the floor help visitors to move around safely.

Following a display demonstrating the immensity of prehistoric time, a film presents a detailed explanation of how dating methods work. A huge diorama presents a panoramic view of cave and rock art throughout the world, to make the point about both its universality and its variety. The *Dune des Pas du Réseau Clastres* (20 metres in length), the place deep in the Niaux cave-complex where three children walked side by side leaving over 130 footprints in the sand, has been reconstructed exactly as found. A complex lighting system brings the footprints in and out of shadow in the same way as a torch would. Further on, the full extent of the immense underground cave system, represented in section and to scale, gives some idea of the distances covered underground by people in the Magdalenian period 13,000 or 14,000 years ago.

The main room of the *Grand Atelier* is a reconstruction by R. Sanson and his team of the *Salon Noir* showing a selection of panels with 'signs' and the principal ground engravings, complemented by a video point where a discussion of the various interpretations of the art of Niaux is permanently available. There is also a display of replica mobile art of the Pyreneen Magdalenian period together with an explanatory film. It is its monumental scale, the number of features and the play of light and shadow used to bring them into relief which makes the *Salon Noir* the centrepiece of the park and its cave. The space is of much the same size and proportion as the *Salon Noir* at Niaux, and the parts of the walls and floor with replica rock art now naturally follow its original surface appearance; but no attempt

is made to pretend this is a replica cave. The video monitors are neatly presented on small pillars, in no way pretending to be ancient! This facsimile is full-scale and provides an excellent opportunity to appreciate the replicated cave art. Visitors can get as close as they wish to this art to examine it in detail. They can also view the art of the *Cul-de-Four*, the remotest and most 'secret' part of the sanctuary which cannot be viewed by visitors to the real cave.

The Parc Pyrénéen d'Art Préhistorique was first and foremost intended to promote tourism—to provide an additional attraction to retain tourists in an area where caves, both with and without art, are already visited by the public as a major attraction (e.g. Niaux itself, La Vache, Lombrive, Bédeilhac, Labouiche, Le Mas d'Azil), Despite this primary aim, scientific accuracy has been a major consideration throughout.

Issues Relating to the Reconstruction

Inevitably some choices had to be made during the reconstruction of the cave. It was not possible, for obvious practical reasons, to recreate the physical immensity of all the actual galleries of Niaux. So, for example, only the *Dune des Pas* area of the *c*. 2 km long *Réseau Clastres* has been reproduced. Inevitably, some prehistoric reality has had to be truncated. Some details of the art are therefore only reproduced partially: the panels of 'signs' on either side of the gallery which leads to the *Salon Noir*; the paintings of the *Réseau Clastres*, facing each other; the majority of the floor engravings. Their actual details are explained in a large model where the whole cave and art systems appear in plan and in section. Even in the *Salon Noir*, however, which features the majority of the paintings, and which is a true facsimile, a decision had to be taken. Visitors find themselves on a lower ground level than was the case in the Magdalenian period; this makes the art easier to see. The level of the original ground surface is marked on the walls to make clear this distortion of reality.

Another major policy decision was adopted whereby the paintings have been represented in their original state. All subsequent accretions on the paintings have been either partially or totally eliminated and visitors are able to see the paintings as the Magdalenian people painted them as the art has been faithfully reconstituted on the basis of evidence provided by photographs of the originals in ultraviolet light, employing a technique used for the first time in the 1970s by Alexander Marshack (e.g. 1975). This technique reveals a great deal of detail which cannot be seen with the naked eye. The detail of the coats of some of the animals reappears, as do other heads or missing extremities. These features, at present impossible to see in the cave itself, did once exist; they are brought back to life in this park facsimile, making it possible to see the animals much more as they would have appeared originally. This was the only work of an experimental nature undertaken during the reconstruction and, to the best of our knowledge, it is the first time in

the world that such reconstruction has been attempted. There was no attempt to experiment with ancient materials; the production of the facsimile used modern materials in order to build a prehistoric park of the highest quality.

Interpretation

The visit to the *Grand Atelier* is essentially educational, information being provided through headphones and continuously projected films. In addition, there is an important learning experience from the floor engravings which visitors illuminate with fixed orientable lights; in this way the engravings can be brought into relief, just as in a real cave. As one of us wrote after visiting the Park (Chippindale 1995: 227),

> some magic is going on here. I did not figure out how the moulded figures in the floor looked without seeing — until some 10-year-olds, smarter than me, figured out how you twiddle the lights. The visitor is directed, and enabled to discover.

[. . .] [E]very afternoon in the summer there are demonstrations in the park of the use of spear-throwers as supposedly used in the Magdalenian period; on how to make fire by using two sticks or by knocking flint against a pyrite nodule; and on how to paint 'in the palaeolithic way' on a reconstructed cave wall. Twice a day there is a short lecture from an archaeologist about other economic and subsistence activities during the Magdalenian period. During school terms, introductory archaeology sessions are also available.

Visitors' questionnaires indicate a 90 per cent satisfaction rate. Yet the Park has addressed some fundamental dilemmas of interpretation—vividly illustrated in the outside park, with its landscape of sounds and its concrete bison, and in the great synthetic space in the building with reproduction cave-paintings. It accepts that what we call reconstructions and re-enactments can only be partially so; they can never be fully authentic, because the people who experience them are not 'authentic'. The Park has questioned how it is possible to convey what it was like to live in the European Palaeolithic and accepts that we only make sense of it, we only *can* make sense of it, by relating aspects of its essence to elements of our own experience—the only thing any of us know directly. In doing so, we should, whatever we think of the interpretation, enjoy the *nerve* of the Park's concept.

That given, the Park uses three strategies to express some understanding of—perhaps the *essence* of—the palaeolithic. First, some things are given in exact replica—the paintings of the *Salon Noir*, for instance, and the footprints (or more fully than in replica, since the paintings have their missing portions restored). Second, some aspects are given in a kind of culturally translated form. Often, to enter a cave, one walks down some kind of an entrance-passage, in full or near darkness, and with dripping water: and so one does in entering the *Grand Atelier*,

but the passage is clearly built of contemporary materials rather than a simulacrum of a cave-wall, and the dripping is into a sculptured line of metal bowls, devised so they make a fully drippy sound! There are bison, but they are not living animals. Third, other aspects simply convey strangeness, cultural distance and the variety of human experience. The watery landscape, with its enclosed spaces and sounds of rushing streams, tells a visitor of the delight in exploring country, and the odd things one may find there: the landscape of sounds does something similar. The synthesis of these three strategies creates a whole which provides a powerful and educational experience not only for those with some background knowledge but, hopefully, for everyone.

References

Chippindale, C. 1995. Editorial. *Antiquity* 69, 224–9.

Debaye, D. and C. Duchadeau-Kervazo. 1994. Lascaux II—Le Thot: Deux structures touristiques à vocation multiple. In The multifaceted aims of reconstruction sites: archaeological evidence, 'reconstruction' of sites, education and public awareness. Unpublished precirculated paper, World Archaeological Congress–3, New Delhi. India.

Delluc, B. and G. Delluc. 1984. Lascaux II: a faithful copy. *Antiquity* 58, 194–6.

Marshack, A. 1975. Exploring the mind of Ice Age Man. *National Geographic* 147, 64–89.

Ucko, P.J. 1992. Subjectivity and the recording of palaeolithic cave art. In *The Limitations of Archaeological Knowledge*. T. Shay and J. Clottes (eds), 141–65. Liège: Etudes et Recherches Archéologiques de l'Université de Liège.

Angela Maria Ferroni

Planned Maintenance in the Conservation and Management of the Archaeological Site: Final Report, P.I.S.A. Project (2002)

Do we ever "complete" a conservation project at an archaeological site? The major intervention work may be finished, the conservators, archaeologists, and builders may have gone home, but the on-site processes of decay and transformation do not cease. Intervention itself may have unintended harmful consequences. Maintenance of an archaeological site after intervention is an essential ongoing practice aimed at conserving the standard the conservation work has achieved. Ironically, neglect of post-excavation conservation by archaeologists in the past, combined with lack of maintenance, has led to a greater degree of additional restoration and maintenance of many famous sites. The P.I.S.A. Euro-Mediterranean network was established in 1996 to consider integrated planning for archaeological sites, under the coordination of the Mediterranean Institute, Rome. A principal aim of the project was to develop a common, integrated intervention strategy for European archaeological heritage. The project was undertaken using a range of sites as laboratories in order to exchange experience and develop principles and standards for archaeological site maintenance.

Ferroni's full paper provides comprehensive coverage of the philosophy of maintenance and its history and covers methodology, practice, and practicalities. The selected reading includes a succinct overview of technical elements and the skills that the site manager requires to deliver effective long-term site maintenance.

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Maintenance [. . .] means:

- to preserve the monuments from the possibility of their being washed away, with shelters, with waterproofing over wall tops, with a correct restoration of the drainage systems;
- to protect the more fragile floorings during the winter season;
- to remove weeds and other species that have negative effects on the conservation of ancient ruins and, on the contrary, to introduce plants that are resistant and useful for lowering atmospheric pollution and reducing problem of soil erosion and landslides;
- to restore surfaces, the place of exchange between the resource and the environment, by arranging 'sacrificial shelter coats', and layers added in the conclusive phase of a restoration. Those are surfaces that are destined to deteriorate in the place of the original surfaces of the monument, and therefore to be replaced in the next maintenance activity. The modern choice in favour of low durability of the treatments means that the protective materials, when ageing, do not leave residues, the removal of which is difficult or damaging for the ancient surfaces. This again, as compensation, requires a practice of light but frequent maintenance operations.

Starting from experience gained, maintenance is therefore being devised as a theoretical model: the principles of the reversibility and minimum intervention and the use of compatible and medium durability materials [. . .]. This process is taking place through the progressive abandonment of a technological culture that was applied without critical mediation, in favour of the recovery of traditional craft practices inserted, however, in a general planning scheme of the entire management of the site.

However, the maintenance of a resource cannot be separated from the ways in which previous restorations were carried out. In fact, all too often maintenance operations must be carried out on monuments on which in the past interventions were done with unsuitable materials or with constructive techniques that profoundly altered the original shape.

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Faced with [. . .] 'invasive' operations of the past, which may have damaged the structural equilibrium and the residual formal characteristics, after careful evaluation, it may be necessary to carry out a new complex restoration intervention to bring the asset back to an acceptable safety threshold, which will then be followed by the planned maintenance. This clearly demonstrates how a deep knowledge of the asset represents a preliminary phase to every maintenance intervention. All the events regarding it must therefore be fully known, both those regarding its living period and those following its finding or its return to functioning, including here also the restoration and enhancement operations.

Furthermore, if 'to maintain' means to preserve an archaeological asset, this cannot then be separated from a consideration of the use that will be made of it.

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Methodology of Planned Maintenance in the Archaeological Sites

Once the resources have been restored to an acceptable state of conservation, a plan of maintenance activities will be prepared, in function of the characteristics of the site and of the specific conservative plans. [. . .]

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The Site Manager as the Person in Charge of Maintenance

The Site Manager is the key figure in the management process of the site [. . .] [and] the person responsible in the final analysis for the construction and implementation of the maintenance plan.

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The *Site Manager* has developed specific managerial capacities through:

- personality factors,
- experience in the field,
- basic academic studies in archaeology or architecture,
- post-university specialisation in management.

The *Site Manager* also knows how:

- to mediate different interests and perspectives,
- to manage the human and economic resources available,
- to assume the responsibility for the actions undertaken,
- to exchange information and communicate,
- to be proud of the site that he manages.

The figure of the *Site Manager* is able:

- to operate transversally co-ordinating and making the various professions cooperate and communicate,
- to have the support of the population and of the local authorities,
- to deal with the local context and the surrounding environment,
- to create a balance between conservation requirements and requirements of use of the site,
- to identify the various professional figures with whom to cooperate, identifying their roles and responsibilities, programming and defining the formative curriculum of each professional figure,

Maintenance Procedure Model

Analysis of the context

Field of analysis: Global history of the site; its evolution in terms of research, management and use

Elements of analysis:
- archaeological structures: constructive and decorative elements
  component materials
  previous restoration and maintenance activities
  present installations on the assets [roofs, water drainage, microclimate, etc]
  natural and anthropic vulnerability factors (various uses)

- infrastructures and services for the line management and visits:
  security devices (fencing, alarms, etc.)
  fire prevention systems
  management of the parkland [irrigation, etc.]
  lighting
  signposts
  visiting routes
  exhibition buildings
  ticket office, hospitality and information points, bookshop, etc.
  refreshment services, toilets, etc.

Data base processing and data organisation

- Mapping of the elements to be maintained: archaeological structures
  infrastructures and services

- Identification of the maintenance operations: direct and indirect action
  continuous/periodic and extraordinary actions

- Operational scheme of the activities with chronological diagram (Gantt chart)

Professional resources
- Person in charge of the service
- Specialists by risk factor categories
- Person in charge of the archive
- Surveyors
- Technical operators
- Etc.

Financial resources
- For the analysis
- For the maintenance project
- For the maintenance operations
- For the professional update of the human resources
- Etc.

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- to draw up and implement specific projects concerning the site that he manages.

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Planned Maintenance and Development of the Territory

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A correct management must know how to guarantee a balance between all the values, in order to avoid the two extremes: on the one hand the consumption of the resource, on the other its isolation from the territorial complex due to protection and conservation reasons. The management system of the archaeological sites must, therefore, implement a co-ordination of the activities that take place within the parks (conservation, protection and use), with those for guaranteeing the environmental equilibrium of the territory, placing itself in an area of integration of a number of skills, interests and perspectives, of different institutional subjects.

The relation between planned maintenance and development of the territory must therefore be understood as maintenance of the territory, of the inhabited areas, of the natural environment, of the infrastructures and of the services, of the craft and food-and-wine traditions. Within this reference picture, planned maintenance appears as an operation of protection and enhancement which on the one hand can produce the restoration of portions of the site to visits, so obtaining an increase in the overall number of visitors, but which can also effectively contribute to the creation of 'tourist systems', by dividing and at the same time increasing the offer, so opening new perspectives of knowledge of the site itself and of the entire territory.

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John Stewart, Sarah Staniforth,
and Janet Berry

Chedworth Roman Villa: A Methodology for the Monitoring of *In Situ* Mosaics (2003)

Interventions may not achieve their intended conservation aims or may indeed have unintended harmful consequences. Monitoring is an essential, ongoing conservation practice, and a prerequisite for effective maintenance, but one that is rarely practiced. Stewart, Staniforth, and Berry outline an integrated methodology for the monitoring of in situ mosaics that are within protective enclosures. Their article describes the use of both continuous and intermittent climatic monitoring to diagnose catalysts of decay and to identify aspects of the conservation intervention that may be deleterious. A monitoring program will test the effectiveness of previous measures as well as provide a reliable data source on which future interventions will depend.

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Monitoring Objectives

The National Trust acquired the [Chedworth Roman] villa in 1924 by public subscription. It currently has three enclosures and two shelters dating from the mid 19th to mid 20th centuries. The 19th century presentation predominates. This is of historical interest being an early example of site preservation in the UK. How-

ever, the standards of presentation and of preventive conservation provided by the protective structures are well below those that are considered acceptable today.

There are two options to improve this situation. One is the modification of the existing enclosures and shelters. The other option is their replacement with a new, all-encompassing enclosure. In either case, the understanding of the existing environment and deterioration processes is critical, in the specification of any modifications to existing structures or design of a new building.

Description of the Site

The villa was founded in the second half of the 2nd century AD. It was discovered by chance in 1864, and was exposed over the following two years. Sporadic excavations continued in the 20th century. Two enclosures and one shelter date from the 1860's, as does the Hunting Lodge, which contains a small museum with excavated artefacts. A third enclosure was built in the 1960's. These enclosures consist of timber frame structures on masonry wall bases. Lastly, a tent covers Room 26, known as the living room, which has a very extensive network of hypocaust pilae. The tent was intended to provide temporary protection from frost and rain, and a new isolated enclosure was planned to be built over it. This was the result of piece-meal excavation and lack of a coherent plan for excavation, conservation and presentation of the site.

There are four exposed mosaics within enclosures in the villa, and remains of others outside which have been reburied in the past. The most important exposed mosaic is that in the *triclinium*. This represents Bacchic scenes and the four seasons. This is one of the most important mosaics *in situ* in the country, and as most of it has been little modified in modern times, the pavement retains its archaeological authenticity. There are also substantial remains of Roman plaster in the villa.

Soluble salts, microbiology, and freeze-thaw cycles due to freezing temperatures potentially affect these porous materials of limestone and ceramic tesserae, and lime plasters. As these require water as a catalyst, the occurrence of moisture in its various forms is a fundamental parameter of the monitoring programme.

The relationship of the mosaics to the ground and moisture from the ground is complex. Water may originate from the natural springs around the site, from dispersed rainwater, or from faulty drainage systems connected to roof gutters. There are three different configurations:

- Mosaics with no hypocaust (continuous contact with the ground).
- Mosaics over cleared hypocausts (little contact with the ground).
- Mosaics over hypocausts, which are still largely filled (discontinuous contact with the ground).

Furthermore, the design of the enclosures and shelters varies in their properties of insulation, ventilation, and artificial heating.

- One type of enclosure is heated and ventilated; the heating system consists of overhead radiant heaters, activated by a thermostat at 5° C to prevent freezing of the pavements.
- Another type of enclosure is unheated and partly ventilated.
- Finally there are two open shelters, with free ventilation, and no protection from freezing temperatures (these have no mosaics).

Planning Methodology

This monitoring programme is part of a larger conservation strategy. Monitoring needs to be based on knowledge of all components of the site, their extent, and condition. At Chedworth, recording of the villa and the site entails several surveys. Some of these are:

- A conventional geophysical survey to determine the location of buried features (e.g. undocumented drains).
- A survey of reburied mosaics to clarify their extent, condition and method of reburial.
- A hydrogeological survey to characterise the nature of local geology, the composition of ground water and natural hydrology of the site.
- A drainage survey to ascertain, through non-destructive means, the location and condition of historical and modern drainage networks, and their interaction with roof drainage systems. The main instrument used was the videoimagescope, which uses a tiny video camera to produce high-resolution images.

The next stage of this conservation strategy is the condition survey. This records condition with the objective of identifying manifestations of decay, their scope and relative importance. At Chedworth, there is the need to quantify the relative risk posed by soluble salts on the one hand, and microbiology on the other, two processes which require very different control mechanisms. Both are affected by humidity. Crystallisation and hydration of soluble salts occur at particular relative humidities specific to them, and mixtures with other salts.[1] Two of the survey components are as follows:

- Moisture and salt survey in masonry and mosaics to determine their quantity, their composition and hygroscopicity of the salts.
- Mosaic radar survey to quantify, through non-destructive means, the condition of the *triclinium* mosaic, which has structural voids and fractured stone hypocaust bridges. This was achieved by impulse radar.[2] Although survey

data is subject to interpretation, it has provided a basis for emphasizing the fragility of the pavement, the archaeological integrity of which should be preserved with minimal intervention.

Monitoring Components

These various surveys are the foundation of the monitoring regime at Chedworth, which comprises both continuous and intermittent monitoring, and is intended to encompass the ancient building fabric, the museum with its artefacts, and other aspects of the site.

Monitoring of mosaics on an archaeological site must take into account the fact that they are at the interface of two environments: the ambient exposed environment and the buried one. The mosaic's decorative surface, as interface, is precisely where the mechanisms of decay are concentrated (biological growth, soluble salt activity). Therefore, the programme attempts to understand decay in terms of ambient climate as well as moisture originating from the ground.

Continuous monitoring employs an integrated wireless system based on radio telemetry. Data from different monitoring stations is transmitted at hourly intervals to a central data logger. The data is downloaded at three-monthly intervals and is calculated and interpreted.

The following parameters are monitored:

- *Ambient climate*

   For external climate, rainfall is recorded by means of a tipping rain gauge, and air temperature and relative humidity by sensors with their own transmitter.

   For the internal environment, surface temperature of mosaics and wall plaster is recorded by means of temperature sensors insulated and held in place with inert foam, which is fixed to the surface with Paraloid B72, acrylic co-polymer adhesive. Sensors inside another transmitter record air temperature and relative humidity. This data permits the calculation of dew point temperatures and the prediction of incidences of condensation on the surface.

- *Masonry (capillary) moisture*

   For the monitoring of mosaic and masonry moisture variations, trials are underway with a relative humidity probe designed to monitor the drying of concrete in new construction.[3] A 16 mm hole is drilled into the structure, into which the probe is inserted. A cable to the radio transmitter connects the probe. Relative humidity is not a quantitative measure of moisture content. However, as there are no affordable, accurate instruments to measure masonry moisture, this is a trial to determine if data recorded by the chosen

instrument will make moisture originating from precipitation distinguishable from moisture from ground water. It will be compared with data collected by the external rain gauge.

- *Hydrology*

    There is also some scope for experimenting with the monitoring of site hydrology. The hydrogeological and drainage surveys characterised this as a relatively well drained site, but with a complex system of local springs and possible drain defects. Therefore, soil moisture content is probably the most important parameter to monitor. One simple method to measure soil moisture is with electrical moisture cells, which were developed for agricultural purposes;[4] they measure change of electrical resistance of a porous material due to variations in moisture content. Readings can be made by a data logger or manually on a portable meter.

    Other forms of monitoring were considered. Air exchange is an important parameter in the different enclosures, but recording this was considered to be technically difficult and beyond the means of the project.

    These are the existing, and proposed methods of continuous monitoring. There are two forms of intermittent monitoring which have also been initiated.

- *Monitoring of microbiology*

    There is extensive microbiological growth throughout the villa, some of which is clearly related to seasonal phenomena of penetrating moisture, and/or condensation. Conventional methods of monitoring growth require the removal of samples from the surface.

    A non-destructive method to record microbiological growth is being tested at Chedworth and other sites by the Opto-electronics Research Group, School of Applied Sciences, at the Robert Gorden University in Scotland. This utilises a hand-held fluorometer, which detects algal growth by causing it to fluoresce. The original system utilised an ultra-bright blue Light Emitting Diode (LED), which induces the fluorescence of chloropyl-a in micro-organisms on a porous substrate. Their relative concentration can be recorded and plotted.[5] The demonstration model developed at Robert Gorden University is being further refined with other European partners as part of a European Community funded project. The research group will monitor control areas on the mosaics for growth, and it is intended to compare this with our environmental data.

- *Mosaic dimensional change*

    Lastly, there is concern for the detachment of areas of the *triclinium* mosaic and bulging of its *tessellatum*. It is uncertain if this is an ongoing pro-

cess. In order to monitor any topographic change in the mosaic, a method is being applied which was developed by the Photogrammetric Unit of English Heritage.[6] English Heritage is the statutory agency responsible for the protection of built heritage in England.

Photographs of the mosaic, taken in stereo pairs, will be scanned by English Heritage. When converted to digital images, a digital orthophoto can be produced (photogrammetric contour model superimposed on a photograph). This is viewed three-dimensionally on a digital photogrammetric workstation. The method allows the precise elevation of each tessera to be read. This data can be compared with that from a subsequent survey. Subtraction programmes can be applied to the two data sets to identify any change in elevation that may have occurred throughout the mosaic.

Conclusions

This review has summarised the current and evolving approach for monitoring a complex archaeological site with mosaics. Certainly, the whole story will never be known and the collection of data needs to be contained to a reasonable limit. At the very least, monitoring can confirm suspicions, or identify general trends.

Any changes to an existing equilibrium should only be made if there is a sound understanding of the processes of decay, including the environment within which they operate. In the case of Chedworth, this is particularly important if the existing shelters and enclosures are replaced with a comprehensive modern structure. Monitoring is very common in the museum environment and in the interiors of some historic buildings, ancient tombs and caves. Effective and efficient models are needed for monitoring, as required, the environments of mosaics, and other features in situ on archaeological sites, prior to any critical intervention.

Notes

1 Price, Brimblecombe 1994.
2 Finzi, Massa, Morero 1992.
3 Bungey 1992.
4 Davis 1998.
5 Wakefield, Brechet 2000.
6 Clowes 1997.

Bibliography

Bungey (J.H.), 1992, *Testing concrete in structures. A guide to equipment for testing concrete in structures. CIRIA Technical Note 143*, London, Construction Industry Research and Information Association.

Clowes (M.), 1997, Mosaicing the Mosaic – Roman restoration goes digital, *Surveying World* 5, issue 4, p. 36–37.

Davis (M.), 1998, *In situ* monitoring of wet archaeological environments: a review of available monitoring techniques, in *Preserving Archaeological Remains* in situ. *Proceedings of the Conference of 1st–3rd April 1996. Museum of London Archaeology Service – University of Bradford*, eds. M. Corfield, P. Hinton, T. Nixon, M. Pollard, London, Museum of London Archaeology Service, p. 21–25.

Finzi (E.), Massa (Y.) and Morero (D.), 1992, Radar-aided investigations on mosaics, in *Proceedings of the 7th International Congress on Deterioration and Conservation of Stone. Lisbon, 15–18 June 1992*, eds. J. Delgado Rodriques, F. Henriques and F. Telmo Jeremias, Lisbon, Laboratorio Nacional de Engenharia Civil, p. 969–978.

Price (C.) and Brimblecombe (P.), 1994, Preventing salt damage in porous materials, in *Preventive Conservation. Practice, Theory and Research. Preprints of the Contributions to the Ottawa Congress, 12–16 September 1994*, eds. A. Roy and P. Smith, London, International Institute for Conservation, p. 90–93.

The Cultural Values of Archaeological Sites: Conflict and Resolution

Society's views of the cultural values of archaeological sites affect the perception of appropriate, and inappropriate, conservation measures. Archaeological sites can have a range of cultural values—informational, aesthetic, historic, social, spiritual—that may not be harmonious, posing challenges to decisions about conservation techniques. The issue for archaeological site conservation is that retaining value can mean completely different things for different constituent communities or cultural groups. Although international doctrines such as the Venice Charter have been propounded as "universal," the conservation interventions they promulgate can be highly detrimental to cultural values that are not vested in fabric. Even when there is general agreement that the fabric of the site—the excavated ruin, the Aboriginal rock art site, or the Buddhist stupa—is important, ideas about the best way to "conserve" this fabric will differ greatly between and within cultures, depending on the values ascribed to it. Conservation of informational or historic values will indicate minimal intervention and respect for the "patina of time," while conservation of the social or spiritual values might require fabric renewal or fabric modification to conserve ongoing use.

Archaeologists, conservators, and other professionals such as architects may hold vastly different views on the cultural significance of the same place and the manner in which it should be conserved. These views, in turn, can differ from those of the general public or sectors with particular ownership rights or concerns. The significance of cultural heritage places in living communities (irrespective of the cultural context) is often not related primarily to archaeological or informational values and may be in direct conflict with the opinions of the "expert."

Archaeological heritage managers have a privileged position; decisions about conservation almost invariably align with their perceptions of significance. The Western view of heritage value is dominant in the international heritage management discourse and is reflected in doctrines such as the *Operational Guidelines to*

Shrine at The Bayon, 2007. The ongoing use of ancient temples and statues forms part of a continuing cultural and spiritual tradition at Angkor, Cambodia. Photo: Richard Mackay

the World Heritage Convention and the *International Charter on Archaeological Heritage Management*. This systemic dominance has been exacerbated by the professionalization of archaeology and by the incorporation of expert (rather than community) values in legal and administrative cultural heritage management systems.

There are particularly sensitive cultural issues surrounding the excavation and conservation of sites containing human remains. The challenge is to find the correct balance between the scientific and humanist values attributed to such sites and the remains they contain. The excavation and study of human remains can provoke emotionally charged, disparate, and strident positions with no middle ground, even among people from the same cultural group. However, there are success stories, and these typically involve acknowledgment of the perspective of different stakeholders and their active participation in management decisions.

The readings in Part IV offer insights into these issues and illustrate the ways in which different values may be ascribed to an archaeological site, the consequences of this ascription, and outcomes for site conservation and management. The selected readings provide examples of the conservation and management of sites with different values, the conflicts that may arise with fabric-focused conservation practice, and inspiring examples of techniques and approaches for resolving the conflict inherent in diverse understandings of the values of archaeological sites.

Perspectives

Sir—the abhorrence with which I formerly regarded the wanton destruction of the venerable, mysterious, awe-inspiring tumuli in Yorkshire by Canon Greenwell has been painfully revived by a paragraph in the Times of November 2 which informs me that the work of destruction and spoliation of these Celtic memorials of remote past ages has been carried out for a month and is still carried on, by the indefatigable Canon, the Rev C. W. Lukis of Wath and other so-called archaeologists, at Rudstone near Bridlington, on the estate of Sir Henry Boynton.

Busy as I am and only a humble individual, (and 'unbeneficed' after a clerical career of 17 years), I must beg you to allow me this opportunity of making a public protest against such vandalism, and worse than this, for the various hordes of barbarous and uncivilised tribes which, with age after age, invaded our land, reverently respected and spared those sacred resting places of our ancient British ancestors—the mighty warrior, the great chieftain, the Patriarch of his tribe. These, forsooth, one after another must now be sacrilegiously violated and lost to all future generations of real 'archaeologists' (unless you will kindly interpose) by insatiable curiosity, a morbid taste, an ill-regulated will, and a selfish mis-appropriation of what ought to be accounted national monuments and sacred and inviolable memorials of our race and ancestry.

It puzzles me to think how men of right feeling, of any religion, of disciplined will, can possibly allow these teachers of religion to practice so irreligious and sacrilegious an act.

Here we see men in holy orders, who, as such, are supposed to teach the doctrine of the Resurrection, having plenty of leisure, act as recklessly as if they believe it not.

After 30 years of love and pursuit of antiquities I must, I fear, no longer venture to esteem myself to be an archaeologist, if this is archaeology and if these infatuated men are archaeologists.

I have the honour to be, Sir, your obedient servant, Alfred Vaughan Walters Winchester

—*The Times* (12 November 1870)

Sir,—all archaeologists will sympathise with the spirit in which Mr. Walters protests against the wanton destruction of ancient monuments.

From ignorance of the facts however he does a great injustice to Canon Greenwell. The truth is that the Yorkshire tumuli are being gradually pared down

by the plough and that many relics of antiquity which would thus have been destroyed have been preserved by the energy of Mr. Greenwell.

I cannot follow Mr. Walters in his theological objections to Mr. Greenwell's researches, which he stamps as 'irreligious and sacrilegious' and contrary to the 'doctrine of the Resurrection'.

I should have thought that Mr. Walters might have given a brother clergyman credit for treating the relics of the dead with respect; for my own part I care little whether 2000 years from hence my bones are crushed by the plough or dug up by some future Greenwell and placed in a Museum—though, as a matter of choice, I should prefer the latter.

It would be interesting to know whether Mr. Walters supposes that the condition of the ancient Britons who were buried centuries ago in the York-shire tumuli can be influenced by the zeal of archaeologists or the use of a steam plough.

I am Sir your obedient servant,

J. L. [Sir John Lubbock?]

London

—*The Times* (13 November 1870)

[Howard Carter describes an emergency excavation of several royal mummies to prevent theft]:

The tomb was cleared; the Kings were embarked upon the museum barge; . . . They were landed in Cairo and were deposited in the museum.

It is a familiar story, but worth repeating, that as the barge made its way down the river the men of the neighbouring villages fired guns as for a funeral, while the women followed along the bank, tearing their hair, and uttering that shrill quavering cry of mourning for the dead, a cry that has doubtless come right down from the days of the Pharaohs themselves.

—Howard Carter and A. C. Mace, *The Tomb of Tut-ankh-amen* (1923)

It would appear that this document [the Venice Charter] was written in the context of the western approach to this matter, and in fact runs counter to the very basic philosophical tenet of the Chinese perspective of the world. If a certain validity is ascribed to the Chinese approach—and we would argue that this cannot be denied—then the Venice Charter should not be looked upon as the universal document, applicable across the human experience, but rather as one which has been written to address western experience only.

—Chen Wei and Andreas Aass, "Heritage Conservation East and West" (1989)

As I visited these beautiful, ancient and spectacular sites [of Greece and Rome], the use of the word 'archaeological' to describe them seemed increasingly strange. These sites have often been found or elucidated by archaeological research, and have great value because archaeologists can use survey and excavation to extract important results. But the actual value is not archaeological: archaeology is just the method by which we access the informational value and find out more about the cultural value.

It is these broader cultural values (of which informational or research value is only one) it seemed to me, as a wide-eyed visitor to the Old World, to be the most important overarching value of these sites. This includes their value as a source of pride to the people of the region and as an educational tool for them and other visitors. It includes their value as historical markers, and their important symbolic richness. So I would be inclined to call them "heritage" sites rather than archaeological sites, and to manage them for the conservation of all these values.

> —Sharon Sullivan in Nicholas Stanley Price and Sharon Sullivan, "Conservation of
> Archaeological Sites in the Mediterranean Region: A Conference Organised by the
> J. Paul Getty Trust" (1996)

The basic means by which [. . .] cultural inheritance is retained and transmitted can occur either as tradition, the mechanism by which valued tangible and intangible aspects of culture are internally handed down within a given society over time, or as conservation, a self-conscious critical act often viewed apart from tradition and based on an outside appreciation, or valorization of the place or thing often by cultural or temporal "outsiders." . . .

With the development of international, though largely European-based, principles and doctrinal charters, conservation practices focused on the preservation of material remains and the effects of time on the physical fabric. In recent years, this approach is being challenged in its preference for the monumental and its neglect of the associated emic values and intangible qualities accompanying many traditional sites. Yet by viewing all history as continuous change, conservation can seek ways to make the past relevant through both critical distance and empathetic engagement.

> —Frank Matero, "Exploring Conservation Strategies for Ancestral Puebloan Sites:
> Tsankawi, Bandlier National Monument, New Mexico" (2003)

For archaeologists the significance of material culture lies in its usefulness or lack of usefulness as data for research. For many other groups, material culture provides physical resources, linked to history and the past, which are drawn on in an active process to create, recreate, or maintain cultural and social identities.

[. . .]

In the United States and Australia, indigenous and other interest groups have over the two last decades increasingly lobbied government heritage agencies for a more active role in the management of their heritage. . . . [A]rchaeological notions of heritage value and significance based as they are on processional science, provide little intellectual room for the inclusion of knowledge systems and values not encompassed by logical positivist frameworks. This situation then has the potential to increase conflict and tensions between archaeologists and indigenous or other interest groups with a cultural and historical stake in the past. . . . For conflict resolution in CHM [cultural heritage management] to be inclusive of a wider range of non-archaeological values, archaeologists must reposition themselves in the CHM process. [. . .] Rather than maintain the position of objective experts and utilising a discourse embedded with processional ideology, archaeologists may need to critically question their positions of power and renegotiate their position as 'experts' relative to other interest groups such as indigenous people.

> —L. Smith, "Archaeological Significance and the Governance of Identity in Cultural Heritage Management" (2005)

Much of the role of archaeology worldwide and its relationship with history and traditions hinges on perceptions of the value and role of material culture. However, in doing so, the discipline tends to focus on physical evidence as the data set, rather than on other values that the place may have for its constituent stakeholder communities. Archaeologists have long trumpeted the potential of the discipline to contribute to history. But does archaeological analysis and investigation enrich the community? Is it a public good? Is there not a real danger that in fulfilling obligations that may arise from statutory controls or in pursuing evolving technology and science, archaeology can become introspective, derivative and little more than self-serving, rather than providing a wider public or community benefit?

> —Richard Mackay, "Whose Archaeology? Social Considerations in Archaeological Research Design" (2006)

By this time I was beginning to feel as if I was in full tour mode and just stringing practised sound bites together, when I came to a display case that housed an assortment of sewing equipment. I had seen and described these items hundreds of times before. There were needles, needle cases, hand carved instruments, buttons, thimbles, straight pins, and marbles. As I was explaining the assemblage, I also explained how a woman named Gracie, who was purchased by Jackson in Washington, D.C., was known for her phenomenal seamstress skills. I was about to tell the story of her role in the larger enslaved community when one of the members of the group moved towards the case and studied it closely. As I turned

to look at her, she raised her head and said with a steady voice "Gracie was my ancestor and why we are here today." At the same moment, I felt as if we were the only ones in the gallery. It began to hit me, Gracie was not a seamstress, Gracie was a human being, a mother, grandmother, great-grandmother of people like the ones on my fifth tour of the day. A younger woman stepped closer to the case and asked if I was saying that Gracie may have touched these items. I couldn't answer, instead, I shook my head and we all stood there in silence, realising the connection between strangers, a personal bridge made possible by artefacts in a display case. The material, the archaeologist, the descendants, all gathered on a plantation museum in Middle Tennessee—I was never the same.

— Whitney Battle-Baptiste, "The Other from Within: A Commentary" (2007)

Academics should cease collecting more and more esoteric information and interpreting it for the consumption of fewer and fewer people. . . .

Those involved in Aboriginal studies are in a particularly sensitive situation. They should not pretend that their studies are objective when the overwhelming factor in the lives of Aborigines is oppression by the society of which the anthropologist is, to a greater or lesser extent, a part of. Cross-cultural human relationships tend to be scarred by this social fact. . . .

This oppression parallels the colonisation of this country and embraces the planning of the policy makers and industry, the implementation of those plans, and finally the subjugation of the Aboriginal people. It is a continuum which affects all Aborigines and present examples include tourism, forestry and mining plans for Arnhem Land, mining activities at Gove and Weipa, alienation of land in New South Wales and Victoria. . . .

It is this situation that makes the possibilities for humanising anthropology in Australia seem drastic and difficult. Anthropologists should, we feel, see their primary obligation as being to those from whom they gain knowledge and whose existence they are dependent on in what might be called (to borrow a phrase) 'intelligent parasitism.'

. . . Aboriginal communities having commissioning rights and control of funding over studies made on them and their cultural property is, we believe, the only way of ultimately altering the present unsatisfactory relationship between the anthropologist and Aborigines. This relationship is basically the privileged member of the oppressive society studies the oppressed and gives information to other members of the oppressive society, often to the principal villains (government, mining, industrial, pastoral, real-estate and tourist interests) themselves.

This must change.

— Eaglehawk and Crow, Open Letter Concerning the Australian Institute of Aboriginal Studies (1974)

Although also bound by Federal Law in evaluating the significance of places the law considers cultural properties, tribal communities often consider the same landscapes either more or less important or significant for very different reasons. For example Indigenous descendent communities may not necessarily value the tangible attributes of a cultural property for its potential to yield western scientific data, especially if the data and the knowledge yielded fall outside the bounds of that culture's cosmological and/or epistemological system. Additionally the value of a particular landscape for Indigenous communities may or may not be identifiable through the inventory of tangible evidence associated with that particular landscape: lack of visible physical remains on or within a particular landscape does not necessarily equate to lack of value for Indigenous descendent communities. In fact, it is often just as likely that the value of a landscape could not be assessed by anyone outside the particular Indigenous community that values it. But often because of the current lack of meaningful communication between CRM personnel and Native American tribes, descendent communities have little or no voice in defining the "value" of most places within their own traditional lands. Because cultural resource management law has primarily concerned protecting places and things of importance to majority culture without regard for an understanding of the Indigenous and Indigenous descendent worldviews, frustrations frequently arise when Indigenous Native American communities try to use the existing legal system, most usually CRM legislation, to protect those landscapes important within their own communities.

> —D. L. Teeman, "Cultural Resource Management and the Protection of Valued Tribal Space: A View from the Western United States" (2008)

In Thailand as in many other parts of the non-Western world the discourses of science and the supernatural can be practiced simultaneously, and by millions of people they are so practiced. The practice of one does not necessarily lead to the collapse of the other; and the idea that they are antithetical is one of the conceits of western modernity. . . . [I]n the course of everyday life Thais participate in and practice the public discourse of heritage while simultaneously practicing supernatural Buddhism. For example, people visiting the iconic heritage site of Sukhothai in central Thailand participate willingly in the state sponsored narrative of this ancient religious centre as the first capital of the Thai nation while at the same time venerating and propitiating individual structures and objects within the complex as supernaturally empowered entities. This display of cosmopolitanism on the part of ordinary Thai folk stands in contrast to the manner in which archaeologists and heritage practitioners tend to police a strict taxonomy aimed at preventing the archaeological meaning of the material past from being contaminated by supernatural meaning. Like the 19th-century missionaries, we archaeologists put our faith in the incompatibility of science and the supernatural. One effect of this is that it

prevents local practice from having a say in heritage management but another is that it denies heritage practice the richness of discourse plurality and contributes to the experiential and intellectual aridity and blandness that characterize heritage practice.

—Denis Byrne, "Archaeology and the Fortress of Rationality" (2009)

The kind of monument creation that emerged from the major wars of the last century can, however, be seen in a different light. They mostly do not represent the effort of 'detached' professionals at public preservation but the efforts of those directly involved to make some kind of sense of, and to help overcome, the horrors of which they were a part. . . . [T]he battlefields of the First World War Western Front (1914–1918) and of Western Europe after D-Day (1944) were not originally marked as 'historic battlefields' because to the visitors in the years immediately following those wars they represented not history but current events.

The focus of professional and academic preservation is inevitably, objects which become divorced from their context of construction and use. It is the same whether one is dealing with a portable object or a vehicle or place. Intriguing battlefields, weapons, ships, aircraft or tanks—the thing is treated as if it can be separated out from all other categories of things and retained, examined and understood as something separate from the rest of experience. This seems to work quite well as an approach for the more distant past where our own emotional and experiential involvement is limited, but it presents problems when dealing with the warfare of our own age. This is the paradox[,] . . . the separation of the sense of recent or contemporary lived experience from the objects that were an integral part of creating that experience.

—John Carman, "Paradox in Places: 20th-Century Battle Sites in Long-Term Perspective" (2002)

One of the reasons for holding this conference ["Respect for Ancient British Human Remains"] is that Pagan groups in the United Kingdom are increasingly advocating with museums and archaeologists to be consulted when ancient burials are chosen for excavation, for more respectful treatment of ancient human remains in museums, and, in some cases, reburial of those remains. There are several such groups, some more radical and uncompromising than others. What is common to them is an animist concept of the dead. While some museums and archaeologists are receptive to dialogue and consultation, showing that there is indeed potential for collaboration and mutual understanding, others are more dismissive and unwilling to accept that such groups have any 'right' to advocate for those remains. This museum [Manchester Museum], for example, has received heavy criticism from archaeological and heritage bodies for even organising this conference, for

allowing the issues to be debated. Yet, the grounds for such dismissal are exclusively embedded within a dualist/materialist world-view, which assumes the right of archaeology to have excavated the remains in the first place, and now seeks 'scientific' proof of genealogy, cultural or ethnic connection to allow a community group to advocate on their behalf. Archaeology requires groups to provide evidence of their links to human remains on its own, materialist terms, in the classificatory, taxonomic language of science: genealogy, culture, ethnicity, in which the age of the remains is crucial. It does not accept the dead as continuing to be persons in their own right, nor does it accept the animist concept of connection with ancestors, neither of which notions are couched in the language of dualism or materialism. It's a classic Catch 22 situation: you must provide evidence of your connection to the remains, but we reject all evidence you provide as outside our world-view.

> —Piotr Bienkowski, "Persons, Things and Archaeology: Contrasting World-Views of Minds, Bodies and Death" (2006)

W E B B E R   N D O R O

Managing and Conserving Archaeological Heritage in Sub-Saharan Africa (2011)

Inadequate understanding of the full range of values of archaeological sites may lead to poor decisions and conflict. The following reading on the conservation of archaeological sites in sub-Saharan Africa by Webber Ndoro is a historic overview that traces the replacement of precolonial traditional conservation practices with imported European conservation principles. These principles vary depending on the legislative regime of the colonizing country but have in common the privileging of a different and much more limited set of values, with some unforeseen and sometimes destructive consequences. Colonial legislators and managers, intent on the potential research values of the sites, often allowed enthusiastic archaeological activity without conservation and failed to acknowledge the traditional values or to facilitate their expression. Ndoro illustrates the damage caused by a conservation methodology that does not align with all the values of the archaeological site.

Introduction

The archaeological heritage of sub-Saharan Africa finds expression in numerous forms that range in antiquity from million-year-old paleontological sites such as Sterkfontein (South Africa) and Olduvai Gorge (Tanzania) to the more recent historical monuments such as Timbuktu (Mali) and Great Zimbabwe (Zimbabwe) and dramatic sacred landscapes like the Nigerian Osgobo Groves (Taboroff and Cook 1993). These places and monuments have yielded spectacular objects that are windows through which humanity's spiritual, technological, and social past can be accessed. Some of these archaeological objects are now scattered in famous museums of the world such as the British Museum and the Smithsonian. When

combined, this archaeological heritage is an important resource crucial in nation building (Garlake 1982) and in generating revenue through heritage tourism (Nzewunzwa 1990; Ndoro 2000; Chirikure and Pwiti 2008).

This paper briefly discusses traditional conservation practice in sub-Saharan Africa and contrasts it with colonial and postcolonial efforts.

In the Beginning: Heritage Management and Conservation in Precolonial Africa

One of the most commonly held misconceptions is that there was no heritage management and conservation in precolonial Africa (Ndoro 2000; Joffroy 2005; Chirikure and Pwiti 2008). And yet when the Western ways of management began, the continent was replete with archaeological heritage, most of it in a sound state of preservation and management. There was a system of elders or chiefs and custodians who looked after important heritage resources. There was a deep sense of community ownership as different segments of communities took part in conserving different aspects of the heritage, whether royal palace walls or revered shrines (Eboreime 2005; Kigongo and Reid 2007). Conforming to the local ethos, some precolonial conservation practices included intervention in the heritage fabric by rethatching deteriorated roofs and plastering mud brick walls of buildings (Musonda 2005). This ensured the long-term survival of buildings such as the famous mosques of Timbuktu. It was the cyclical interventions to provide maintenance and prevent deterioration that made places survive rather than the rigorous ethos of modern conservation practice.

The case of Benin City in Edo State, Nigeria, is another example of traditional management systems. This site had walls and earthworks of approximately six thousand kilometers that radiated from the capital. The capital itself was surrounded by three monumental mud walls (Eboreime 2005). These walls have a deep antiquity and were regularly plastered and painted to neutralize the effect of torrential rains. They were considered impenetrable until the British siege of 1897. The kings, or Obas, then sought refuge in the outlying villages, and the walls were abandoned. In 1961 the walls were declared a national monument under the federal Antiquities Department, and the community was prohibited from maintaining the walls; according to archaeologists, this would interfere with their authenticity. By contrast, the villages to which the Obas retreated were well managed and well respected. The people identify with these and not Benin City, which has suffered from successive acts of vandalism.

Perhaps the most interesting example of archaeological heritage protection in precolonial Africa is that of the Ndebele monarchs Mzilikazi and Lobengula, who in the years before colonialism kept a garrison on what became the margins of the World Heritage Site of Khami to look after the site.

These traditional systems of management have persisted even today in most places, though some have been eroded by modernity. There are increased calls to integrate them into the modern "scientific" methods of management and conservation.

Heritage Management and Conservation in Colonial Sub-Saharan Africa

In the late nineteenth century European expansion led to the partitioning of the vast sub-Saharan latitudes into spheres of influence for different European powers. Southern and eastern Africa were dominated by the British colonies, western and central Africa primarily by the French. Squeezed in between these were colonies of other countries such as Belgium and Portugal.

The colonialists became interested in the archaeological heritage of the colonized, and the settler community launched large archaeological projects at promising sites, with the result that the conservation of monuments developed as an appendage of archaeology (Hall 1910; Chittick 1974) and was largely ad hoc. The long history of excavations at such places as Great Zimbabwe, Kilwa, the Rift valley sites in eastern Africa, Janne-Janne, Maroe, and Mapungubwe left major scars on the fabric and landscapes of these archaeological heritage places. Some of these early, haphazard excavations facilitated the looting of archaeological objects. The Ancient Ruins Company, formed by the British South Africa Company to prospect for gold and valuable antiquities at Zimbabwe-type sites in Rhodesia (present-day Zimbabwe), caused massive damage to the physical fabric and the deposits of the sites. Spectacular archaeological objects such as the famous Zimbabwe birds were looted and presented to Cecil Rhodes as gifts; other objects found their way to the British Museum.

This Zimbabwean case had parallels in West Africa. In 1897 the British Expedition to Benin led to large-scale looting of the so-called Benin bronzes and other impressive art forms. The remaining ones were burned together with the town. The British officers brought back to Great Britain bronze statues from the Ife culture. This practice was continued by the German anthropologist Leo Frebenius in 1910–11.

Although its violent beginnings resulted in the pillaging of archaeological heritage, colonialism led to the establishment of legislation to control the largely destructive excavations, protect the fabric of sites, and stop the trade in archaeological objects (Negri 2005). This trend closely followed developments in Europe. In Rhodesia, an outcry at the activities of the Ancient Ruins Company precipitated the promulgation of the first heritage legislation in the country in 1902 by the British South Africa Company, followed by the construction of a museum in Bulawayo in the same year. This was the beginning of the establishment of legislative regimes in all the colonies. The adoption of such legislation and administrative

bodies was by no means uniform across sub-Saharan Africa. There was a time lag in the establishment of some legislation; for example, most of Francophone Africa enacted legislation only in 1956 (Shyloh 1996). But by independence a smorgasbord of legislation could be found in sub-Saharan Africa, which formed the cornerstone of heritage protection and conservation in colonial Africa. Ironically, colonialism itself had largely created the need for such legislation. Space precludes a detailed description of this legislation; it varied widely in content and methodology depending on the country of origin of the colonizers. The legislative regimes had good intentions in common but clearly reflected their European origins. The system valued Western science at the expense of local values. Virtually none of the legislation had a place for local communities' values and customary systems in the management and conservation of heritage: these were in most cases regarded as superstitious and irrelevant to conservation and research. This omission created conflicts and contestations at some places where the legislation had disenfranchised locals from their heritage. A good example is the rock art site of Domboshava, which was used as a rain-making shrine by the locals. The proclamation of the site as a national monument took away the community's rights to use the site, leading to a series of conflicts (see Ndoro and Taruvinga 2003).

Legislative regimes were paired with the establishment of many Western-style institutions to study and curate archaeological heritage. For example, in Dakar, in French West Africa, the Institut Français d'Afrique Noire (IFAN) was established, and the British Institute of Eastern Africa was established in Nairobi. The idea of conserving the archaeological heritage also led to the establishment of various museums and antiquities departments on the continent in the 1920s, for example, the Nigerian Antiquities Services and the Kenya National Museum. Most of these organizations were responsible for the administration and management of archaeological sites as well, for example, the National Museums of Togo and Ghana.

The official task of heritage management and conservation thus fell on the shoulders of colonial elites who had vast tracts of land to cover in surveying for sites and protecting them. Were they more successful than the traditional systems? There were many problems and vicissitudes, as illustrated by the colonial history of heritage management of Great Zimbabwe.

In 1902, it was precisely the issue of site management and conservation that led to the seconding of Richard Hall, an amateur historian, to Great Zimbabwe, not to conduct scientific research, but to preserve the buildings in order to make them attractive to tourists. However, Hall (1910) quickly devoted his efforts to amateurish excavations because of the sensational controversies associated with the authorship of Great Zimbabwe. Owing to the racist theories of African incapacity, it was thought that the monument was exotic in origin and once occupied by the queen of Sheba (Mahachi and Ndoro 1997; Hall 1910). These excavations caused extensive damage to the deposits and led to the disposal of several tons of archaeological deposits because they were of indigenous manufacture. Hall's methods caused out-

rage, prompting the British Society for the Advancement of Science to dispatch a professional archaeologist, Randall-McIver (1906), to carry out proper excavations. McIver noted the damage caused by a series of authorized and unauthorized excavators on the site. Despite concluding that Great Zimbabwe and related buildings were medieval in date and by implication local in authorship, McIver could not sway popular opinion, which deeply invested in the exotic origin myth. Successive workers excavated Great Zimbabwe before independence. Some of the conservation problems affecting the site have their origins in the earlier excavations, which left trenches open and exposed the site to erosion (Ndoro 1997).

In 1909, an architect, Massey (1911), produced a systematic report on the conservation problems at the site and made recommendations for its management. Some of the obvious problems, such as collapsed walls, were caused by cattle and tourists. Massey therefore recommended that a fence be put in place to keep the cattle out and that a visitor center be developed to manage visitors. In addition, he recommended that a resident archaeologist be assigned to take care of the site and that the collapsed walls be restored (Massey 1911).

Between 1914 and 1931, Sergeant Wallace was employed as the curator of Great Zimbabwe. Some of the erosion problems at Great Zimbabwe derive from Wallace's well-intentioned efforts, aided by the Public Works Department, to stabilize the walls on the Hill Complex by removing the earthen structures leaning on the walls. By 1928, a hotel, a traditional village, and a curio shop and site museum had been built, and [by] the 1960s Great Zimbabwe was a major tourist destination in the country. However, little consideration was given to archaeological deposits, as the focus was the dry stone walls. Effective management of the site was prevented by the fact that it was directed by the National Parks Service, which viewed it as a scientific specimen, just like the fauna and flora, without reference to its cultural significance. At one point, prisoners looked after the site. In addition, the traditional custodians were shut out (literally), a practice only gradually rectified after independence (Ndoro 1997).

Developments in Other Parts of the Subcontinent

The discipline of archaeology in South Africa was well developed by the colonizers. However, even there, the beginnings of heritage management and conservation were at best ad hoc. Perhaps a good example is the case of Mapungubwe, a cultural landscape whose archaeological remains are supposed to be the predecessor of the Great Zimbabwe complex, where successive excavators also caused massive damage to the archaeological heritage of the site. Conservation is not just about restoring the fabric of collapsed monuments. It is also about making sure that the landscape of the site is properly managed. The massive excavation trenches at Mapungubwe were not backfilled, resulting in erosion problems. Some of the famous objects, such as the Mapungubwe gold rhino, were removed from the site for "safe" keeping

by the archaeologists. Ironically, at this site also the local community was removed to ensure the protection of the "scientific" values. The same problem occurred in Kenya: enthusiastic research was conducted, but excavations were not backfilled.

Elsewhere in southern Africa, Mozambique, which was under Portuguese rule, did not have any proper archaeological practices and certainly no conservation practices. Those British colonies without a sizable settler population did not have proper management structures until the mid-twentieth century. For example, Tanzania got its first antiquities department in 1957, with Neville Chittick appointed director. Between this time and 1960, he focused on the conservation of buildings at Kilwa Khisiwane. Notable reconstruction work was done in the Great Mosque where fallen architectural elements were put back into place. In some cases rebuilding was done to ensure the stability of surrounding walls (Chittick 1974). Despite good intentions, no mention is made of conservation ethics. The local communities were used only as laborers; they were not consulted about the restoration work.

In Nigeria and some West African countries, emphasis was on the objects, given the long traditions of art in these regions of the subcontinent. Colonial Nigeria was not, however, forthcoming in conserving monuments, as illustrated above in the case of Benin City.

There were some exceptions. One good example of traditional heritage management and conservation continuing during the colonial period is that of Barotseland in western Zambia. The colonial authorities used a policy of indirect rule that placed a huge responsibility for administration on the traditional authorities. As a result, the Barotseland chiefs, or *indunas*, had jurisdiction over site management. They appointed officials who looked after heritage sites such as royal palaces. These officials then organized the whole community into sections responsible for making repairs to different royal palaces (Musonda 2005). This participation engendered a deep sense of ownership of the heritage, which ensured its protection.

In summary, heritage conservation and management during the colonial period was often poor, resulted in harm, and generally had no place for host communities as they were not seen as owners of the heritage. Often their traditional know-how was sidelined in favor of Western scientific principles. At independence, this alienation created contestation over who owns the heritage.

Postcolonial Heritage Management and Conservation

Even after independence, there was no break from the colonial system as countries often inherited the colonial legislation of previous regimes. Some countries such as Lesotho and Malawi are still using colonial legislation.

In other countries it was realized that colonial legislation had many loopholes. In 1979 the military government in Nigeria amalgamated Nigeria's antiquities laws and enacted Decree 77. In addition to being tough on the antiquities trade,

the law gave host communities the power to authorize archaeological research on their lands. This legislation is markedly different from many postcolonial legal instruments that authorized specialists to do whatever they deemed necessary irrespective of community wishes.

At independence, many African countries realized the importance of their history in inculcating a sense of national pride in their citizens. For example, Zimbabwe was named after the famous archaeological site of Great Zimbabwe. As a result, heritage protection and conservation programs were given an added impetus, but they were faced with several challenges that curtailed their success. In addition to the limitations of the laws inherited from the colonial era, many African governments were contending with huge responsibilities such as the need to alleviate poverty and to provide improved service delivery. This meant that funds were not always available for heritage conservation when compared to the more pressing bread-and-butter issues. Also, archaeological heritage was threatened by modern development. With the exception of South Africa and Botswana, no strong predevelopment impact assessment programs existed.

Archaeologists and heritage managers in Kenya and Tanzania have lamented the destruction of settlements during the construction of up-market houses and golf courses (Mturi 1996). In most cases the legislation for heritage impact assessments is weak if not nonexistent. Perhaps it is heartening that the World Bank is insisting on pre-development heritage impact assessments on all the projects it funds. Examples where such work has been carried out are the Volta Basin in Ghana, the area to be flooded by the Kafue Dam in Zambia, the Lesotho Highlands Water Project, and the Tuli Block Roads Project in Botswana (Taboroff and Cook 1993). However, there is a need to develop capacity in this area by helping countries to build inventories.

In most of eastern and southern Africa archaeological heritage sites once declared as such are generally fenced off from the general public. The application of the UNESCO World Heritage Convention in Africa has tended to perpetuate the management practice of discriminating against local communities. This was the case with the site of Kondoa Irangi in Tanzania. The Kondoa Irangi area, along the Masai escarpment bordering the Great Rift Valley, contains a very impressive concentration of rock art shelters with prehistoric paintings. The sites were declared national monuments in 1937 in recognition of the exceptional qualities of the paintings. The hunter-gatherer art in the area is related to shamanistic belief systems. The so-called late white paintings, which in Kondoa are often superimposed on the hunter-gatherer art, are related to initiation ceremonies in the agriculturalist period. Despite the fact that the paintings as individual elements seem not to have any significant meaning to the inhabitants of the area, who no longer paint, at least some of the sites have spiritual significance for the local agropastoral Irangi. Sacrificing goats to ancestor spirits as part of healing ceremonies is an ongoing practice at Mungumi wa Kolo site. There has thus been continuity

in terms of use and function. The rock shelters form part of the cosmology of local inhabitants. These activities have never been recognized by the Department of Antiquities, and once Kondoa was declared a World Heritage site there were rigorous attempts to enforce the ban on healing ceremonies. The millet spatters resulting from the ceremonies are considered detrimental to the preservation of the paintings and their scientific value. So unless the community's aspirations are taken into account, there will always be antagonism over management. Their belief systems need to be recognized by Tanzanian legislation and the World Heritage List to enable all the values of the rock art to be protected.

The same attitude and practice is evidenced at the site of Tsodilo (Mountain of Gods) in Botswana. In 2001 Tsodilo, famous for its rock art, was named a World Heritage cultural landscape. The protected area was the home of the San, and the Hambukushu used it as hunting and grazing areas and for worship to their ancestors. Their access to what they had considered their ancestral lands was by one stroke of the pen taken away from them. The area was fenced off, and the communities had to change their lifestyles. Certain activities deemed detrimental to the conservation of the rock art but central to their religion are not permitted.

However, in many places in Africa today a more traditional conservation practice is in play. Most West African heritage places are managed or looked after by the local community, with very limited effort from the government or some central authority. For example, the World Heritage sites in Nigeria, the Osogbo Groves and the Sukar cultural landscapes, are under traditional or customary management systems.

In Ethiopia, perhaps because it experienced limited colonization, communities look after the cultural heritage places, with minimum supervision from the central authority. Places such as Lalibela, Aksum, and Gondar are managed without driving the people away, and the Ethiopian Orthodox church plays a part in the management of major heritage places.

The Kasubi Tombs in Uganda are another example of a place whose management is steeped in traditions. The site is located in the center of Kampala, the urban capital of the country. Until recently, under the king of the kingdom of Buganda, traditional custodianship and stewardship systems have always ensured the continued existence of the site of the Kasubi Tombs and all its values. In 1993 the traditional laws of the kingdoms were restored and their cultural property (including tombs) returned. With this restoration of power, the traditional management system applying to Kasubi was reinstated. In terms of management, the traditional clan members carry out regular maintenance through the agency of the prime minister of Uganda, who coordinates activities, including repairs. The clans carry out the thatching of the tomb houses, wrap bark cloth on support poles, and do other odd jobs to maintain the site. This reliance on traditional management and conservation systems has meant that the authenticity of the structures has

been maintained. And although we would expect modern encroachment and perhaps desecration of the traditional site, thanks to a series of taboos that protect it, this has not happened.

In summary, despite setbacks and problems, traditional management regimes are often still in operation or are being revived.

Looting of Archaeological Objects

Poverty has fueled an illicit trade in African antiquities from the 1960s to the present. Given the economic situation on the continent, this use of archaeological resources was seen as one way to put much needed food on the table. Archaeological objects such as works of art were traded clandestinely with international dealers. Museums were robbed of their collections, which turned up on the lucrative market for antiquities (Eze-Uzomaka 2000). Things got worse in countries such as Mali, where on the discovery of terracotta in the 1970s, international art dealers formed cartels with local communities designed to plunder archaeological sites (Brent 1996). This precipitated the destruction of the archaeological heritage to the extent that an inventory carried out in the 1990s revealed that about 80 percent of the sites in the Inland Niger Delta of Mali had been looted (Sidibe 1996). Nigeria, another country affected by the plundering of archaeological sites, has tried to enact tough legislation, but this has proven ineffective as the gangs involved are very powerful (Shyloh 1996). It was the plundering of Africa's past through illegal trade in antiquities that galvanized the international community. UNESCO, through its member states, promulgated the 1970 Convention on the Prevention of Illicit Trade in Antiquities. Other conventions such as the UNIDROIT Convention have also been enacted. But international law is weakened by the fact that some of the affected African countries and major buyers of the antiquities have not ratified the conventions, rendering them toothless. However, there is a dawning recognition that using archaeological sites to earn revenue through tourism is a more sustainable option. Acting on this principle, the government in Mali has started education programs and achieved remarkable results in its attempt to stem the tide of illicit trade.

One of the interesting cases of looting of archaeological objects in colonial times and later restitution is that of the Aksum obelisk. By 1936 Mussolini's army, which invaded Ethiopia in 1935, had managed to carry the Aksum obelisk to Rome, where it was erected. The obelisk, which weighs 160 tonnes and stands 24 meters high, is around 1,700 years old and has become a symbol of the Ethiopian people's identity. The looting of the obelisk became an international issue, and Ethiopia demanded its return. The Italian government agreed to return the obelisk to its original place in 2005. However, it took another four years (2009) before the reinstallation could be done under the auspices of UNESCO. To the people of

Ethiopia the return of the obelisk represented a triumph in their struggle for their identity. This also represents one of the few successful returns of cultural property to an African state.

Conclusion

In many ways the introduction of the Western practice of conserving and managing archaeological sites in Africa is intertwined with the history and introduction of the discipline of archaeology on the continent. The colonial origins of archaeology have had an impact on the way archeological sites and materials have been handled. In most cases the need for scientific research was considered more important than conservation and management. The local communities were in many ways regarded as largely a living museum of the past and subject to study and classification, just like the excavated artifacts. They were not considered to have anything to do with the archaeological resource. The movement to study and conserve archaeological resources was therefore external, driven by foreign or international institutions. It is important to note the observation by Trigger (1990) that during the colonial period and even today almost all the archeologists operating in Africa are of European origin. The few who are from Africa were trained and educated in Western institutions. The same can be said of those conducting the conservation and management of archaeological resources. The funding too has largely come from European and American institutions, and this has ensured that the conservation principles applied are largely based on documents emanating from the West. It is therefore not surprising that traditional systems of conserving and managing archaeological resources have largely been ignored. Another problem is that very few African universities do active research in heritage management and conservation. The number of African universities teaching archaeology has increased, but there are very few specialists trained in heritage management. It is this lack of research and training that likely accounts for the lack of development of local solutions to problems blighting management and conservation in Africa. The challenge therefore is to integrate local ethos and knowledge of conservation and management into mainstream heritage management systems.

References

Brent, M. 1996. A view inside the illicit trade in African antiquities. In *Plundering Africa's Past*, ed. P. Schmidt and R. McIntosh, 63–78. London: James Currey.

Chirikure, S., and G. Pwiti. 2008. Community involvement in archaeology and cultural heritage management: an assessment from case studies in southern Africa and elsewhere. *Current Anthropology* 49 (3): 467–85.

Chittick, N. 1974. *Kilwa: An Islamic Trading City of the East African Coast*. Vol. 11. Nairobi: British Institute in Eastern Africa.

Eboreime, J. 2005. Nigeria's customary laws and practices in the protection of cultural heritage with special reference to the Benin kingdom. In *Legal Frameworks for the Protection of Immovable Cultural Property in Africa*, ed. W. Ndoro and G. Pwiti. Rome: ICCROM.

Eze-Uzomaka, P. 2000. *Museums, Archaeologists, and Indigenous People*. Oxford: Archaeopress.

Garlake, P. 1982. *Great Zimbabwe Described and Explained*. Harare: Zimbabwe Publishing House.

Hall, R. N. 1910. *Prehistoric Rhodesia*. London: Fisher Unwin.

Joffroy, T., ed. 2005. *Traditional Conservation Practices in Africa*. Rome: ICCROM.

Kigongo, R., and A. Reid. 2007. Local communities, politics and the management of the Kasubi tombs, Uganda. *World Archaeology* 39 (3): 371–84.

Mahachi, G., and W. Ndoro. 1997. The socio-political context of southern African Iron Age studies with special reference to Great Zimbabwe. In *Caves, Monuments and Texts: Zimbabwean Archaeology Today*, ed. G. Pwiti, 89–107. Uppsala: Department of Archaeology and Ancient History, Uppsala University.

Massey, W. 1911. An architect's notes. *Proceedings of the Rhodesian Scientific Association* 11: 37–56.

Munjeri, D. 2004. Tangible and intangible heritage: From difference to convergence. *Museum International* 56: 1–2, 12–20.

———. 2008. Introduction to international conventions and charters on immovable cultural heritage. In *Cultural Heritage and the Law: Protecting Immovable Heritage in English-Speaking Countries of Sub-Saharan Africa*, ed. W. Ndoro, A. Mumma, and G. Abungu. Rome. ICCROM.

Musanda, S. 2005. Customary systems of heritage conservation: the Barotseland experience, Zambia. In *Legal Frameworks for the Protection of Immovable Cultural Property in Africa*, ed. W. Ndoro and B. Pwiti. Rome: ICCROM.

Mturi, A. 1996. Whose heritage: conflicts and contradictions in the conservation of historic structures, towns and rock art in Tanzania. In *Plundering Africa's Past*, ed. P. Schmidt and R. McIntosh, 151–60. London: James Currey.

Ndoro, W. 1997. The evolution of management policy at Great Zimbabwe. In *Caves, Monuments and Texts: Zimbabwean Archaeology Today*, ed. G. Pwiti, 89–107. Uppsala: Department of Archaeology and Ancient History, Uppsala University.

———. 2005. *The Preservation of Great Zimbabwe: Your Monument, Our Shrine*. Conservation Studies 4. Rome: ICCROM.

Ndoro, W., and P. Taruvinga. 2003. The vandalism of the Domboshava rock painting site, Zimbabwe. *Conservation and Management of Archaeological Sites* 6 (1): 200.

Negri, V. 2005. An overview of formal legislation on immovable cultural heritage in Africa. In *Legal Frameworks for the Protection of Immovable Cultural Property in Africa*, ed. W. Ndoro and G. Pwiti. Rome: ICCROM.

Nzewunzwa, N. 1990. Archaeology in Nigerian education. In *The Excluded Past: Archaeology in Education*, ed. P. Stone and R. Mackenzie, 33–42. London: Unwin Hyman.

Randall-MacIver, D. 1906. *Mediaeval Rhodesia*. London: Macmillan.

Schmidt, P., and R. McIntosh, eds. 1998. *Plundering Africa's Past*. London: James Currey.

Shyloh, V. 1996. Cultural heritage legislation and management in Nigeria. *International Journal of Cultural Property* 5:235–68.

Sidibe, S. 1996. The fight against the plundering of Malian cultural heritage and illicit exportation: national efforts and international co-operation. In *Plundering Africa's Past*, ed. P. Schmidt and R. McIntosh, 79–86. London: James Currey.

Taboroff, J., and C. C. Cook. 1993. *Cultural Property and Environmental Assessments in Sub-Saharan Africa: A Handbook*. Environmental Assessment Working Paper No. 4. Technical Department, Africa Region. Washington, DC: World Bank.

Trigger, B. 1990. The history of African archaeology in world perspectives. In *A History of African Archaeology*, ed. P. Robertshaw, 309–19. London: James Currey.

Denis Byrne

Buddhist *stupa* and Thai Social Practice (1995)

Byrne observes that the ICAHM Charter seeks to preserve the in situ integrity of archaeological material (i.e., depositional context) and that the Venice Charter aims to ensure that existing form and fabric are retained. However, neither is necessarily appropriate to Thailand, where a different ethic prevails. Western archaeological conservation practice assumes universal validity for the Western conservation ethic. Byrne suggests that this assumption arises from the exclusion of other voices—not necessarily an East/West divide but fundamentally different discourses. Byrne's principal example is the stupa, a Buddhist religious monument, devotees of which see its integrity and continuity as spiritual in nature and therefore not reliant on the preservation of fabric. Byrne suggests that similar differences in discourses exist in Western conservation practice and contends that multiple and mature discourses on the material past already exist in the space archaeology depicts as a void. As Byrne puts it, "What archaeology intends, really, is not education but re-education." He suggests that if anything is common to the relationship that present societies have with the traces of past societies, it is that this relationship constitutes a fissured, multivocal, and contested domain. This argument, an increasingly common one in archaeological conservation and management, has profound implications for the analysis of the cultural heritage values of archaeological sites.

Thai Buddhism, the *stupa* and the Conservation Ethic

The ICAHM Charter (International Committee on Archaeological Heritage Management) of 1990 has joined the 1966 Venice Charter in providing the doctrinal

basis for the Western world's efforts in conserving archaeological sites and monuments (Cleere 1993). Very briefly, the ICAHM Charter, with particular reference to 'in ground' sites, seeks to preserve the *in situ* integrity of archaeological material, while the Venice Charter aims to ensure that the existing physical fabric of buildings and monuments is retained and protected, especially during restoration programmes. It might be said that the former emphasizes depositional context while the latter emphasizes original form and fabric.

In each case the documents reflect concerns which are specific to fields of archaeology, art history and conservation architecture as they have developed in the West over the last 150 years or so. Each nevertheless propounds a universal validity for the conservation ethic which it enshrines, and each embodies the confident belief that humanity in general both values and needs the material remains of its past. The opinion of the various populations of the non-West seems never to have been canvassed on this matter. Instead, non-Western professionals in the relevant fields, based in the universities and heritage agencies of the non-Western world and generally drawn from relatively small urban elites, are assumed to be able to speak for them. While not suggesting that these archaeologists—my reference in what follows will mainly be to archaeology—are necessarily Westernized, it seems reasonable to say they share and subscribe to broadly the same methodology, theory and values as their Western counterparts. In other words, they speak the common language of archaeology, or variations of it. For this reason, the totalizing ambition of the conservation ethic should not be seen simply as an aspect or outcome of Western imperialism.

If the West has been mistaken in thinking that the conservation charters have global applicability—a proposition I will go on to argue with reference to Thailand—this is largely a result of an archaeological discourse acting hegemonically to exclude other discourses, other 'voices', whose salient characteristic in this context is that they do not conceive or construct the objects in question as archaeological (Byrne 1993). These alternative discourses include those of the antiquarian collectors and those, also, of the local religious systems which frequently hold the objects to be animated by various forms of supernatural power. The term 'discourse' is used here in the Foucauldean sense to refer to a formation of language, thought and practice which produces a certain form of knowledge, a certain form of truth (Foucault 1970). One advantage of conceiving of archaeology as a discourse (rather than, say, a 'discipline') is that it places it on an equal footing with Thai Buddhism as a giver of meaning to *stupas*. The accent is on the plurality and simultaneity of knowledges acting on the physical traces of the cultural past, the traces themselves being innocent of meaning. My contention is that the struggle to achieve management control over the material past is one which takes place not across East-West, national, or cultural lines but across or at the borders of different and often competing discursive formations.

The *stupa* as it has existed in Buddhist Thailand provides an opening to explore this matter. I propose in what follows that the continuity which the *stupa*, as a religious monument, represents is primarily spiritual in nature and has little to do with the physical continuity of its fabric or form. The ethic of merit making in Thai Buddhism, moreover, puts a premium on the proliferation, reconstruction and rebuilding of *stupas*—practices which routinely imperil or consume the original fabric and structure of old and often ancient *stupas*. If these practices stand in radical alterity to the tenets of the Venice Charter, then the *'in situ'* clauses of ICAHM meet their match in the habit of amulet seeking: frequently containing caches of valuable amulets, old *stupas* are often smashed open in the quest for them, the amulets then going back into circulation as tradable sacra. Finally, I suggest the Thai state has developed a discourse of national heritage in the context of which it assumes the role of protector of certain ancient *stupa*. In this role it may oppose those practices mentioned above. But, also, because it is the look of age rather than the fact of age which the state privileges, its restoration programmes are sometimes opposed by archaeologists and art historians on the grounds that, rather than simply conserving or stabilizing ancient structures, they produce fanciful reconstructions.

Thai *stupas*: Origins and Form

Groups living in the Chao Phraya valley of central Thailand (Fig. 1) had developed a trade relationship with India by the early first millennium A.D. The foundations of *stupas* of laterite and brick have been excavated at such sites as U Thong (Coedès 1928) and Oc Eo (Boisselier 1968), indicating the practice of Theravada Buddhism by the seventh century. The *stupas* had been raised by Mon speakers of the Dvaravati 'culture' which endured in central and north-east Thailand till the ninth century, when the area came under the control of the Angkorean empire and under the influence of the Angkorean mixture of Mahayana Buddhism and Hindu cult worship. By the time of the collapse of Angkor in the second quarter of the thirteenth century, the Thai, moving south from Yunnan, were already established in what is now northern Thailand and were practicing a Sinhalese-influenced Theravada Buddhism. In the following centuries, this Theravada tradition spread with the Thai into the central [plain]; it was institutionalized in the successive kingdoms of Sukhothai, Ayudhya and Bangkok, and became the common religion of around 94 per cent of contemporary Thai citizens.

The *stupa* is central to Theravada religious architecture. Tradition has it that, following his cremation, the Buddha's remains were divided into eight parts and distributed to various rulers to be enshrined, probably within the type of burial mound which had long been used as royal tombs. King Asoka (r. 274–236 BC) is subsequently supposed to have redistributed the relics over a wider area, and the

Figure 1
Map of Thailand showing places mentioned in the text. Courtesy Denis Byrne.

'mounds' built to enshrine them at this time took the form of stone or brick *stupas*. *Stupas* (Pali: *thupa*) in India take the form of hemispheres standing on raised platforms and reinforced by gateways at the four points of the compass. In Southeast Asia they range in form from low rounded domes to bulb shapes and, most common in Thailand, bell shapes. In their solid construction they retain the original concept of the burial or memorial mound.

Ranging in size from modest constructions a few metres high to giants rising to over a hundred metres, the total number of *stupas* in Thailand (where they are known as *chedi*) must run to hundreds of thousands. Every Buddhist monastery, of which there are more than 30,000 in the country, has at least one and very often several of them. While obviously not more than a very few of these could contain relics of the Buddha, most contain small, scaled inner chambers into which miniature statues of the Buddha, votive tablets, and sometimes gold and silver amulets are placed at the time of construction, The smallest *stupas* in a temple compound are those built to contain the ashes of ordinary pious Thais.

Endurance and Power in the Sacred Topography

The indigenous animist cults presumed to be ubiquitous in the area of Thailand prior to the advent of Buddhism were not obliterated by the new religion nor were they assimilated to it. The two coexisted, which is to say the accommodations and tensions between them were in some form of balance (see, for example, Tambiah 1970; Wijeyewardene 1986; cf. Spiro 1967 for Burma).

Paul Mus has proposed that in South and Southeast Asian religions, the sacred place remains more sacred than whatever deity is attached to it at a particular time (1975: 15); not so much is there a 'god of locality' as that 'the locality itself is a god' (1975: 11). The nature spirits (in Thai: *phi*) reside in mountains, streams, trees, fields, houses—in fact, in almost any distinguishable feature of the natural and cultural landscape. The *phi* can be contacted through mediums and are propitiated in rites which centre on the small house-like shrines erected to them (e.g., Davis 1984; Tambiah 1970; Wijeyewardene 1987). The 'cadastral cult' (Mus 1975: 21) remains tenaciously attached to those hill and mountain tops upon which *stupas* have been erected, perhaps in an effort to domesticate the *phi*. The *phi* shrines commonly stand side by side with the *stupas*—the shrines, indeed, are present in the compounds of most Thai temples and monks frequently lead or participate in the propitiary rites at them (see Gosling 1983: 17 and Woodward 1991: 429–30 on the honouring of *phi* at Sukhothai; cf. Grayson 1992 for Korea). This superimposition of *stupas* on *phi* sites finds a parallel in European prehistory where monumental cursuses, for instance, were on occasion built over the top of earlier ritual earthworks (Bradley and Chambers 1988: 274), in some sense honouring the dead of former societies or the 'powers of place' (McMann 1994: 534).

Buddhists 'colonized' the remains of such Khmer religious structures as the monumental stone sanctuaries at Phimai and Phanom Rung (Keyes 1991) in north-east Thailand by populating them with Buddha images, by holding Buddhist festivals at them and by establishing monasteries next to them. Angkor itself was occupied in the nineteenth century by Buddhist monks under the patronage of Bangkok (Reynolds 1979: 201–2). Currently Angkor Wat has two Buddhist temples within its precincts, both of which have *stupas*; and a small *stupa* has been constructed immediately behind the rear gallery of the ancient complex itself (in a rite directed at cleansing the participants of their accumulated demerit [see Lester 1973: 143]; in January 1994, local Buddhists could be observed building small sand *stupas* adjacent to this *stupa*).

The connection between a relic of the Buddha and the Buddha's person enables the radiant power of the Buddha to flow down through time; the historical association between Buddha relics and *stupas*, together with the broad architectural similarity between early and later *stupas*, allows the *stupa* to serve as a vehicle for this flow. The radiant power also flows out through space. In the plan of the *stupa* this flow is symbolized architecturally by concentric spheres radiating out from the axis, like ripples spreading out from the point at which a dropped stone enters a pool of water; the concentric rings of a *stupa*'s spire, dome and terraces represent a series of 'waves' or 'pulsations' emanating from the axis (Snodgrass 1985: 19). The power, which ultimately is the fiery power of the Buddha, not only moves out from the relic (or the objects symbolizing it) to the fabric of the containing *stupa* but flows on outward to the temple complex which contains the *stupa*, and even into the town which contains the temple (Pruess 1976: 25). A *stupa*, whether or not it has been built on the site of a *phi* shrine, is thus an empowered object in its own right, partly through having been ritually sacralized at the time of its consecration but mainly by virtue of this chain of symbolic connection.

The radiant flow may be further reified in local practice. When the That Phanom shrine, a tower-like *stupa* located near the Mekong River in north-east Thailand, was restored in 1901, fragments of brick and plaster which had exfoliated from its surface were taken and used in the construction of a small *stupa* nearby (Pruess 1976: 72). Fragments were also taken by local people as objects of veneration, a custom widespread in the north-east: 'those who build *stupas* at their local temples bring candles and incense to venerate the Relic and ask for bits of plaster . . . to install within the *stupa* as an auspicious mark of well-being' (Pruess 1976: 72). Similarly, Terwiel (1975: 80) records a case where stucco fragments knocked off a temple building by a lightning strike were carefully collected by monks, ground up and mixed into a compound for the manufacture of amulets. Chronicles commonly record instances where certain relics have miraculously subdivided or replicated themselves, a single *stupa* (as relic-shrine) thus 'seeding' numerous others. The relics of saintly monks (*arahants*) are also enshrined within *stupas* and are

credited with powers of replication and miracle-working similar to those possessed by relics of the Buddha (Tambiah 1984: 127)—a situation reminiscent of that pertaining to saints' relics in medieval Christian Europe (Stopford 1994: 60–1).

The Imperative to Construct

Temple chronicles in northern Thailand tell of how the Buddha made airborne visits to the region during his lifetime and predicted or promised that after his death his relics would be sent to certain localities where *stupas* would be raised over them (Pruess 1976: 41). This aside, the great majority of *stupas* in Thailand have been built by pious Buddhists intent upon acquiring the considerable store of merit (*bun*) to be gained from such acts, the acquisition of merit being essential in ensuring a better reincarnation. One cannot alter the karma one inherits but one's actions in the here-and-now will be what determine one's karma later in this life and in the lives which follow. When after their southern expansion the Thai embraced Buddhism, it thus meant making 'the human actor rather than the cosmic order the central focus of religious thought' (Keyes 1987: 34–5).

   In the graded hierarchy of meritorious acts, which include the feeding and clothing of the monks and the sponsoring of ceremonies, first place is given to temple-building (Heinze 1977: 116; Ishii 1986: 18; Tambiah 1970: 146–7), an act which ensures one's inclusion among those who, reborn in the time of Buddha Maitri (Maitreya), will be liberated from the cycle of reincarnation. Amore (1985: 36) suggests *stupa* building is considered even more meritorious than temple building and that the *stupa*'s role as a merit field traces back to pre-Buddhist times when people in India made offerings at royal memorial mounds. Nor is merit making confined to the individual level: temples and *stupas*, in their founding and in their relative splendour, constitute opportunities in which village status, family status and royal status can be negotiated. Unlike Christians, the Buddhist Thai believe a costly act by a rich person is more meritorious than the modest gift of a poor person achieved at greater sacrifice (Hanks 1962: 1248). In order to maintain position and prestige in society, it has been incumbent upon the rich and powerful in Thailand to undertake temple building projects. King Mongkut's (r. 1851–68) building of the great *stupa*, Phra Pathom, at Nakhon Pathom is a case in point. Construction of Phra Pathom lasted sixteen years, during which time Mongkut and Chao Phraya Thiphakorawong, the supervisor of works, lavished their wealth on the project (Phirotthirarach 1983: 95). Mongkut believed his store of merit was equal to the task, and the completion of the project confirmed the truth of this in the eyes of the world and redounded to the prestige of his dynasty, even though he died in 1868, two years before the *chedi* was completed by his son, King Chulalongkorn. The belief that they are fields of merit carries implications both for the proliferation of *stupas* over the landscape and for their fate subsequent to construction.

It can be argued (Byrne 1993: 24–40) that, in certain circumstances, the quest for merit has created a situation in which temple building in Thailand has far outstripped the ability of the *sangha* (the congregation of monks) and the laity either to occupy or maintain the structures. The building of new temples (9,000 of the 26,000 temples in Thailand in 1970 have been built since 1937) implies at least an equivalent increase in the number of new *stupas*—while it is unusual for a temple not to have a *stupa* it is quite common for a *stupa* to be built in isolation from a temple. It might almost be said that merit making is a practice which ushers old *stupas* into a state of ruin. Ruin, however, is preceded by abandonment, and abandonment is the outcome of a complex social process. The state of a temple's merit is determined by a dynamic relationship between the *stupa*, the monks, and the community—what O'Connor describes as the 'nexus of sanctity and community' (1978: 129). While a *stupa* renowned for its power and efficacy in granting favours will enhance the prestige of a temple and its monks, the fate of the *stupa* in turn is dependent upon the sanctity of the abbot and monks, as perceived by the community, since this will influence their ability to attract public sponsorship for its upkeep. The community may turn its back on a temple whose clergy is unpopular, ultimately forcing the monks to abandon it. The simple fact of a *stupa* being a sacred object is not in itself enough to ensure its physical continuity: the effort to fight ruin is selectively directed.

In Thailand's tropical climate the decay of masonry and plasterwork is rapid (though less so in the days since cement has replaced stucco as an outer coating), and a *stupa* which is not maintained will fall quite quickly into a state of ruin. The progression, though, from construction to ruin is by no means linear, mainly because of the sense in which a *stupa* continues to be a merit field long after its construction, and even long after its ruin. Even as a ruin there is always the possibility of a *stupa* or temple being reactivated.

The Necessity and Function of Decay

On his deathbed the Buddha stressed to his followers the inevitability of the decay of all 'component things' and urged them, rather than attempting to fight this, to attend to their spiritual well-being. This, the Buddha's final lesson on impermanence, is often displayed on the walls of Thai temples or on signs nailed to trees in temple compounds. The first of the Four Noble Truths of the Theravada canon similarly warns that all that arises also decays. And yet Thais do routinely intervene in the process of decay, a fact which perhaps indicates a tension between different precepts in their religion. I return to the case of King Mongkut's restoration of the Phra Pathom *stupa* in order to shed light on the nature of these interventions.

Phra Pathom had undergone a number of restorations prior to the nineteenth century (Wells 1975: 37) and may well have incorporated elements of a *stupa* dating from the first millennium AD Dvaravati settlement, traces of which punctuate the

landscape surrounding the present-day small town of Nakhon Pathom which the *stupa* now dominates. In 1854, the year Mongkut began his restoration, the ruin of the existing *stupa* stood forty metres high. It still enshrined a relic of the Buddha and was a well-established pilgrimage site. Archille Clarac (1981: 65) would have it that Mongkut wanted to 'restore' the original structure but, prevented from doing this by its deteriorated condition, instead built a huge 127-metre-high cupola-style *stupa* three times the size of the original and completely enclosing it. By 'restore', Clarac apparently means that Mongkut intended a rehabilitation of the original, which I take to be the 1854 ruin. Clarac's understanding of Mongkut's 'restoration' is thus one which fits broadly within the terms of the Venice Charter to the extent that the fabric and form of the 'original' *stupa* had been the focus of Mongkut's efforts.

I suggest, however, that the restoration Mongkut had in mind was something rather different. His real intention seems eloquently stated in the disparity in size between the original *stupa* and the rebuilt version and in his act of placing on the topmost of the terraces encircling the base of the new *stupa* a miniature replica of the original. The replica also clearly shows the extent to which the new structure departed from the architectural style of the original. Resting there like a tiny pimple on the great mass of the new *stupa* towering over it, it testifies dramatically to the magnitude of Mongkut's achievement; rather than being deflected from an intention to restore the original structure, Mongkut carried through a classic act of Thai restoration, namely a restoration of the idea and prestige of the original *stupa* rather than of the physical form of the 'original'. He produced a copy of the original by a process similar to that described by Griswold for the copying of *buddha* images: the act does not require precision and what precision there is 'tends to diminish as the change in scale increases' (1975: 60).

Mongkut's *stupa* derived its authenticity from the fact that it contained the original relic and stood on the same spot as the earlier *stupa* whose material fabric it contained (consumed, in a sense), and also because certain supernatural indicators authenticated it: a glowing light occasionally appeared around the *stupa* and a drum could be heard sounding within it over the course of the restoration (Phirot-thirarach 1983: 95–6). Guardian spirits sometimes play a mediating role in restoration, as happened in 1901 when the three guardian deities of the That Phanom *stupa* in north-east Thailand possessed a female medium from the local village and through her warned that those obstructing restoration would have their throats cut (Pruess 1976: 72). The situation at That Phanom was that the villages were so in awe of the shrine's power that not only were they afraid to restore it, they avoided climbing on or stepping upon the debris of the ruin for fear of retribution (Pruess 1976: 70). To restore a *stupa* is to act upon an empowered object and one's personal store of merit must be adequate to the task.

Characteristic features of Thai restoration practice are also illustrated in *The Nan Chronicle* (Churatana 1966) which charts the history of the Phu Phiang Chae Haeng *stupa* at Nan from the time of its founding in AD 1357. Written in 1894 by

an official at the court of Nan, the chronicle tells that the first *stupa* was built on a hill to cover a pit into which seven *buddha* relics had been placed together with twenty gold and twenty silver amulets. Subsequently, over a period of 489 years, the *stupa* was twice reduced to ruins and underwent three (perhaps four) rebuildings. The first of these occurred in 1421 when a twelve-metre-high *stupa* was erected by the governor of Nan, encasing the remains of the first *stupa*, which over a period of sixty-four years had been reduced to something resembling an 'ant-hill'. Major restorations were then carried out in 1429, 1560, 1611, 1629, 1795 and 1820, and in 1625 the *stupa* was surfaced with gold leaf.

Encasement by brick, resurfacing with stucco or cement, sheathing with copper and gilding may all be considered variations (in scale) of a single practice of restoration and enhancement in Buddhist Thailand. My contention is that this practice is fundamentally at odds with a Western-derived conservation ethic which would freeze *stupas* in their original form.

It is relevant to note that it was usual in Europe from Roman times until at least the nineteenth century for buildings undergoing renovation or restoration to be elaborated or remodelled, generally in the fashion of the day. For the European restorer of monuments and buildings 'imposed his own idiom' on them, restorations constituting 'an outer garment of varying transparency' (Gazzola 1972: 15). Even in Western society, the conservation ethic is a radical departure from historical practice.

The Social Life of *stupas*

It might be said that the decay, abandonment and eventual ruin of a *stupa* represents a chain of events or processes mediated by an opposing set of processes, namely those of maintenance and restoration. The balance between them, and thus the fate of the *stupa*, depends upon such factors as the reputed efficacy of the *stupa* in bestowing favours on those who revere it, upon the relative wealth of its local patrons, upon competition for patronage by other and perhaps newer and more glamorous *stupas* and temples, upon acts of war which historically have led to the abandonment or impoverishment of settlements and their temples, and upon the ability of abbots and monks to generate patronage. The path of decay can be a slippery one: the deteriorated state of a *stupa* may be taken by people as 'evidence of an exhausted store of merit' (O'Connor 1978: 177), an interpretation which will further deprive it of patronage. Under such circumstances the *stupa*'s brickwork may be scavenged by farmers to be recycled as building material. In the early years of railway construction (from 1892) ruined *stupas* and derelict temple buildings adjacent to the lines were used as ballast for embankments (Damrong 1904; Graham 1924: 178).

So, while Thai religious practice tends to privilege the fabric of a *stupa* over its form, should a *stupa* lose its prestige, even its fabric, while in some way still

considered to be sacred, is likely to be dispersed. This provides a partial context for that phenomenon whereby old *stupas* are 'looted' by those seeking amulets and valuables encased therein. The amulets most commonly take the form of small tablets of fired clay impressed with famous images of the Buddha, images of revered monks and kings, or of famous *stupas*. People wear them around their necks for protection and invulnerability and they are among the most common everyday articles of Buddhist faith in Thailand (Tambiah 1984; Turton 1986). Amulets derive their efficacy from the rites of sacralization performed over them at the time of manufacture, and once they acquire a certain age and rarity they are highly sought after.

It is common to see, in the grounds of abandoned temples, *stupas* into which burrow-like holes have been dug. Rama VI complained about this (Vella 1978: 205). According to Chin You-di, these 'treasure-hunters' had been responsible for most of the destruction at Sukhothai and Chiang Saen and were 'the worst enemies of the ancient monuments in this land' (1959: 27). Chin You-di contrasted the 'pious Buddhists' who placed amulets and treasure within *stupas* with the 'vandals' who subsequently went digging for them (1959: 27). The distinction, though, is problematic. In the first place, the damage done by treasure seekers to the structure of a *stupa* or to the archaeological context of a ruin is purely incidental to their quest—they cannot, therefore, be vandals. They seek Buddhist sacra (i.e., amulets which are animated by power) and treasure: the supernatural efficacy of the one and the cash convertibility of the other. In the modern economy amulets are also convertible to cash, and antiquities such as ceramics, previously worthless, are a new form of treasure.

Griswold addresses himself to the question of why huge numbers of amulets were often sealed inside *stupas* and giant Buddha images:

> They were a sort of electric charge, suffusing the *stupa* or the statue with *teja* [fiery energy]. . . . they were intended to assure the durability, the invulnerability, of the Reminder that contained them: and even if they failed in that, and the Reminder were ever broken open, *they would pour forth* in an explosion of fiery energy, *tega*, conferring their benefits as reminders and protectors far and wide upon future generations.
>
> (quoted in Tambiah 1984: 204, emphasis added)

Those breaking open such ancient *stupa* might, it seems, be seen as releasing the amulets and enabling them to 'pour forth' into the greater world, 'conferring their benefits'. The fact that, if not kept by the discoverer, they might 'pour forth' through the hands of dealers and collectors is beside the point. This would in no way diminish them as sacra because amulets and votive images are sacralized independently of the *stupas* which contain them. In the discourse of the sacred, their value has little to do with their *in situ* context within *stupas*.

It is interesting, finally, that, just as an adequate store of merit is perceived to be necessary for restorers of *stupas*, so, too, is it seen to be a prerequisite for the amulet seekers (Coedès 1926–7: 164). Both activities entail dealing with empowered objects with a degree of caution stemming from a belief that the objects have agency. One must treat with them and not simply act upon them. This is a far cry from post-Enlightenment Western conservation practice in which the assumed passivity of the restored object is a [premise] for the elaborate respect accorded the integrity of the object's physical form, in the case of monuments and structures, and the integrity of its in situ context, in the case of portable artefacts.

The idea—propounded by conservationists—that at a certain point in its life trajectory a stupa becomes an art historical object, its 'authentic' form henceforward frozen in time, finds a counterpart, in the spatial dimension, in archaeology's privileging of the *in situ*. Here it is decreed that at a certain point in its life trajectory, a portable artefact becomes archaeological and may no longer legitimately circulate outside the space constituted by the archaeological discourse.

The *stupa* and the State

From the second half of the nineteenth century, particularly during the reign of Mongkut's successor, Chulalongkorn the Great (r. 1868–1910), and that of Vajira-vudh (r. 1910–25), the Thai monarchy was intent upon reinforcing the perceived lines of connection between Buddhism, the kingship and the modern nation state. Fundamental to this programme was the concept of the *chat*, the Thai cultural-linguistic community, which was thought of as synonymous with the nation and as springing primevally from the soil of Siam (the name 'Thailand' was adopted in 1940). What Anderson (1978: 213) has called the 'conceptual conflation of monarchy and nation' was effected partly by forging links between the monarchy and nobility and the remains of ancient Buddhist structures which dotted the landscape. The sites were assiduously visited, often they were cleared of jungle (another item on the Buddhist list of meritorious acts), and in numerous cases restorations were carried out. The *stupa*, as the Buddhist architectural symbol par excellence, played a significant role in this programme.

This monumentalization of the Thai past by no means ended with the coup of 1932 which replaced the absolute monarchy with an élite of military officers and senior bureaucrats. On the contrary, it might be argued that the very novelty of the new political arrangement made it imperative that it be anchored in some way to the past (see Anderson 1991 and Reynolds 1991 for a review of hegemonic cultural policies in modern Thailand). Hence a programme of restorations at sites such as at Ayudhya and Sukhothai, capitals of former kingdoms, was vigorously pursued. A feeling among some Thai archaeologists and art historians that *stupas* and other structures were being over-restored came to a head during the UNESCO-supported restoration of the complex of ruins at Sukhothai, mostly dating to the fourteenth

century, which was carried out by the Archaeology Division of the government's Fine Arts Department over a period of about ten years from 1974. The 'repairs' which, as Gosling (1990: 29–31) observes, were 'aimed more at beautification than historical restoration' clearly went beyond anastylosis; missing parts of *stupas*, for instance, being 'filled in' with modern materials in order to achieve the assumed appearance of the original, One of the critics of the restoration saw fit to call the Historical Park at Sukhothai a 'mythical park' (Dhida 1987: 40).

Under pressure from its critics, particularly in the pages of the journal *Muang Boran*, the government in 1985 produced the Bangkok Charter, a local set of guidelines for restoration allowing more leeway for reconstruction than permitted under the Venice Charter. It seems clear that the 'over-restoration' of Sukhothai resulted not from the state's ignorance of international conservation conventions but from a systematic pursuance of its own agenda. In bringing Sukhothai back from ruin, the state at Sukhothai was acting to finesse a linkage between its own rule and the benevolent kingship of ancient Sukhothai's King Ramkhamhaeng. Nor is this a recent phenomenon: the state-sponsored restoration of *stupas* at Sukhothai, Chiang Mai, Chiang Saen and a dozen other locations serves to elaborate the network of ancient sites which Prince Damrong first began to 'assemble' in the Fifth and Sixth Reigns (1868–1925) as a form of state patrimony. There is also, I think, a sense in which the state has, through its restoration programmes, paralleled former royal acts of restoration such as King Mongkut's at Nakon Pathom—a sense in which Buddhist ruins remain a form of merit field and in which the heritage discourse operates partly through the established channels of Buddhist practice. When the director of the Sukhothai restoration project justified reconstruction of missing components on the grounds that the statues and structures in question were objects of worship (Musigakama in Fine Arts Department 1985: 3), he signalled the extent to which the heritage discourse in Thailand might differ from its Western counterparts. In any event, it seems plain that the state's interest in the Thai material past is not the same as the archaeologist's.

Conclusions

The call for public education has been a recurrent theme in the literature of archaeological heritage management (Byrne 1991), where both Western and non-Western archaeologists see it as an antidote to 'indifference' and 'apathy' towards the fate of archaeological sites. Posited here, implicitly, is an infantile condition: prior to education a void exists in the public's mind where knowledge of and respect for the material past should be. What I have tried to show in a limited way is that multiple and mature discourses on the material past already exist in the space archaeology depicts as a void. What archaeology intends, really, is not education but re-education.

This plurality cannot be confined—as if it were a manifestation of the exotic—to places like Thailand: in Europe it was characteristic of the social climate in which the conservation ethic gained its first footing. The advocacy which produced the Venice Charter and its predecessor, the Charter of Athens (1931), can be traced directly to the struggle of people like John Ruskin and William Morris in the latter part of the nineteenth century to prevent what they saw as the restorationist excesses of the Gothic Revival from 'disfiguring' the surviving Gothic churches. What they saw as a tide of vandalism was clearly religiously inspired; it put the *idea* of what a church should be above the form and fabric of the actual buildings that had been inherited.

In the last decades of the nineteenth century, at the peak of north-west Europe's global ascendancy, conservationists working through the Society of Antiquaries in London, the Society for the Protection of Ancient Buildings, and similar bodies intervened in Italy, Egypt and Turkey to save old structures from demolition or unsympathetic restoration (Tschudi-Madsen 1976: 77–8, 94–5). Elites in countries which saw themselves as more culturally evolved took upon themselves responsibility for limiting the 'damage' being inflicted on a 'common' heritage by those which were less developed. The expansive universalism which underwrote this stance was subsequently replaced by the familiar internationalism of the Venice Charter and ICAHM; an interventionist conservation ethic gave way to the notion that the general objectives of these charters reflected values and aspirations immanent in all cultures, though education and training might be necessary to ignite enthusiasm. I suggest, rather, that if anything is common to the relationship which present societies have with the traces of past societies, it is that these relationships constitute a fissured, multivocal, and contested domain.

References

Amore, R. C. 1985. The role of merit in Theravada Buddhism. In *Contemporary and Historical Perspectives in Southeast Asia* (ed. A. Chen). Ottawa: Carleton University Printshop, pp. 28–38.

Anderson, B. 1978. Studies of the Thai state: the state of Thai studies. In *The Study of Thailand* (ed. E. Ayal). Center for International Studies, Southeast Asian Series No. 54.

Anderson, B. 1991. *Imagined Communities*. First published 1983. London and New York: Verso.

Boisselier, J. 1968. *Nouvelles connaissances archéologiques de la ville d'U T'ong*. Report to the Fine Arts Department, Bangkok.

Bradley, R. and Chambers, R. 1988. A new study of the cursus complex at Dorchester on Thames. *Oxford Journal of Archaeology*, 7(3): 271–89.

Byrne, D. 1991. Western hegemony in archaeological heritage management. *History and Anthropology*, 5: 269–76.

Byrne, D. 1993. The past of others: archaeological heritage management in Thailand and Australia. Doctoral dissertation, Department of Prehistory and Anthropology, Australian National University, Canberra.

Chin, Y. D. 1959. Thailand. *Asian Perspectives*, 3(1): 27–9.

Churatana, P. 1966. *The Nan Chronicle* (trans. P. Churatana; ed. David K. Wyatt). Data Paper 59, Southeast Asian Program, Department of Asian Studies, Cornell University, Ithaca, New York.

Clarac, A. 1981. *Guide to Thailand* (trans. M. Smithies), First published in French, 1971. Kuala Lumpur: Oxford University Press and D. K. Bookhouse.

Cleere, H. 1993. Managing the archaeological heritage. *Antiquity*, 67: 400–2.

Coedès, G. 1926–7. Siamese votive tablets. *Journal of the Siam Society*, 20(1): 150–87.

Coedès, G. 1928. The excavations of Pong Tuk and their importance for the ancient history of Siam. *Journal of the Siam Society*, 21(3): 195–209.

Damrong, R. Prince. 1904. The foundation of Ayuthia. *Journal of the Siam Society*, 1(1): 7–10.

Davis, R. 1984. *Muang Metaphysics*. Bangkok: Pandora.

Dhida, S. 1987. Sukhothai: a historic city reconsidered. In *Study on Borobudur* (ed. Y. Ishizawa and Y. Kono), Tokyo: Sophia University.

Fine Arts Department. 1985. Final Report: *Third Session of the Working Group for the International Campaign for the Preservation and Presentation of Sukhothia*. Bangkok: Fine Arts Department.

Foucault, M. 1970. *The Order of Things*. New York: Pantheon.

Gazzola, P. 1972. Restoring monuments: historical background. In *Preserving and Restoring Monuments and Historic Buildings*. Paris: UNESCO, pp. 15–28.

Gosling, E. 1983. The history of Sukhothai as a ceremonial centre: a study of early Siamese architecture and society. Doctoral dissertation, University of Michigan, Ann Arbor.

Gosling, E. 1990. Reflections on a golden age. *Archaeology*, 43: 24–31.

Graham, W. A. 1924. *Siam*, 2 vols. London: Alexander Moring.

Grayson, J. H. 1992. The accommodation of Korean folk religion to the religious forms of Buddhism: an example of reverse syncretism. *Asian Folklore Studies*, 51: 199–217.

Griswold, A. B. 1975. *Wat Pra Yun Reconsidered*. Bangkok: The Siam Society.

Hanks, L. M. 1962. Merit and power in the Thai social order. *American Anthropologist*, 64(6): 1247–61.

Heinze, R. 1977. *The Role of the Sangha in Modern Thailand*. Asian Folklore and Social Life Monographs Vol 93. Taipei: The Orient Cultural Service.

Ishii, Y. 1986. *Sangha, State, and Society: Thai Buddhism in History* (trans. P. Hawkes). Honolulu: University of Hawaii Press.

Keyes, C. F. 1987. *Thailand Buddhist Kingdom as Modern Nation State*. Boulder, CO: Westview Press.

Keyes, C. F. 1991. The case of the purloined lintel: the politics of a Khmer shrine as a Thai national treasure. In *National Identity and its Defenders: Thailand, 1939–1989* (ed. C. Reynolds), Monash Papers on Southeast Asia No. 25. Centre for Southeast Asian Studies, Monash University, Melbourne, pp. 261–92.

Lester, C. L. 1973. *Theravada Buddhism in Southeast Asia*. Chicago: Ann Arbor Paperbacks.

McMann, J. 1994. Forms of power: dimensions of an Irish megalithic landscape. *Antiquity*, 68: 525–44.

Mus, P. 1975. *India Seen from the East: Indian and Indigenous Cults in Champa* (trans. I. Mabbett). First published in French, 1933. Monash Papers on Southeast Asia, No. 3, Centre of Southeast Asian Studies, Monash University, Melbourne.

O'Connor, R. A. 1978. Urbanism and religion: community, hierarchy and sanctity in urban Thai Buddhist temples. Doctoral dissertation, Cornell University, Ithaca, NY.

Phirotthirarach, S. 1983. The historical writings of Chao Phraya Thiphakorawong, Doctoral dissertation, Northern Illinois University, Chicago.

Pruess, J. B. 1976. *The That Phanom Chronicle: A Shrine History and its Interpretation*. Data Paper 104, Southeast Asian Program, Department of Asian Studies, Cornell University, Ithaca, NY.

Reynolds, C. J. 1979. Monastery lands and labour endowments in Thailand. *Journal of the Economic and Social History of the Orient*, 22: 190–227.

Reynolds, C. J. 1991. Introduction: national identity and its defenders. In *National Identity and Its Defenders: Thailand, 1939–1989*, Monash Papers on Southeast Asia No. 25. Centre for Southeast Asian Studies, Monash University, Melbourne.

Snodgrass, A. 1985. *The Symbolism of the Stupa*. Ithaca, NY: Cornell University Southeast Asia Program.

Spiro, M. E. 1967. *Burmese Supernaturalism*. Philadelphia, PA: Institute for the Study of Human Issues.

Stopford, J. 1994. Some approaches to the archaeology of Christian pilgrimage. *World Archaeology*, 26: 57–72.

Tambiah, S. J. 1970. *Buddhism and the Spirit Cults in North-east Thailand*. Cambridge: Cambridge University Press.

Tambiah, S. J. 1984. *The Buddhist Saints of the Forest and the Cult of Amulets*. Cambridge: Cambridge University Press.

Terwiel, B. J. 1975. *Monks and Magic*, second revised edition. London: Curzon Press.

Tschudi-Madsen, S. 1976. *Restoration and Anti-Restoration*. Oslo: Universitetsforlaget.

Turton, A. 1986. 'Invulnerability', local knowledge, and popular resistance: a Thai theme in Southeast Asian perspective. In *Proceedings of the International Conference on Thai Studies, Australian National University, Canberra, 3–6 July 1987* (ed. A. Buller). Canberra: Australian National University.

Vella, W. F. 1978. *Chaiyo! King Vajiravudh and the Development of Thai Nationalism*. Honolulu: University of Hawaii Press.

Wells, K. E. 1975. *Thai Buddhism, its Rites and Activities*. First published 1939. Bangkok: Suriyabun.

Wijeyewardene, G. 1986. *Place and Emotion*. Bangkok: Pandora.

Wijeyewardene, G. 1987. The Theravada compact and the Karen. *Sojourn*, 2(1): 31–54.

Woodward, Hiram W. 1991. Ram Khamhaeng's inscription: the search for context. In *The Ram Khamhaeng Controversy* (ed. J. Chamberlain). Bangkok: The Siam Society, pp. 419–37.

E L í A S   M U J I C A   B.

From Theory to Practice: Objectives, Problems and Indicators in the Proof of Authenticity (1999)

Archaeological sites nominated to the World Heritage List must meet the test of authenticity. This test has traditionally been related to aspects of design, material, workmanship, and setting (Operational Guidelines 1995: Par 24, b. 1). In the paper from which this reading is drawn, written for a seminal symposium on the concept of authenticity in the Americas, Mujica takes a different tack by analyzing aspects of authenticity from the point of view of the colonized. Establishing authenticity may be important not only for historic and aesthetic reasons; because authenticity may guarantee the veracity of scientific information used by archaeologists to reconstruct the historic processes of colonized people who have no other record, it can be crucial to the identity of a community. Mujica therefore highlights an important role for archaeological sites in a contemporary context: the roots of indigenous Americans are vested in the archaeological record, and to lose this authenticity is to lose their history.

[. . .] [In this thematic paper] I will concentrate on presenting some critical issues and initiatives related to the application of the proof of authenticity which every cultural resource must meet to be nominated in the World Heritage List, according to article 24.b of the *Operational Guidelines for the Implementation of the World Heritage Convention*. [. . .]

  The problem that I face in writing these lines is that I must take a step forward from the "definition of authenticity" to the "proof of authenticity" without

having any precise definitions, and without any knowledge of what definition or definitions of authenticity will be issued by this symposium in response to the reality of the Americas.

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[. . .] I will divide this paper in two parts. In the first, I will present the different shades that authenticity can have according to the role that any site under analysis plays today—at the moment of being subjected to the test of authenticity. In the second part, and as a conclusion, I will offer a set of indicators that, in my view, support the application of the test of authenticity. They are a set of practical considerations that must be resolved in the field during the test of authenticity, but elevated to a conceptual level. In other words, theoretical considerations of authenticity that are based on practice.

I. The Test of Authenticity vis-à-vis the Diversity of Heritage Resources

Undoubtedly, the diversity of heritage resources that exists in the Americas presents a great challenge to the test of authenticity. This is due to the subtleties of interpretation that the notion of authenticity can acquire for each of them. [. . .]

[. . .] [For] the present purposes, "static sites" are archaeological monuments and sites, specifically those monuments and places that were created before the European colonization of the New World. Except for a handful of cases, such as Ollantaytambo in the Urubamba Valley a few kilometers from the city of Cuzco, ancient sites and monuments of the Americas ceased to be used for their original functions at the end of the 15th and the early 16th centuries. Starting at that time, they became "ruins" and later, the most outstanding among them acquired a new use, namely as tourist attractions.

As to "dynamic" sites, these are the monuments and groups of structures built since the European colonization of the Americas. They are those monuments and ensembles—historic centers, districts or villages—that even to this day play an active role in the life of a province, country or region. As with the group before, there are exceptions that confirm the rule, such as monuments or even entire ensembles of colonial buildings that were abandoned at some point in history, such as the Jesuit Missions.

A first point that must be highlighted is that each of these two groups into which we have intentionally divided the immovable cultural heritage correspond to clearly differentiated periods in our history. The former belong to an autonomous period in our historical processes, the latter to colonization. The implications of this difference are fundamental in the application in the concept of authenticity to each of these types.

A second relevant point is the character of colonization, and its implications on the historic processes of the Americas. While the Americas today are the

result of various processes and various legacies, as is well defined in the Charter of Brasilia, the native or indigenous contribution plays a secondary role as the result of the process of domination. Unlike in countries like Japan, for example, in the Americas we cannot speak of cultural continuity. For that reason, the characteristics of material evidence for each distinct type of site acquire different qualities.

A third relevant point has to do with the actual use and function of these different heritage ensembles. The former have undergone a process of investigation, restoration and conservation after a long period of abandonment. The latter, in general, have undergone a similar process with continuous occupation, though not necessarily continuity in function.

As a consequence of these three relevant considerations, both heritage groups have borne, and still bear pressures and impacts of varying magnitude and intensity that affect in different ways their authenticity in design, materials, workmanship and setting. Thus, the test for authenticity cannot and should not be the same for both cases.

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In the American countries, where at a given moment of history, the autochthonous developments were brusquely interrupted, the archaeological sites and materials constitute the only evidence of the native populations that lived in this territory before the European conquest, since they had no writing. For this reason, the most important value of archaeological sites and materials is that only through them can the earliest moments of our history be reconstructed. In them are founded our national identities.

When historians of the Republican or the Colonial periods research a specific event, they go fundamentally to written sources kept in archives and libraries. Only rarely do they go to the tangible evidence, as is the case with heritage conservators. In [the archives and libraries], they will find in black and white the record left by the societies being studied; reading each source over and over. For more recent periods, historians may go to photographs, voice recordings and even videos. Once and again, the same source may be read, listened to or seen. In the case of anthropologists and sociologists, they will use as basic working tools interviews, face-to-face meetings, and what they may observe—the living heritage. But in the case of archaeologists who may wish to reconstruct pre-colonial societies, none of this is possible, since they left no written pages in black and white, no photos, tapes or videos, and no possibility of interviewing them face to face. All that we have are their material remains whose investigation and conservation are imperative to get to know ourselves.

Thus, in archaeological sites, "authenticity" is important not only for its historic and aesthetic values that must be transmitted to future generations, but above all because they are the only way to guarantee the conservation and veracity of scientific information upon which archaeologists reconstruct the historical processes of our people. To lose "authenticity" in an archaeological site—be it through

scientifically unfounded excavation or non-rigorous conservation treatment that alter the original conditions (of authenticity)—is to lose our history forever, since there is no other source to go to.

A second aspect of the concept of authenticity that is linked to archaeological sites is related to the problem of communal identity. In the countries of the Americas, archaeological sites are the record of a history of thousands of years before undergoing the strong change of its encounter with the West. But even worse, in our countries, those members of society who descend most directly from the native populations who built the archaeological sites are those who find themselves in poverty and extreme poverty. The roots of these people lie in pre-colonial history, in that part of our history that rests on the archaeological evidence.

That is why archaeological sites in countries like ours definitely have a stronger dynamic character than other categories of monuments and sites, in the sense that they constitute the only possibility for giving life to an important part of our history, which is also why they are the foundation for communal identity. An inauthentic archaeological site means an inauthentic history and, also, an inauthentic identity.

A third aspect of authenticity as related to archaeological sites refers precisely to the "static" character in their lack of continuity. In countries such as ours, where history was so rudely interrupted at a given moment, authenticity must have other connotations.

A fourth aspect of authenticity in archaeological sites refers to the importance that they have in transmitting to future generations the information in them contained. In this sense, archaeological sites are both sources of unique information and tangible evidence that allow communication and the transfer of knowledge.

In summary, the principal value of archaeological sites is as a source for the reconstruction of history. In some countries, the World Heritage archaeological sites are just evidence of "antiquity," of the achievements of human creativity at given moments in their historic development. In others, such as ours, they also mean the possibility to reconstruct our history and strengthen our identity.

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II. Practical Indicators for Authenticity

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Authenticity as Identity

I have left for last the topic of identity, because even though in my opinion it is the most important, it is equally the most complex for the majority of American countries.

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The problem is which identity are we really talking about? Whose identity in multicultural countries or even in countries with multiple national identities? Whose identity in countries where the autochthonous historic process was drastically interrupted at the end of the 15th century and beginning of the 16th? Whose identity when the native populations that should be the fundamental core of our identity underwent impositions of such magnitude that instead of complementarity or syncretism what came about were superimpositions?

> In countries such as ours that have suffered the colonial condition there is a process of deterioration in the condition of social existence whereby a whole series of elements from that existence get mixed and the principle of identity is denatured, leading to the progressive loss of the cultural heritage, and causing even its very owners to despise it. (Lumbreras 1990: 73)

If the above were not true, we would not require special legislation to protect our cultural heritage.

In terms of the analysis of the test of authenticity, my goal is to evaluate two distinct aspects of authenticity in relation to identity. On the one hand, the degree of identity that diverse groups of the population link with the site proposed for nomination is crucial, as is also its magnitude (local, regional, national and even international). On the other, and the reverse of the former, it is equally important to consider the impact that the nomination of a resource may have in fostering, consolidating or strengthening that identity.

In closing, I believe that the cultural identity of the American countries will be built based on the capacity that we may have in identifying with the cultural processes of which we all are part; and in the possibility that our populations come to understand the links that we all share regardless of race, religion or social position in history, a history that is our own and different from that of the rest of the world.

I believe also that in the world of globalization that we inhabit, we must consolidate our particular historic identities as the first necessary step to achieve a regional identity. The current disparity that exists among American countries and the weaknesses of modern national identities place us in a position of inferiority in relation to the developed countries of the world who stimulate globalization and lead us to it.

The cultural heritage has a leading role in the search and reconstruction of this particular history, and, at the same time, it is the tangible evidence that allows us to make it known and to share it. The cultural heritage is in itself a tool of knowledge as well as an object through which that knowledge can be transmitted. To conclude, I believe that these are the essential qualities upon which the value of authenticity of the cultural heritage of the Americas is sustained.

References

Charter of Brasilia. 1995 Documento regional del Cono Sur sobre autenticidad. 1995, Brasilia,
     V Encontro Regional de ICOMOS Brasil.
Lumbreras, Luis Guillermo. 1990 "La cuestión del patrimonio cultural en las condiciones pluri-
     culturales de origen colonial: el caso del Perú," in *Perú Indigena*, 12 (28) 73–83.
UNESCO/WHC. 1995 *Operational Guidelines for the implementation of the World Heritage Con-
     vention*. Revised February 1995.

Lyle J. Balenquah

Beyond Stone and Mortar: A Hopi Perspective on the Preservation of Ruins (and Culture) (2008)

As the effects of natural and human processes cause deterioration of the ancient architecture of contemporary Pueblo peoples, the need for preservation is a constant challenge for archaeologists and resource managers. However, the end result often ignores the values attributed to the sites by the descendants of their makers and thus, ironically, injures their authenticity. Balenquah, a Hopi, neatly links previous neglect of Hopi cultural values and conservation practices with aspects of the Western notion of authenticity. He discusses Hopi beliefs concerning preservation of the homes of their ancestors but also how these beliefs connect to much larger concepts about the present and future of Hopi culture. The idea of ruin and decay is expected and accepted in Pueblo culture, and the sites that the U.S. National Park Service (NPS) strives to conserve and that appear abandoned are honored and remembered differently in Pueblo culture. Previous attempts at conservation have employed inappropriate material and techniques, which resulted in "concrete castles" lacking aesthetic or cultural integrity as well as a relationship to traditional Hopi life and belief. Balenquah outlines a recent NPS rejuvenation and stabilization initiative, known as the Vanishing Treasures Program, that attempts to bridge the divide between its approach to conservation and Native American attitudes. But this path is not easy. Balenquah writes dispassionately and without rancor about the issues and problems involved.

> Buildings too, are children of Earth and Sun.
> —Frank Lloyd Wright, Architect

Scattered throughout the American Southwest are thousands of prehistoric architectural remains that were once the homes, ceremonial centers, and gathering places for the Indigenous peoples who occupied this vast area of land. Ranging in size from small granaries to large village and cliff-dwelling complexes, and including many forms and layouts, these structures represent the last 1,000 years of Southwestern Indigenous architectural skill. These sites, "ruins" as some call them, continue to serve as important and sacred places to the descendants of the original builders. Modern day Pueblo tribes such as the Hopi in northeastern Arizona and those that reside in New Mexico including the Acoma, Laguna, Zuni, and the Pueblo people living along the Rio Grande are all direct descendants from the ancestral peoples who built and occupied ruin sites throughout the Southwest.

Today, many of these archaeological sites are now included in federal, state, tribal, and private parks and monuments, serving to educate and inform millions of tourists annually from within the United States, as well from around the world. As a part of this educational platform, much of the architecture that remains at these sites has been excavated in the past, or is currently being excavated as part of ongoing scientific research. While these activities provide tourists with a more hands-on experience, allowing them to view up close and personal these unique structures, as well as allowing current researchers access to new scientific data, these sites now face new problems as they are unearthed and exposed to natural and human elements.

Wall-fall rubble and accumulated sediments that filled these sites as part of the initial deterioration process also served to preserve and protect portions of the architecture from the ever-present impacts of time and deterioration. Much of what we presently see at major archaeological sites such as Mesa Verde, Chaco Canyon, Wupatki, Keet Seel and many others is due in part to continuous natural preservation that occurred over several centuries. Yet with their excavation, archaeologists and other researchers realized there was a need to find other ways to further preserve and protect the excavated architecture that remained standing. Thus beginning in 1891, with the preservation of Casa Grande Pueblo in southern Arizona, the "Age of Stabilization" was born and soon preservation efforts, some involving partial or total reconstruction of the structures, spread to many prehistoric sites throughout the Southwest.

While much of this past preservation work has contributed greatly to the Western scientific understanding of Southwestern prehistoric cultures, not all of it is beneficial to the sites themselves. Preservation efforts conducted during the last 100 years often used Portland cement, steel rebar, and other manufactured materials as replacements for more traditional, organic materials. This use of synthetic materials by early preservation workers, many of whom were actually maintenance personnel supervised by field archaeologists, offered a seemingly long-term and easy solution to the deterioration dilemma, allowing them the opportunity to sta-

bilize prehistoric structures with minimal expenditures in man-hours and funds, resources that were and continue to be in short supply.

Unbeknown to the preservationists of that time, we now know that some synthetic materials are unsuitable for use in the preservation of prehistoric structures (Firor 1988). This is because some synthetic materials do not have the same technical properties as traditional materials used by prehistoric peoples. The most noticeable example is the use of Portland cement as a substitute for prehistoric era mortars, which most often were combinations of locally available soils, clays, and tempers. Compared with these types of mortars, Portland cement is harder and less porous, thus it often acts to channel and trap moisture within interior wall cores, which over time result in accelerated deterioration of original stone and mortar. In addition, modern cements are not as flexible or elastic in nature as compared with traditional mortars. Modern cements often have differing rates of contraction and expansion than traditional mortars, resulting in an architectural space in which the materials work against each other, causing increased structural deterioration and loss of original architecture.

Aside from contributing to the accelerated erosion of structural elements of prehistoric architecture, use of incompatible materials within the preservation process has also led to an alteration of the natural aesthetic and integrity of prehistoric sites. Cement mortars used in historic preservation efforts were often tinted with color additives to try and match the prehistoric mortars. Long-term exposure to ultra-violet radiation from sunlight has dramatically changed the appearance of the tinted cement mortar to a variety of colors, ranging from purple to pink tones. As a result of using modern cements, many prehistoric sites now exhibit qualities that are practically irreversible and give them an artificial look and feel.

For the average visitor who spends but a few moments touring these sites, it may be hard to notice that anything is wrong with them. From the viewing space of interpretive trails and overlooks, these sites may look as if they have sustained centuries of deterioration with little to no effect. Yet for those who are actively charged with their care and preservation, the realization is that there are far more complex issues affecting the condition, appearance, and integrity of these ancient structures.

As a former Ruins Preservation Specialist with the Flagstaff Area National Monuments, a National Park Service (NPS) unit that includes three park units (Wupatki National Monument, Walnut Canyon National Monument, and Sunset Crater Volcano National Monument), I saw firsthand these types of problems. Identifying and understanding the stabilization problems discussed here was a task that occupied much of my time. In addition, because I am a person of Hopi ancestry and a descendant of those who built this architecture, there was added importance for me to conduct preservation work that is not only effective, but culturally appropriate and respectful of the prehistoric origins of these sites.

While I cannot speak for many of the parks and monuments within the National Park Service (NPS), I can provide insight into the ways in which I believe having Hopi crewmembers has helped to bring a deeper understanding to the ruins preservation work at the Flagstaff Area National Monuments. At the time, I was part of a group of Hopi preservation workers, two of whom still remain in this capacity (Lloyd Masayumptewa and Bernard Natseway). Much of the perspective we brought to the table as Hopi preservation workers stems from our cultural background and teachings regarding Hopi culture, which included building and maintaining traditional Hopi architecture. From a strictly cultural background, preservation and maintenance on traditional Hopi homes was conducted more for functionality and necessity; to keep a roof over our heads, rather than following any federal policy, as is the case for the NPS. The philosophies that we learn from being Hopi sometimes clash with those from the outside world.

I think it is safe to say that when my fellow Hopi co-workers and I were first introduced into the NPS preservation program in 1997, we knew very little about the scientific process that we are now well versed in. In those early days, we were somewhat skeptical about the whole federal preservation arena, with all their standards, rules and regulations contained in volumes of documents (United States Department of the Interior, National Park Service [USDI, NPS] 2001, 1997, 1994, 1993). Again, much of our skepticism, and perhaps a little cynicism, was due to having practiced a different version of preservation back on our Hopi homeland.

While not every modern Hopi family occupies a traditional style home, built of stone, mortar, and wood, every Hopi family does have a central home within the core of their respective villages where they gather with other family members in times of ceremony or other observances. These core village homes, some of them regarded as "Clan Houses," represent the earliest beginnings of present-day Hopi villages, with many being first established decades or centuries ago. Clan Houses are considered to be the "true" home for all of the members who belong to that specific clan. In many cases, the religious paraphernalia and other sacred objects that are the cultural property of a clan are stored and cared for in these houses.

Of course there are numerous other structures that are also built of traditional materials, such as *piki* houses, where the paper-thin bread that Hopi women are renowned for is made, as well as special storage houses for harvested corn. For the most part, these traditional homes and structures have been built and cared for in much the same manner for generations, maintaining a building tradition that has its roots deep in Hopi prehistory.

The traditional building techniques and materials we learned about from our family members became familiar to us. They represented the correct way in which to conduct "preservation" and the end result was a respectful continuance of our

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Hopi culture. The earthy tones and aesthetic of these homes were what we came to recognize as being traditional Hopi homes. From this understanding come many analogies that Hopi people draw between themselves and the homes we occupy.

Traditional Hopi architecture is comprised solely of native materials such as quarried rock and flagstone, soil mortar, clay plaster, wood beams, and vegetation; all of which are products of the earth, sun, and water. These materials are respectfully taken from the earth to build our homes, and in doing so, our traditional Hopi structures are literally "born" out of the earth, and this symbolic birth reflects our connection to the environment we live upon. Because of the nature of our traditional homes, we are literally surrounded by the constant reminder that we too, are of the earth, and someday, we will return to it. Our homes therefore serve as metaphors that we are inextricably tied to the earth and that we cannot separate ourselves from the environment we occupy.

In keeping with these beliefs, we also came to understand that long-term building solutions were few, and so routine maintenance with native materials was needed to keep our homes in good and stable condition. Using these types of materials also involves following certain traditional beliefs and practices related to the collecting and processing of the building materials, including prayer and making offerings. In following these types of processes, we maintain a continuation of beliefs and values that are in many ways the true spirit of Hopi culture.

In connection with these traditional building practices, changes to the architectural form and layout of the structure are recognized as necessary to fit the wants and needs of dynamic family groups. Activities such as tearing down walls, rebuilding them and adding or removing other features such as doors, windows and fireplaces, are all accepted forms of building and maintaining a home that is still in use. If we were to do the same to prehistoric architectural remains found on federally protected lands, we could face harsh penalties. Therefore as Hopi people working outside traditional rules and philosophies, we have had to contend with seemingly different views on what constitutes accepted preservation and stabilization activities.

As would-be Hopi preservationists, our first introduction to prehistoric structures that were stabilized with foreign materials such as Portland cement was perplexing. The structures we saw seemed almost devoid of the natural aesthetics found in traditional Hopi architecture. From a distance they were familiar, but upon closer inspection they resembled concrete castles rather than 800 year old structures that were originally built of organic and native materials. As Hopis, we frowned upon the way these past techniques and materials had changed the homes of our prehistoric ancestors. To us this was not the proper way to conduct preservation.

In many respects, our biggest criticism of past preservation techniques was that they seemed to rob these unique structures of the human-ness and natural aesthetic that comes from using organic and native materials. Aside from the nega-

tive impacts that were previously discussed, the overall character of the structures was devoid of the integrity that we came to expect from this type of architecture. *Integrity* can have two definitions. One definition is strictly scientific, and follows well established guidelines developed by the NPS and other federal agencies. The other definition is derived from the cultural perspective of being Hopi, and entails a broad spectrum of what Hopi People view as the natural process of the world we inhabit.

The Flagstaff Area National Monuments' definition of integrity, as included in the Ruins Preservation Plan and Implementation Guidelines for Wupatki National Monument, is defined as "the ability of a property to convey its significance" (USDI, NPS 2001). This definition follows the language set forth by the National Register of Historic Places. Accordingly, several elements constitute a site's integrity: location, setting, design, workmanship, materials, association, and feeling. Without going into great detail about every element, we can say that each of them is found in varying degrees within the architecture of prehistoric sites located in the Flagstaff Area National Monuments. Following this strictly scientific definition, it is often stated that the prehistoric architecture of the Flagstaff Area National Monuments retains a high level of integrity. Because many of the structures still retain original masonry stones and still retain characteristics of their prehistoric building techniques, and further still, their environmental setting remains much as it was 800 years ago, I could agree with the NPS's statement concerning integrity up to a point.

At those sites which have been so extensively stabilized with cement and other foreign materials, I feel that the inherent nature of the sites' overall character has been compromised. This article is not simply about the technical aspects of the ruins preservation process, but is about how we, as Hopi people, view this work and the places we work on. Following that perspective, it is plain to see that the use of some modern materials in the preservation process does not allow for natural processes to continue. If anything, the use of these types of materials alters the way in which these structures decay. While the native materials may deteriorate, cement and steel rebar will not; they will remain long after the original materials are gone.

From a Hopi perspective, while the ancient homes of our ancestors are viewed with awe, respect and humility, they are also understood to be part of the natural world, subject to all the processes that prevail in this environment. Thus their deterioration and "ruin" are expected and allowed for. While the Hopi viewpoint regarding preservation may stand in contrast to the need to protect and preserve these structures under NPS jurisdiction, there nonetheless is opportunity to provide a better understanding of what these places represent to Hopi People.

While personal viewpoints vary within Hopi society, I think it is safe to say we all feel a special connection to the prehistoric homes of our ancestors. They represent much more than just places of long ago; they are reminders of our past failures as well as of our successes. Like artifacts on display in a museum, they

sit upon on the landscape and serve as tangible links to our cultural history. Yet unlike a museum piece that is meant to be preserved forever, our ancestors' homes were left to slowly decay over time. This is because traditional Hopi belief is one of allowing nature to take its course and therefore, this architecture should be allowed to return to a natural state of soil blowing in the wind, and stones lying on the ground. This belief is in keeping with a traditional Hopi perspective that all things found on this physical earth, including the homes of our ancestors, are part of a natural cycle of birth, life, and death.

But allowing them to decay does not mean that Hopi People regard these places as simply abandoned and forgotten as viewed by some past and present archaeologists. Past archaeological theories promoted the idea that the peoples who built the prehistoric architecture throughout the Southwest simply vanished into thin air. This type of thinking implies that because the original owners left their homes behind, that they (and their descendants) did not care what became of them. For Hopi People, and many other Indigenous peoples, nothing could be further from the truth.

Nor do we believe that our ancestors' reasons for leaving their homes behind are simply because of natural changes in climate and surrounding environments. According to traditional Hopi beliefs, our ancestral villages were purposely settled and left for a reason. Traditional Hopi prophecy stated that the people would learn to become caretakers of the land through long and epic migrations to the four corners of the earth. During these migrations, the Hopi people would prove their ability to care for and survive in a harsh land. The ultimate purpose of these migrations was to find their promised land, what we believe to [be] the Center of the Universe, the Hopi Mesas of today (Kuwanwisiwma 2002; Kuwanwisiwma and Ferguson 2004; A. Secakuku 1995).

Yet at times during their history, Hopi people forgot their prophecy and stayed too long in certain areas. When this happened, the people sometimes failed to lead moral and responsible lives, resulting in corrupt society and impure ways of life. These actions created an imbalance between the physical and spiritual worlds, resulting in social and environmental catastrophes. In other instances, astronomical events such as solar and lunar eclipses and supernovas were prophesized and expected signals. These events, as well as many others, indicated to Hopi people that they needed to fulfill their prophecy and thus complete their migrations.

As proof that the Hopi people faithfully followed their predestined migrations, they left behind their "footprints," tangible evidence in the form of ceramics, textiles, lithic material, and architecture. These materials were left behind not only to prove Hopi migrations, but also as payment for their services and therefore, were left to return to a natural state. Also, Hopi people believe that their ancestors, who lived, died, and were buried at these places, purposely remain as spiritual stewards of the land, continuing to watch over their ancient homes long after their physi-

cal presence is gone. In this final respect, these prehistoric villages and homes are definitely not viewed by Hopi people as being unoccupied or abandoned.

While it may seem that there is little chance that a respectful compromise can be reached between traditional Hopi beliefs with current federal mandates concerning ruins preservation, there are nonetheless attempts being made. Prior to my initiation into the federal preservation process, change was already taking place in the philosophy that is the driving force behind much of the preservation work carried out in national parks and monuments. During the latter part of the 1980s, ruins preservationists and other cultural resource managers began to discover the detrimental effects that Portland cement and other foreign materials were having on prehistoric architecture. This newfound realization began the push for preservationists to test and use more compatible materials in ruins preservation. They would soon find that one solution to their dilemma was literally right in front of them all along: natural dirt.

At many national parks and monuments, current materials used in ruins preservation more often resemble those used in prehistoric times (Metzger 1989). For example, at Wupatki and Walnut Canyon National Monuments, the mortars currently used rely on natural soils and clays as the main base ingredient. At Wupatki, the use of cement and cement soil mortars was used for much of the historic preservation era beginning in the early 1940s. In the early 1980s, the use of cement based mortars ceased, and the use of locally obtained soils and clays, strengthened with a liquid acrylic-polymer (Rhoplex E-330), became the standard.

The decision to use Rhoplex in place of Portland cement is based on the fact that while it gives added strength and cohesiveness to the soil mortars, it still naturally erodes away over time. However, Rhoplex is used in preservation activities only on the open-air structures at Wupatki National Monument. This is due to the fact that these structures are often situated on top of stone outcrops, creating an open-air environment that directly exposes them to weathering elements. This direct exposure substantially increases the level of deterioration experienced by these pueblos.

In contrast, the structures at Walnut Canyon are almost always located within natural canyon alcoves that offer better protection, which decreases the impacts and deterioration experienced by these sites. Due to these improved conditions, the soil mortar used in stabilizing these structures does not need the addition of Rhoplex. In addition to the change in materials, the way in which the entire preservation process was structured and viewed also took on new direction. This re-evaluation of the preservation process is part of a larger movement within the NPS, in which stabilization treatments become cyclic in nature, rather than "emergency" stabilization projects performed sporadically, often at a higher cost of both time and money.

Presently, this rejuvenated approach is being carried out under the umbrella of the recently formed *Vanishing Treasures Program* (VT). The VT Program is a grass-roots resource management group within the NPS that focuses solely on the preservation and protection of historic and prehistoric structures located in the arid West. This program was started among Southwest NPS managers who were aware that the resources under their care were not receiving the attention needed to properly maintain them. Problems stemmed in part from a lack of funding and available personnel who were adequately trained to conduct preservation work. This realization led to the formation of the VT Program, and a push to gain additional financial and technical resources from the federal government and other sources.

The VT Program is a multi-step, multi-personnel program that has included among its many goals the hiring and training of a new generation of workers to continue and develop the area of historic and prehistoric preservation. These new workers are being trained in all aspects of preservation, from the actual physical work of applying preservation materials, to the more technical duties of performing the photographic and written documentation, as well as producing final reports and professional papers. The implementation of this goal has increased the quality of preservation workers, as well as the amount of time they work, from part-time to full-time.

Additional goals of the VT Program include acquiring the necessary funding to conduct "emergency" stabilization on structures that are experiencing severe deterioration and working to reduce the backlog of architectural documentation and preservation work currently needed. Because of the VT Program, 45 parks and monuments, located in Arizona, Colorado, New Mexico, Texas, Utah, California, Nevada, and Wyoming now receive the necessary funds and personnel to maintain thousands of historic and prehistoric structures. Additionally, this program provides opportunities for Indigenous workers to contribute in the preservation work. Currently there are representatives from the Hopi, Zuni, Acoma, and Navajo tribes working within the VT Program. Thanks to the tireless efforts of many people who contribute to the success of the VT Program, the American public can continue to enjoy what has collectively become their cultural heritage.

While the inclusion of Indigenous workers in the type of preservation program described here is one positive outcome, there are obstacles that I would like to see overcome. At the forefront is the need to get more Hopi people involved in this line of work, including the fields of Anthropology and Archaeology. Attempts at achieving this goal have met with sporadic results over the years, with only a handful of Hopi people actively involved in these scientific fields. From my perspective, it is safe to say that more Hopi presence is sorely needed.

Challenges to reaching this goal include a seeming lack of interest and motivation by Hopi students to pursue the necessary academic and technical training required for federal preservation work. While Hopi students are entering college at

increased rates, many are choosing to pursue other fields that offer seemingly more exciting and fast-paced opportunities. The idea of working in harsh conditions, under the hot sun or in freezing winds, sometimes far away from home, is just not an appealing selling point for some Hopi students.

Another factor that contributes to the shortage of Hopi preservation workers is the lack of understanding of why a college education is needed for federal preservation work. For many Hopi individuals, as well throughout Hopi history, building and maintaining traditional Hopi architecture does not require a college education. The type of skills associated with traditional building practices are learned, for the most part, by actually doing them, not by reading a text book. From that standpoint, having to endure the long ordeal of college courses seems very foreign and unnecessary to many Hopi students interested in the ruins preservation field.

So while there may be student interest in the actual skills involved in preservation work, very few are willing to acquire the academic skills—writing, presentation, and organizational—that are required by federal agencies, including the VT Program. In addition, there is also the need for preservation workers to have a good understanding of the numerous federal mandates, acts and standards that currently guide preservation work. Needless to say, understanding the legal and technical aspects associated with these federal documents can be time-consuming and complex.

In other respects, because of Western (European) influences, many new family homes are being built with more modern housing styles that do not resemble anything like traditional Hopi architecture. New construction taking place on the reservation most often uses other materials, such as cinder block, wood frames, and drywall. Often times these materials are chosen because they are easier and less time consuming to obtain and assemble. It is much easier to drive to the local hardware store and get all the materials needed to build a house than it is to spend days, weeks, and months quarrying stone, cutting beams, and gathering other traditional building materials. Thus the need to continue traditional building practices is not always viewed as practical to provide habitation for one's family.

Because the preservation of "ruins" is not actively conducted by the Hopi Tribe, with most if not all of the work occurring on federally-owned lands, there is very little to no employment of this type found on the reservation. This means that potential Hopi preservation workers have to consider living off reservation, sometimes at great distances from their families and homes. Commuting long distances between home and the workplace is not only dangerous, but can grow tiresome as well. This type of employment situation can create hardships for Hopi workers, especially during times of religious ceremonies, when people are required to be in residence within their respective villages for long periods of time.

Further still, because many of the positions within the VT Program and other federal resource management departments (within which much of the preservation work is lumped) require degrees most often from the field of anthropology and its

sub-fields, convincing Hopi students to pursue these types of degrees is challenging. I mean, let's face reality, the fields of anthropology and archaeology do not have a very positive history when it comes to indigenous peoples and their cultures. Some Hopi people still view these fields with a degree of suspicion and uncertainty. Some of this apprehension stems from a lack of understanding about the types of work that actually occur within these fields and the ways in which respectful and meaningful research for Hopi and other tribes can be generated.

Addressing these obstacles requires the active participation by those of us Hopi who have chosen to study and work in these fields. By being involved in anthropological, archaeological, and ethnographic work, we show that the Hopi role in scientific research is progressing to levels where research is focused on Hopi interests and questions about their own history (Balenquah 2002; Masayumptewa, 2001; F. Secakuku 2006). We are no longer those who are simply studied for the benefit of outside research interests, but are now developing our own Hopi-based research, which at its core uses Hopi-based concepts and perspectives about our ancient past. In this manner we strive to provide culturally relevant scientific research that, first and foremost, benefits Hopi people and our culture. Loma'omvaya and Ferguson (1999:6) write,

> We need to fully integrate native concepts of resource procurement, landscapes, artifact classes, architectural forms, and human motivation into archaeological theory. The importance of spiritual as well as material objectives in Hopi life needs to be acknowledged in explanations of the past.

From a personal viewpoint, working on and in the architecture of my ancestors has instilled in me a stronger sense of pride about my cultural history. Standing amongst an 800-year-old pueblo, one sees how much technical skill and ingenuity our Hopi ancestors possessed. It is truly a testament to our ability to survive and flourish in a harsh landscape. Just as the works of past and world famous artists continues to inspire new generations of painters, sculptors, and architects, perhaps the works left behind by Hopi ancestors will inspire new preservationists (of both ruins and culture) from Hopiland. Only time will tell.

So where do we go from here? As Hopi people working in these fields, we continue to do as we have always done, that is, we do our work with our Hopi history and values always in mind. Through our work, both personally and professionally, we try and impart our traditional knowledge and information to our non-Hopi counterparts in a manner that is also respectful of our own personal and cultural boundaries. In doing so, we serve as human reminders that the people who toiled to build these monuments of stone and mud are not gone. We are still here.

And with any luck, the errors of our era will be slight, and as we continue to learn from the past century of stabilization, hopefully those who come after us will learn and benefit from the work we do now. But in order for that to happen,

the integrity of the architecture, both the cultural and scientific, must always be considered first. We owe it to our Hopi ancestors who originally built and occupied these places to respect their efforts, and therefore we must strive to present the truest form of their hard work and dedication. For if not by us, the people charged with their care, the Hopi ruins preservationists and specialists, then by whom?

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References Cited

Balenquah, Lyle
2002   *Bridging the Gap Between Science and Tradition: The Native American Role In Anthropology*. Master's Thesis, Department of Anthropology, Northern Arizona University, Flagstaff, Arizona.

Firor, Jim
1988   *Agents of Deterioration. Technical Supplement No. 2.* In *Ruins Stabilization: A Handbook*. Ruins Stabilization Report No. 53. National Park Service, Rocky Mountain Region, Denver, Colorado.

Kuwanwisiwma, Leigh J.
2002   Hopi Navotiat, Hopi Knowledge of History: Hopi Presence on Black Mesa. In *Prehistoric Cultural Change on the Colorado Plateau: Ten Thousand Years on Black Mesa*, edited by Shirley Powell and Francis E. Smiley, pp. 161–163. University of Arizona, Tucson.

Kuwanwisiwma, Leigh J. and T.J. Ferguson
2004   Ang Kuktota: Hopi Ancestral Sites and Cultural Landscapes. *Expedition* 46(2):25–29.

Loma'omvaya, Micah, and T.J. Ferguson
1999   Hisatqatsit Aw Maamatslalwa—Comprehending our Past Lifeways: Thoughts about a Hopi Archaeology. Paper presented at the 1999 Chacmool Conference, University of Calgary, Calgary, Canada.

Masayumptewa, Lloyd "Piivayouma"
2001   *A Ruins Preservation Project at Walnut Canyon National Monument: Issues in Ruins Preservation*. Master's Thesis, Department of Anthropology, Northern Arizona University, Flagstaff, Arizona.

Metzger, Todd
1989   Current Issues in Ruins Stabilization in the Southwestern United States. *Southwestern Lore* 55(3):1–11.

Secakuku, Alph
1995   *Following the Sun and Moon: Hopi Kachina Tradition*. Northland, Flagstaff, Arizona.

Secakuku, Ferrell
2006   *Hopi and Quetzalcoatl: Is There A Connection?* Master's Thesis, Department of Anthropology, Northern Arizona University, Flagstaff, Arizona.

United States Department of the Interior—National Park Service
2001   *Cultural Resource Management Guidelines, DO-28*. National Park Service, Department of the Interior.
2001   *Ruins Preservation Plan and Implementation Guidelines, Wupatki National Monument*. National Park Service, Flagstaff Area National Monuments, Flagstaff, Arizona.

1997   *Cultural Resource Management Guidelines, NPS-28, Release 5*. National Park Service, Department of the Interior.

1994   *Cultural Resource Management Guidelines, NPS-28, Release 4*. National Park Service, Department of the Interior.

1993   *Archeology and Historic Preservation; Secretary of the Interior's Standards and Guidelines*. Federal Register, 48(190):44716–44742.

DARRYL LEWIS AND DEBORAH BIRD ROSE

The Shape of the Dreaming: The Cultural Significance of Victoria River Rock Art (1988)

These selected extracts from a much longer paper by Lewis and Rose provide an early example of an analysis of the cultural values of the traditional owners of a corpus of rock art using the methodology of the Australia ICOMOS Charter for Places of Cultural Significance (the Burra Charter). The authors demonstrate the conflict that may arise between the conservation of scientific historic and aesthetic values on the one hand and social or spiritual values on the other. They demonstrate that the art's cultural values dictate a conservation methodology that eschews physical intervention and concentrates instead on the conservation of cultural continuity.

Introduction

Australia is unusual in the world context, in being perhaps the last region where people still incorporate the production and maintenance of rock art within a matrix of living social and cultural significance. Throughout the Victoria River District Aboriginal people ascribe cosmological significance to the Dreaming presence that Europeans define as 'rock art'. The Victoria River District is currently experiencing heightened activity on the part of both the scientific community and the tourist industry. The net result of an increase in tourism and scientific projects is likely to be an increase in the loss of control of cultural property by the Aboriginal custodians. This report analyses the social and cultural significance of rock art to Aboriginal people, and offers recommendations for a policy for conservation of both art *and* cultural significance of the art in the region.

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The *Burra Charter* [1981] requires that 'any intervention should be constrained by the need to retain the cultural significance of the place' (2.1). We concur with the assumption outlined in the charter that if sites of cultural significance are to be protected, their significance must be properly understood. The report is intended to provide information both for policy makers and for the general public. We hope that greater understanding will help to develop public and professional opinions which promote the fullest respect for the art and for the Aboriginal custodians of the art.

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In the Victoria River District there is increasing pressure from tourism. At the present time, a very large national park is being established in the area. The increase in numbers of tourists that this park is expected to bring will undoubtedly also bring many of the undesirable aspects of town life to the local region.

There is also an increasing involvement in the region on the part of scientific researchers and government organisations. Various subjects of scientific interest are being studied, including the recording of archaeological sites, many of which are living Aboriginal cultural sites. Although scientific researchers are usually concerned to 'consult' with local Aborigines, cultural differences can, and often do, lead to communication problems. Unsatisfactory communication in the initial stages of research may result in serious problems for individual or groups of Aborigines, the researcher, or for future research projects.

Description of Victoria River Rock Art

The rock art of the Victoria River District is almost totally representational, exceptions being the ubiquitous abraded grooves, some pecked meander lines and a few instances of random red ochre finger marks. Subject matter includes humans and anthropomorphs, European and Aboriginal material culture items, celestial bodies, mammals, fish, reptiles, amphibians, birds, eggs and vegetable subjects.

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The majority of figures approximate the natural life-size of the subject although figures much smaller or much larger than life-size are also present. The largest figures, up to 11 metres long, are those of the Rainbow Snake.

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Like the majority of paintings, the pecked engravings in the Victoria River valley are representational and form a regionally distinct assemblage. No style

change is apparent within the engraved figure complex and none has been found that depicts either extinct species or contact items. Located mostly on open sites, the majority of pecked figures are either cracked, corroded, or have pieces missing; in many instances the rocks they are engraved upon have moved or collapsed. Such features give the impression of considerable age but appearances can be misleading. In Central Australia, European names engraved about 50 years ago appear as weathered as nearby pecked engravings (Dick Kimber, personal communication).

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Origins and Shapes

Victoria River people's accounts of the origins of the cosmos begin with the existence of earth and water. In the beginning, water covered the earth. It withdrew, leaving the earth exposed. All the different forms of life emerged from the earth; plants grew and other forms of life came out of caves and started moving about. As the originator of life, the earth is often referred to as 'mother'; in effect she gave birth to all life forms.

The Beings who first walked the earth in the beginning time are referred to as *Puwarraj* (Ngarinman, Mudbura, Bilinara, Gurinji); this term is usually glossed as 'Dreaming'. It encompasses all animals, including humans; it also includes some things Europeans would regard as natural features such as the sun and moon, and some categories of beings whose existence Europeans generally do not recognise. Examples of this latter category include Rainbow Snakes, *Kaya* (glossed by Rose as 'custodians of the dead') and *Mulukurr* (glossed by Rose as 'canine associate of the *Kaya*'). In this report we refer to the entire category of original beings as Dreaming Beings.

Dreaming Beings walked in the shape of human beings but they were not confined to that shape. The origins of human beings are somewhat more complex than those of other animals, although these complexities are not essential to an understanding of the art. In addition, Dreaming women and men often travelled separately, establishing actions, places and cultural domains which are now the sole responsibility of a single gender.

As the Dreaming Beings walked, they left marks of their travels and their activities on the earth. When the salt water pulled back, the earth may have had some contours, but for the most part the shape of the earth was made by the actions of Dreaming Beings. For example, Jasper Gorge was made by the Black-headed Python (*Walujapi*) as she travelled through the area. Kaljaki hill, known to Europeans as Sundown Hill, was shaped, in part, by the fact that she rested on it. In the bed of the Victoria River at Pigeon Hole there are long troughs in the bedrock which are defined as the marks made by the Dreaming women who danced

there. These marks are similar in shape (but not in size) to the marks women now make as they dance. The earth can be seen as a living record of the past; she bears on her 'body' the evidence of what has happened.

The vast majority of the artworks in the Victoria River District are said to be of Dreaming origin and to depict Dreaming Beings and their activities. The cultural construction of meaning with respect to almost all of the rock art in the Victoria River District is that it is Dreaming. It is alive, it is conscious, it can be spoken to, it acts and reacts. Where Dreaming Beings travelled, and where they placed themselves on the rocks, there they are still, a living presence. One senior man stated: 'Whitefellows reckon man made these paintings, but that's bullshit! Dreaming made them.'

In addition, marks on rocks, which Europeans see as man-made art, are active agents. According to Victoria River Aborigines, Dreaming Beings renew themselves. This is clearly the case with Dreaming trees, for example. When an old tree dies, a new one grows to take its place. Aboriginal people believe that Dreaming marks on rocks do essentially the same thing. Of the rock art one senior man said: 'The really longa Dreaming him can change 'im over, change 'im over. Makem new, yeah, this mob.'

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From the point of view of the people to whom these marks are significant within their own culture, many of the 'depictions' do not represent another order of reality, but rather *are* that order. Victoria River Aboriginal people are quite capable of perceiving that a range of interpretations is possible. Because their social organisation of knowledge depends on the manipulation of information through a gradual process of instruction, they may offer different interpretations of the marks at different times, and one individual may offer interpretations that differ from those of other individuals.

However, there is one solid point of agreement: most rock art is first of all *not* art. 'Depictions' of Dreaming Beings *are* Dreaming Beings. Those depictions which are identified as being made by humans are, of course, discussed differently.

In sum, it is inappropriate in this context to state that Dreaming marks on rocks symbolise, or in some way stand for, Dreaming Beings. Shapes on rocks are the shape of the Dreaming, the living presence, in past, present and future time of the origins of the cosmos.

The Cultural Construction of the Past

We have stated that most Dreaming Beings have become fixed with respect to shape and place. The period when they 'changed over', as Victoria River people often express it, is the interface between Dreaming time and the ordinary present.

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[. . .] But they also see an extension of the Dreaming into the present as the presence of non-negotiable Laws which inform life in the present, as well as the sites which are the conscious presence of the Dreaming in the world. The purpose of life in the present is to maintain the Laws established in the Dreaming.

Looking at the Dreaming past from the vantage point of the present, we can see that the essence of current life is slowly packed away into the Dreaming. Within this system, decisions and actions of today will, in roughly one hundred years' time, be Dreaming actions if they are remembered at all. Control of the interface between Dreaming and ordinary time is therefore a powerful form of control. Decisions about what will be remembered and what, forgotten, what will endure and what will pass away, what changes will be encoded as immutable Law, are important decisions. They allow change to be incorporated into an ideology of non-change. They also allow change to be accommodated, so that Law remains responsive to the present. Such decisions are made by elderly people only.

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The particular aspect of Law and Dreaming addressed here is how people maintain an ideology of immutability in the context of the change and flux of ordinary life. Our contention is that the ambiguity inherent in the visual system of art promotes the viability of a philosophy of unchanging continuity maintained in a dialectical relationship with the changing present.

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[T]here are good reasons why we will never have access to this kind of information. We are dealing with cultures in which information is maintained and transmitted in non-written forms. In these cultures, where the present is deconstructed and the past is required to be accountable to the needs of the living, there can be no 'correct' understanding of visual imagery deriving its authority from a preserved past. There is only the correct understanding through ongoing management of relevant information. The authority of the oldest people who control information cannot be undermined because they are the only authorised controllers.

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It will be clear from the preceding discussions that many art sites present particular difficulties with respect to consultation. Most of them are localisations of Dreaming power and information. In Dreaming Sites (many of which are also art sites), numerous factors of cultural significance converge. Past, present and future converge: most of the images are construed as the very presence of the Dreaming Beings. Many sites are controlled through gender restrictions which apply to physical access, or to access to information, or to both categories. Local groups and the

links between groups and countries converge, as the Dreaming of a particular place is always linked with Dreamings from other places. Categories of custodian and stranger converge, as information about the place is in the hands of a set of people which is broader than the group of custodians defined on the basis of affiliation to country. Generations converge as the sites are focal points for instructing new generations of people.

Decisions made regarding the site may have broad ramifications; only the custodians can determine how far-reaching the impact of their decisions may be. In addition, there are no guarantees that all the custodians will agree, even assuming that they were all together in one place at the same time to discuss matters.

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Preservation of Art Sites

The *Guidelines to the Burra Charter* (1984: 2.5) define social value as embracing 'the qualities for which a place has become a focus of spiritual, political, national or other cultural sentiment to a majority or minority group'. This report has demonstrated that Dreaming sites embrace all of these factors as well as many more. The *Burra Charter* (1981: 1.4) defines conservation as 'all the processes of looking after a *place* so as to retain its *cultural significance*'. In this section we show that physical intervention by Europeans has the potential seriously to undermine Aboriginal cultural significance. In the following section we will suggest ways in which the art can be protected without undermining its significance to the Aboriginal custodians.

We stated earlier that Aboriginal people in the Victoria River District construe most 'art' as the literal presence of Dreaming Beings, localised and relatively immobilised in country. We also stated that Aboriginal people understand the physical presence of Dreaming Beings to be self-sustaining; in the case of 'art', the Dreaming renews itself. The custodians do not make an ontological distinction between marks which Europeans would regard as 'natural' and marks which Europeans would regard as 'man-made'. Dreaming presence is a living reality to people in this area.

We analysed the relationship between past and present as one in which the oldest and most knowledgeable people control the interface between Dreaming time and the present. We stated that it is precisely the flexibility and ambiguity of interpretation with respect to preserved texts such as 'art' which enable people to maintain an authority which is accountable to the needs of living people. If authorised versions of the Dreaming were to pass into the public domain via written records maintained by Europeans, both the authority of the senior people and the living relevance of the Dreaming could be irreparably undermined.

Given that in most instances the 'art' is the living presence of the Dreaming Beings, we believe that physical intervention in these sites would be inappropri-

ate at this time. Suggestions from Europeans that physical intervention should be made cannot but carry a number of implied messages to Aboriginal custodians: first, their belief in the regenerative power of the Dreamings is misguided: second, their care of their own sacred places is not good enough; third, the places which they regard as living subjects are better seen as inanimate objects. In short, physical intervention by Europeans, not solicited by the Aborigines themselves, is almost certain to subvert the relationship between Aboriginal custodians and their Dreaming places.

We would add that there are many areas throughout Australia, and in the future there will almost certainly be many more where the Aboriginal custodians seek European assistance in physically protecting sites. As researchers, we share in the European concern that rock art be physically preserved. But we note that in the Victoria River District much of the art has been in place for hundreds, in some cases thousands, of years. It is not going to disappear within the next few decades.

In regions such as the Victoria River District there may be individual custodians who, for various reasons, might readily agree to physical intervention in the protection of art sites. But unless there is consensus among all custodians, agreement from one custodian should not be regarded as a licence to proceed.

It is reasonable to anticipate that Aboriginal people's relationships to Dreaming places will not remain static. This is so in the Victoria River District as well as other parts of the country. Due to the work of the Aboriginal Sacred Sites Protection Authority in the area, Aboriginal people know that Europeans have the social power, funds, technologies and the will to intervene to protect sites on Aboriginal behalf. If and when custodians decide among themselves that they require assistance to preserve art sites, they will know how to seek it.

In sum, at this point European concerns for rock art preservation are best directed toward those areas where Aboriginal custodians seek assistance or where there are no custodians, if any such areas exist.

Protection of Cultural Significance

The most pressing concerns of all the people with whom we have worked are social. That is, they want their status and responsibilities as custodians recognised and respected by persons outside their own cultural milieu. In short, they want to manage their Dreaming places according to their own social rules. (See Rosenfeld 1985: 8 for a similar assessment on a broader geographical scale.)

The Aboriginal people who have shared their anxieties, information and responsibilities with us have emphasised again and again that their ability to maintain the integrity of their country and their relationships with country is under almost continuous threat by many of the European activities in the area.

Part of the threat comes from workers in the pastoral industry who have different strategies of land use and are not concerned to consult with Aboriginal

people prior to making changes in the environment. Part of the threat comes from people interested in Aboriginal cultural 'remains' who want to look at or photograph rock art, or souvenir items for collections. Part of the threat comes from people employed to document cultural resources in the area who do not understand, or will not recognise, the relationship between Aboriginal people and their Dreamings. A senior man at Pigeon Hole succinctly expressed a view which we have encountered throughout the Victoria River District. He said of Europeans: 'They just come up here blind, bumping into everything.'

On many occasions Aboriginal people have discussed with us their concern that Europeans such as ourselves are provided with vehicles, funds and supporting equipment to travel around the country assisting them to nominate sites for registration. They contend that at least some damage could be averted if Aboriginal people received similar support to maintain surveillance over their sites, and that they could investigate damage, and control headstrong tourists and other visitors, quite well themselves, with proper equipment and authorisation.

Given the statement in the *Burra Charter* (1981: 1.4) that conservation entails 'looking after a *place* so as to retain its *cultural significance*', we note that under current conditions of enforced sedentarisation, mobility in country is absolutely necessary to conserving the cultural significance of places.

In a number of communities in the Victoria River District, Aboriginal people have initiated the idea of local Aboriginal task forces which would oversee sites and maintain contact with European agencies such as the Aboriginal Sacred Sites Protection Authority. We have relayed this idea to the Authority as well as to the Minister for Aboriginal Affairs. We have also helped local groups apply to the Aboriginal Benefit Trust Fund for assistance to buy vehicles for this purpose. To date, however, no such program has been implemented.

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References

Burra Charter; The Australia ICOMOS Charter for the Conservation of Places of Cultural Significance. 1981.

Guidelines to the Burra Charter. 1984.

Rosenfeld, A. 1985. *Rock Art Conservation in Australia*. Australian Government Publishing Service, Canberra.

Colin Pardoe

Arches of Radii, Corridors of Power: Reflections on Current Archaeological Practice (1992)

The study of ancient human skeletal remains suggests how the science of archaeology is situated within the larger social arena. Human remains are a contested aspect of archaeological heritage. Pardoe describes the archaeological use of Australian Aboriginal human remains and the knowledge gains they bring and contrasts scientific value with Aboriginal people's view that archaeologists have stolen, locked away, and performed culturally insensitive studies on their ancestors' remains. One result of these competing interests is that archaeologists have propounded scientific theories that damage Aboriginal credibility or that are unacceptable to the Aboriginal communities, who have no control over this process. Pardoe discusses the 1980s in Australian archaeology and the challenges that the growing Aboriginal protests against this scientific attitude posed to the discipline and to conservation. In this personal account of his changing practice over this period, Pardoe considers accountability to science and to traditional owners, arguing that the negotiation of these two aspects of research and conservation can be mutually beneficial. He concludes that Aboriginal reburial of remains may be a loss to science but a cultural revitalization to which archaeological study contributes.

The first two relics of the saints to be recognised and placed in the Church of Rome were human skulls. In the 1700s the Cappuccini monks of Rome decorated their fourth chapel with the bones of their brothers—ceiling rosettes of vertebrae, pillars of interlocked femora, arches of radii.[1] In September 1991, a frozen body was found on the border of Austria and Italy. The discovery that this was a bronze age find occasioned a boundary dispute over ownership and ethnic affiliation of

the remains. On 13 January 1992 the skeletal remains of Mungo I, one of the oldest cremations and the first of many discoveries at the Willandra Lakes in western New South Wales, were handed back to Aboriginal people.

The study of ancient human skeletal remains cogently demonstrates the social arena in which science is situated. As western culture has moved towards a more scientific understanding of the past, bones have taken on new meanings. How scientists have created these meanings is a problem best addressed by social historians and philosophers of science. How we have negotiated the multiple meanings of bones is another problem and the one that forms the basis of this paper. As a scientist who studies ancient human remains I have had to engage with not only the evolutionary meaning of bones (such as 'how heritable is the length of the thigh bone', or 'how much has genetic drift affected the distribution of the inferior petrosal sinus'), but also with their meaning to wider society. This society is modern day Australia; the bones in question are Aboriginal, I am not.

The social context within which I work has, in the last decade, undergone radical change. Academic scientists have fared badly in the changing social relations of power and authority within most western societies. Deconstruction of colonialism resulting in changed relationships between indigenous people and their conquerors is just one aspect of wide-ranging intellectual change.[2] More specifically, ownership of the past and its material heritage, whether by governments or by archaeologists and anthropologists, has been challenged by minority groups overseas and within Australia.[3] Aboriginal demands for ownership and control of their heritage have been consistent for over a decade, whether expressed in religious, political or social terms.

Archaeologists have generally acceded to Aboriginal demands in principle and quickly followed other disciplines such as anthropology and linguistics in a move to consultation. For example, the New South Wales National Parks and Wildlife Service implemented close involvement with Aboriginal people in the 1970s and early 1980s. Seeking permission from Aboriginal communities is part of current policy on skeletal studies and archaeology in general. The formal organisations which influence work in Australia are the Australian Archaeological Association, the Australian Institute of Aboriginal and Torres Strait Islander Studies, state heritage organisations (for example, the NSW National Parks and Wildlife Service and the Victoria Archaeological Survey) and the museums. All recognise, as does the government, Aboriginal control of their own past.

Not all archaeologists have found it easy to accept these changes. Scholars who have found it relatively easy to acknowledge Aboriginal rights to consultation and control of contemporary archaeological practice in the field have reacted strongly when Pleistocene remains (over 10,000 years old) have been slated for reburial. Some have distinguished between more recent remains which Aborigines may control and the older remains which belong to the world.[4] This denies the concept of full and unfettered Aboriginal ownership of their past.

Acrimonious debates have taken place within the discipline concerning archaeological finds under threat. For example, the return of remains from Kow Swamp in northern Victoria for reburial engendered much controversy, centred on the issue of ownership.[5] Such responses highlighted differing attitudes to ownership. For example, John Mulvaney has written:

> Past repressive colonialism does not mean that the present academic generation must pay the price, by never opposing strident claims and demands by radical Aboriginal leaders. Not to do so, will be to replace white violence and repression with black intellectual totalitarianism. It is not simply the Kow Swamp relics which are at stake, but the future of past Aboriginal culture, and the freedom of all peoples of any race to study it.[6]

According to other archaeologists, however, '[t]he Australian public appears to support this increasing participation by Aboriginal people in determining matters pertinent to their heritage'.[7]

For most of us though, this has been a decade of learning, one in which we have had to recognise Aboriginal control and the changed role of scientific research. Elsewhere I have discussed the transformation in my own thinking during this period.[8] Of greater importance, however, is changed practice. Although many of my colleagues are successfully conducting research with full Aboriginal control and cooperation, others have experienced a crisis of confidence, a confusion of accountability. In the rest of this paper I will explore two principal levels of accountability: to science and to Aborigines, and the way in which negotiating them both may be fruitful for all concerned.

I

All societies are interested in their history. Societies with strongly scientific worldviews use archaeology to investigate the long term history of their mob. Scientific thought and research on ancient human remains has altered a pre-industrial view of death:[9] skeletons of our ancestors are there to inform us of the past. Bones of our ancestors are cherished in national monuments (museums) and form an integral part of the biological and archaeological record. Research on bones is legitimised and paid for as part of our interest in the history of our species. It is seen to be of a specialised nature, but eventually gains currency in wider society by dissemination of knowledge about the past. Such dissemination takes the form of museum tours, public lectures, books and films.

The scientific study of human skeletal remains ranges from medicine, biomechanics, evolution and evolutionary history, to archaeology, where bones are part of the record of the past and can tell us about a group's history. I study bones as an archaeologist, someone interested in the past. Typical areas of interest include

how people lived, how they evolved biologically, what their population relationships were and more generally evolution itself as it applies to the one species with a history. A person who studies human skeletons from an archaeological perspective may be interested in many details and seemingly disparate pieces of information (and indeed this is the general nature of all archaeology), for bones encode information about genetics, growth and development, health, disease, diet, work practices and ritual. Furthermore, information from burials and graves tells us more about society, its organisation, social order and group relationships.

Archaeologists do not grind up whole skeletons into dust that is poured into foaming test tubes. We measure bones to get specific and detailed information on size and shape, for comparison between groups for instance. We look for and record minor traits such as small accessory bones in the skull, bridges of bone over blood and nerve vessels, presence or absence of holes that normally transmit vessels. These are generally inherited and serve to differentiate populations. Some diseases leave a mark on the bones and these can help give an idea of the specific and overall health of an individual and of populations. Such information may be recorded as detailed notes, or more commonly as percentages of occurrence, or average size of a measurement. X-rays may be taken of bones to look for evidence of disease or for signs of interruption to growth. Some tests are destructive, and these destroy the equivalent of one or a few ribs. Radiocarbon dating tests burn up a sample of bone to determine ratios of carbon held in different fractions of bone. More recently, blood cells have been found preserved in ancient bones. These contain the DNA or genetic code of the individual and with the new techniques of molecular biology, this DNA can be unravelled and documented. Ultimately, the information from bones lies on paper, on computer disks and in the heads of archaeologists. The bones themselves rest in museum repositories or are reburied, usually physically undamaged.

Aboriginal people have long been concerned over the treatment of their ancestors' bones by other Australians. Although this treatment pales beside the impact of a conquering nation upon living peoples, there is still a contention that, after all the iniquities, surely the dead should be left in peace. Archaeologists in Australia are not studying their own culture's history, but that of other peoples. Legitimation of this work has not generally derived from right of descent, but from right of conquest. The conquered inhabitants have had not only their land and culture appropriated, but their history as well. Along with anthropologists, archaeologists are perceived to have stolen Aboriginal culture (both material and intellectual) and locked it away in white-controlled institutions.[10] Using this information, they have reconstructed Aboriginal culture, interpreted it, and influenced public attitudes to Aboriginal people.[11] While most archaeologists claim that this has been advantageous to Aboriginal interests, citing as proof scientific evidence of Aboriginal occupancy of Australia going back 40,000 years, Aboriginal people remain unconvinced:

It was your profession which decreed us a backward and primitive people. . . . It was your profession which allowed itself to be used by white Australia generally. . . . Your profession gained from it — it became established as a science on which the general community could rely to excuse gross atrocities committed against Aborigines. It was your profession which made its international reputation by digging up, analysing and proclaiming upon the Aboriginal dead.[12]

For Aboriginal people who believe in a Dreaming ancestry that bonded them with country from the beginning of time, archaeological theories of Aboriginal migration from Sunda are unacceptable. For some Aboriginal Christians, evolutionary theory is heresy. For others, Aboriginal control of their past is an essential part of a political process leading to self-determination or sovereignty. Whatever the specific rationale, Aboriginal people are unanimous in their desire to reclaim their own past, and particularly the bones of their ancestors.

II

As an archaeologist who has continued to study human remains during the last decade, how has it been possible to reconcile these apparently very different perspectives? First, I accepted completely Aboriginal ownership of their ancestors' remains.[13] This meant negotiating permission to carry out any field research, survey as well as excavation. It meant visiting communities along the river systems of New South Wales, from Toomelah and Walgett, through Brewarrina, Menindee and on down the Darling to the Murray River and its large Aboriginal population. It meant spending time talking to people, formally and informally, being taught good manners Aboriginal style. I learned to carry out consultation at the local football match, at a backyard barbecue or over a few beers on the river bank more than in offices.

I would discuss archaeology and take out copies of articles relevant to the region. In most areas I was initially allowed to survey and measure the many naturally eroding burials resulting from the depredations of stock and rabbits. I was not allowed to excavate or remove any remains, and I accepted these restrictions. Reporting back to communities on the results of my research was a top priority and after numerous experiments I devised a small booklet style of a dozen or so pages which aims to be interesting and readable as well as scientific.[14]

Where remains have had to be excavated and then reburied in other locations because of development or environmental threat, I have been allowed either to study the remains within the community or to bring them to Canberra for laboratory study before returning them for reburial. Where people have requested dates, which involve destruction of a small part of the skeleton, community members have selected which fragments they are prepared to sacrifice. After study, I return the remains for reburial along with a community report.

Reburial has become a part of my research practice, even though as a scientist I disagree with reburial and find it personally distressing. Reburying remains after study is not a question of dropping them off at a local Land Council office and moving on. I am expected to acquit my responsibilities to the deceased by assisting in the reburial. This may involve helping with the organisation of an appropriate ritual and laying out the bones in the grave. Sometimes reburials become major community events of great significance because an ancestor is being brought home, symbolising Aboriginal control and self-worth. At the same time, as a scientist, I mourn the loss of data, of valuable research potential, of replicable scholarship. Aboriginal people know this; I tell them so endlessly!

By now I imagine that I sound like the kind of welfare worker that some of my colleagues perceive me to be. Has my work as a scientist been curtailed or diminished as a result of Aboriginal control? I would argue to the contrary. I have accumulated a vast database of material, more than enough to enthral me for years to come. I have more remains in my laboratory at any moment than I have time to study. I have continued to publish scientific papers on a regular basis. A number of colleagues point to the time spent on consultation, suggesting that it is wasted time. At Toomelah, for instance, I spent five days in the community while people deliberated on the location of a reburial and organised an appropriate ceremony. During this period, I gave talks on archaeology at the local schools and TAFE College and accompanied one of the Aboriginal TAFE classes on an archaeological fieldtrip to look at more eroding burials. Time spent in education and exchange of views is a good investment if it is a two-way process leading to mutual respect and a recognition of different perspectives.

A scientific view of the world is not corrupted by advocacy, or by an interest in the wishes of Aboriginal people. If I acknowledge Aboriginal ownership of their ancestors' bones, that is no different than asking permission to analyse bones from France, Italy or wherever. Neanderthal skeletons are in repositories of national importance (museums). The skeletal remains of Mungo I (or Mungo Lady as she is called by Aboriginal people of New South Wales) are now in a repository of national importance, controlled by Aboriginal people.[15] Is there any real difference?

My research on ancient (and not so ancient) human remains has been curtailed in insignificant ways—a burial that I would have excavated, the bones I would have taken to a laboratory or studied for a few weeks in the field. There is much to do. In payment for these inconveniences, I have been forced to ground my research in a world outside academic journals, to 'justify my grant', to become an advocate for some Aboriginal groups. Like any other academic, I enjoy giving seminars and taking part in the cut and thrust of conferences. I have not traded off a part of my scientific soul by accepting Aboriginal ownership of their ancestors' bones. I have gained a wider perspective of how my work fits in with society. I do not write only to engage my colleagues, but to discuss science and to enjoy recreating the past, to make something out of those bleached bones that will bring a nod

of approval from people in Aboriginal communities. Apart from fellow archaeologists, Aborigines are the people most interested in my work. I receive feedback and am questioned constantly on my archaeology as much as on my ethics; increasingly Aboriginal people work with me on excavations and survey. We are working towards a cultural future. Is that so bad?

One of the greatest crimes committed by anthropologists and archaeologists has been the reification and 'ossification' of Aboriginal culture into a changeless, timeless, glorious past that has denied contemporary Aborigines a valid present or a cultural future. Negotiating archaeology and the Aboriginal past is assisting both Aborigines and archaeologists to define a cultural future that may be able to include us both and accommodate a range of points of view. In that sense, archaeology is at the cusp of culture change and it is an exciting place to be.

Reburial of disturbed or excavated skeletons has caused crisis in Aboriginal communities no less than it has in our archaeological community. Reburial is not part of a normal course of events and has highly symbolic overtones in wider society. No one knows quite what to do at reburials, and new religious and ritual practices are coming into being to mediate the eventual return of these ancestral remains. Bones occupy a particular place in the physical world that is uneasily on the edge of the supernatural, the sacred, the taboo. And this is as it should be, for they are probably the most powerful material symbol in any society. Reburials are an expression of cultural revitalisation within Aboriginal communities as well as part of a process of reconciliation between Aborigines and archaeologists, between black and white.

Skeletons are coming to the surface to tell us about our past. This is what a few Aboriginal people have told me independently. As more information is returned to communities, some people are deciding that archaeology is a way in which they can regain knowledge of their past that was so brutally repressed. If they direct me to interpret that past, will my science be corrupted? Scientists work in a social context,[16] and posterity will assess us all in the same way that we assess earlier writings. With an eye to a cultural future, I assume that my interpretations will be subject to an astringent historical view, but the facts[—]burial orientation, biology, age, personal history[—]will remain a legacy of data, to be used or not as the future sees fit.

III

Australian archaeology has experienced a crisis in the last decade. As scientists, we legitimised our curiosity by appealing to the noble view of world history, a democracy of knowledge for all, where human remains, stone tools and other items of material culture are there to inform all people.[17] No one person could own them. But in reality, archaeologists owned and controlled them and exercised power over Aboriginal people by interpreting their past. As David Cannadine has remarked in another context:

The very idea of a 'national' heritage, which is somehow 'threatened', and which must be 'saved', is often little more than a means of preserving the artifacts of an essentially elite culture, by claiming—in most cases quite implausibly—that it is really everybody's. At best, the outcome is a highly value-laden version of the past, not so much history as establishment mysterification, in which there is no room (and no need) for dissent, opposition or an alternative point of view. And at worst, the result is a neo-nostalgic, pseudo-pastoral world of manufactured make-believe, a picture-postcard version of [the] past, titillating the tourist with tinsel 'traditions'.[18]

It is possible to accept an inclusive worldview of knowledge and at the same time accept that cultures can somehow own their past; descendants can own the bones of their ancestors. There need be no tension between these views.[19] This has been one of my goals in pursuing an ethic for research that acknowledges Aboriginal ownership of their past. Evolution and the history of particular groups are of relevance to the world. Equally each group must have some measure of control over that information. As I have come to view it, this is good manners. Aboriginal people have demanded and won the right to recognition of their ownership of their past, including some measure of control and accountability of archaeological knowledge.

Can human evolution, skeletal biology, and archaeology in general proceed in a world where science has lost ground to indigenous peoples' rights and notions of national ownership? Let me step back from inflammatory rhetoric and frame the question in terms that have become increasingly relevant to me. If we exhibit good manners, is there anything in the pursuit of archaeology that we *cannot* do? The answer is no. By entertaining the notions of ownership, wider community responsibilities, interplay between academia and society, in short by engaging a set of global ethics applicable to any peoples, we can advance science. This is all any archaeologist wants and would be pleased to be part of.

What of the future? Aboriginal people have already demanded, received and reburied remains that are central to our understanding of human evolution in Australia and the world. That is not the end of bone merchantry; it is a social phenomenon that awakens us to our responsibilities. There are many remains to tell us the story of human endeavour in Australia. With Aboriginal control and interest, that story will be told.

Notes

1 Vertebra, n. (pl. -ae). Each segment of backbone; femur, n. (pl. femora). Thighbone; radius, n. (pl. -ii). Thicker and shorter bone of forearm (*Concise Oxford English Dictionary*).

2 See I. McBryde, 'The Past as Symbol of Identity', *Antiquity*, vol. 66, no. 250, 1992, pp. 260–6; M. Spriggs, 'Facing the Nation: Archaeologists and Hawaiians in the

Era of Sovereignty', *The Contemporary Pacific*, vol. 3. no. 2, 1991, pp. 380–92; J. Stone, 'Human Origins: Common and Separate Heritages', paper presented at the symposium, 'Evolution, Form and Geography', University of Sydney, 1992.

3   See C. Chippindale, 'The Stonehenge Phenomenon', in Chippindale *et al.* (eds), *Who Owns Stonehenge?*, London, 1990, pp. 9–34; R. Layton (ed.), *Conflict in the Archaeology of Living Traditions*, London, 1989, especially Layton's introduction, pp. 1–21; L. Zimmermann, 'Made Radical By My Own: An Archaeologist Learns to Accept Reburial', pp. 60–7, and 'Human Bones as Symbols of Power: Aboriginal American Belief Systems Toward Bones and Grave-robbing Archaeologists', pp. 211–16; R. Langford, 'Our Heritage – Your Playground', *Australian Archaeology*, no. 16, 1983, pp. 1–6; S. Sullivan, 'The Custodianship of Aboriginal Sites in Southeastern Australia'; and B. Trigger, 'The Past as Power: Anthropology and the North American Indian', in I. McBryde (ed.), *Who Owns the Past?*, Melbourne, 1985, pp. 139–56, 11–40. See also R. Layton (ed.), *Who Needs the Past? Indigenous Values and Archaeology*, London, 1989.

4   Numerous cut-off points have been suggested, such as the Pleistocene–Holocene border about 10,000 years ago, the 'objective' criterion of modern sea levels dating to about 7,000 years, or a suitably large number such as 2,000 years; D.J. Mulvaney, 'Past Regained, Future Lost: The Kow Swamp Pleistocene Burials', *Antiquity*, vol. 65, no. 246, 1991, p. 16. For a critique of artificial temporal barriers in archaeology, see my 'The Pleistocene is Still With Us', in M.A. Smith *et al.* (eds), *Sahul in Review*, forthcoming.

5   Mulvaney, 'Past Regained', pp. 12–21; S. Bowdler, 'Unquiet Slumbers; The Return of the Kow Swamp Burials', *Antiquity*, vol. 66, no. 250, 1992, pp. 103–06; McBryde, 'The Past as Symbol'.

6   Mulvaney, 'Past Regained', p. 12. Mulvaney's concerns over total ownership of ancient remains demonstrate the changing relations between academics, government and Aborigines. Academics have not been decision makers for some time now. Mulvaney has written:

> Any decision taken by Aboriginal communities today that involves destruction of ancient evidence, or bans studying segments of human existence, suggests gross insecurity. It replaces European cultural dominance by an equally aggressive cultural imperialism. To claim total knowledge of the past and deny the rights of others to question it, challenges the intellectual freedom of all Australians, particularly future Aborigines.

('Reflections on the Murray Black Collection', *Australian Natural History*, vol. 23, no. 1, 1989, pp. 66–72).

7   Bowdler, 'Unquiet Slumbers', p. 103.

8   Ten years ago I would have found it impossible to accept reburial of major collections, such as the Murray Black collection, an invaluable record of approximately 1,200 skeletons from the upper and central Murray River. In 1990 I wielded a shovel at the reburial of one part of the collection. I have not recanted. Rather, I have had to learn to live in a continual paradox of competing, equally demanding value systems. Giving priority to Aboriginal wishes need not necessarily represent a denial of a scientific perspective. See my 'Farewell to the Murray Black Australian Aboriginal Skeletal Collection', *World Archaeological Bulletin*, vol. 5, 1991, pp. 119–21, and 'Sharing the Past: Aboriginal Influence on Archaeological Practice, a Case Study from New South Wales', *Aboriginal History*, vol. 14, no. 2, 1990, pp. 208–23.

9   For a detailed discussion of this, see J. Hubert, 'Dry Bones or Living Ancestors? Conflicting Perceptions of Life, Death and the Universe'. *International Journal of Cultural Property*, vol. 1, no. 1, 1992, pp. 105–27; A. Morton, 'Anglo-Saxon Attitudes to Burials: Evidence from Southampton, England', unpublished paper presented at the World Archaeological Congress, intercongress on archaeological ethics and treatment of the dead, Vermillion, United States, 1989.

10 See L. Richardson, 'The Acquisition, Storage and Handling of Aboriginal Skeletal Remains in Museums: An Indigenous Perspective', in Layton (ed.), *Conflict in the Archaeology*, pp. 185–8; H. Fourmile, 'Museums and Aborigines: A Case Study in Contemporary Scientific Colonialism', in B. Wright *et al.* (eds), *Contemporary Issues in Aboriginal Studies*, Sydney, 1988, pp. 149–72; Fourmile, 'Who Owns the Past? Aborigines as Captives of the Archives', *Aboriginal History*, vol. 13, no. 1, 1989, pp. 1–8; Fourmile, 'Possession is Nine-tenths of the Law — and Don't Aboriginal People Know it!', *Bulletin of the Conference of Museum Anthropologists*, no. 23, 1990, pp. 57–67.

11 See J. Beckett, 'The Past in the Present; the Present in the Past: Constructing a National Aboriginality', in J. Beckett (ed.), *Past and Present: The Construction of Aboriginality*, Canberra, 1988, pp. 191–217; B. Attwood, *The Making of the Aborigines*, Sydney, 1989; C. Tatz, 'Aboriginality as Civilisation', in G. Whitlock and D. Carter (eds), *Images of Australia*, St Lucia, 1992, pp. 75–93.

12 Langford, 'Our Heritage', p. 6.

13 See my 'The Eye of the Storm: The Study of Aboriginal Human Remains in Australia', *Bulletin of the Conference of Museum Anthropologists*, no. 23, pp. 142–9, and 'Cross-Cultural Attitudes to Skeletal Research in the Murray-Darling Region', *Australian Aboriginal Studies*, no. 2, 1985, pp. 63–7.

14 A copy of one such report is reproduced in my 'Sharing the Past', pp. 210–21.

15 The cremated skeleton of a young woman was noticed eroding out of a lakeside sand dune in western New South Wales in 1968. The significance of this discovery lay in the age. There could be no doubt that this individual had been buried over 20,000 years ago. The remains were collected and subsequently studied by Alan Thorne ('Kow Swamp and Lake Mungo', PhD thesis, University of Sydney, 1975) with great effort on our understanding of the colonisation of Australia and the course of human evolution. The skeleton of Mungo I was the first of over 130 individuals noted or collected at the Willandra Lakes and was instrumental in the declaration of the Willandra Lakes World Heritage listing. Of more significance to Aboriginal people, this locality (and indirectly Mungo I) became the symbol of 40,000 years in Australia. Mungo I became the ancestor of a whole nation. And her bones were held by whites.

As I noted before, in 1992, the skeletal remains of Mungo I, one of the world's oldest cremations and thus of enormous significance to scientists, were handed back unconditionally to Aboriginal people. They were not bestowed by archaeologists; they were reclaimed by the local communities who controlled the proceedings on that day. The ceremony was attended by large numbers of Aborigines and almost as many non-Aborigines, most of them archaeologists. Mungo I became Mungo Lady that day in speech after speech as Aborigines stood before the gathering to welcome her home. She lies in a locked vault not far from where she was found. As Badger Bates, Senior Aboriginal Sites Officer of the NSW National Parks and Wildlife Service, said on the day: 'She's safely home, that's all that matters for now. We've all the time in the world to make up our minds.'

The return of skeletal remains to Aboriginal communities from museum collections throughout Australia has been a tragedy from a scientific perspective. Equally it has been a watershed in relations between Aborigines and archaeologists. The handover of Mungo Lady, perhaps the most significant icon for both groups, will hopefully mark the start of a new era.

16 See D.I. Hull, *Science as a Process: An Evolutionary Account of the Social and Conceptual Development of Science*, Chicago, 1988.

17 See, e.g., David Wilson, 'Return and Restitution: A Museum Perspective', in McBryde (ed.), *Who Owns the Past?*, pp. 99–106.

18 D. Cannadine, *The Pleasures of the Past*, London, 1989, p. 259.

19 See [note] 8: Stone, 'Human Origins'.

Simon Warrack

Involving the Local Community in the Decision-Making Process: The German APSARA Project at Angkor Wat (2007)

Community involvement and participation by stakeholders can enrich archaeological site conservation, making it a conflict-free and very positive process. Warrack offers a simple but eloquent and powerful example of archaeological conservation undertaken in collaboration with the community and honoring the values they ascribe to an important archaeological site. He describes the restoration of a statue of great significance to the local people at Angkor, as well as the ceremonies and conservation decisions that arose from community involvement.

The GACP (German Apsara Conservation Project) has been working at Angkor Wat for more than ten years and the first aim has been the conservation of the decayed sandstone surfaces of the carvings that render this massive temple so unique. The decay of the exposed sandstone, in some parts of the temple, has caused the complete loss of the carving and the results of the research carried out under the supervision of the Project Director Prof Dr. Hans Leisen of the University of Applied Science, Cologne have enabled the staff of the project to develop specific methods and materials for the conservation of the sandstone.

While the main mandate of the project is the conservation of the sandstone reliefs and the training of the local staff, at the same time, given the fact that this temple is still in use and is therefore a living site, a special component of the project has been the involvement of the local community in the conservation process and therefore in the decision-making process. It was their ancestors who created the temple, and since they have a deep reverence for these ancestors, it

is only natural that this facet of the site should be an integral part of the whole conservation process. This short paper will examine the lessons learnt in sharing the conservation experience in a culture very different from that of the project specialists with the stakeholders and will in particular tell the story of a conservation operation of a very significant religious object inside the Temple of Angkor Wat, the statue of Ta Reach.

As every conservator knows every site and every object has to be treated in its own context and in a way specific to its requirements and this is never truer than in the context of working with communities. In this case the conservators are working with a community that is part of a culture from the other side of the world, which means that particular care has to be taken to study and analyse the context that is alien to our own and precautions have to be taken in working with a community like this in a culture that is so different from our own[;] it is very important to transmit the right messages to the members of the community right from the beginning, so an elementary awareness of local traditions and taboos is essential.

For instance in the specific case of Cambodia it is important to take off one's shoes before entering a home and not to touch children's heads. These are easy mistakes to make and are innocent but while the local people will almost always be too polite to reprove you for your "impoliteness" it alienates you further from the people and reduces the possibility of true dialogue. It is a good idea to always try and accept, and enjoy, the food and drink that is offered and to accept invitations for dinner or other forms of hospitality. It is important to smile and never get angry and indeed one thing that Europeans find particularly difficult is to slow down, to respect the way that the local people will approach a question in what might seem a very roundabout way and above all to respect and enjoy silence. Often there may be long pauses and silences between a question asked and the answer and Europeans find these pauses difficult and often try and prompt or rephrase the question. It took a long time to learn to wait but once we had learned we found that we were greatly respected for this capacity and even told that maybe in a previous life we had come from Cambodia. It is advisable to dress casually but not sloppily, otherwise they will respect you less, but also not too formally otherwise they will feel alienated. However, you should also remember that you are from another culture; this is how you will be perceived and for them you actually represent that other culture. There is no sense in trying to pretend you are something you are not and they will not respect you for it. They will respect you for listening.

An elementary knowledge of some words in the local language is important since it shows that you are making an effort but at the same time it is also extremely important to have a translator who you can trust. They do not necessarily have to be experts in the field of conservation, in fact, sometimes it is better to have a translator who knows nothing about your subject since then they will not add anything of their own. In a number of countries I have found that with translators who are well versed in conservation practises, they tend to put in a great deal of

their own knowledge in the translation and consequently do not directly transmit what you are saying.

In the specific case of working with the community in Cambodia we have the good fortune of having been there for more than ten years and this has helped us build up the trust and friendship that is essential to this process. The first phase of the project was the formation of a team of workers who we would train as conservators and this early stage was absolutely crucial since, in a developing country with little resources, the possibility of training and employment has a special value. We were working on a site that was near a small village (Bakong near Rolous) and while we were given some staff by the conservation authorities we were careful to ensure that we would be working with the people from the village in a significant way. So we met the village leaders and involved them in the recruitment process. The village leaders not only know who are the best workers in the community but also who has a greater need, and they ensured that a good cross section of the village was included in the team and we actually ended up employing the village leader himself as well. This ensured that there was an immediate tangible economic benefit to the local community and made them very supportive. This, in turn, meant the site was better protected since it became the source of income and welfare to the community and as the increased conservation activity was also accompanied by an increase in the amount of international visitors, it meant that there was a knock-on effect and the rest of the community also benefited since they were able to sell more local produce and souvenirs. In the early stages of the programme there was still poor security and a risk of looting but this was greatly reduced once the local community became involved, since they had a vested interest in protecting the monuments that now represented the source of their economic, as well as their spiritual, welfare.

The first selection process was carried out in 1994 (on behalf of the Royal Angkor Foundation, directed by HE Janos Jelen from Hungary) and the team was created for the conservation of the Temples at Preah Ko in the district of Rolous, which is about 20 km to the east of Angkor. In 1997 Prof Dr. Hans Leisen and the GACP took over and, while work continued at Rolous on a reduced scale, new research and conservation activities were begun at Angkor Wat. When the new team was formed for the work at Angkor everyone who we had trained since 1994 was given the opportunity to join even though it was quite far to travel from Rolous to Angkor (given the state of the roads in 1997). A significant number of them joined the Angkor Project and formed the core of a new team. Many members of the first group from 1994 work with the GACP to this day and some of their children have also joined as trainees. So there is a strong community basis to the team that has, in a way, also given the European conservators the possibility of joining the local community and therefore of gaining a level of trust that is essential in the sharing of decisions and the preparation of conservation programmes.

One of the more significant operations carried out from this point of view was the conservation and restoration of the statue of Ta Reach, which stands in

the West Gate of the Temple of Angkor Wat. This is a nearly four-metre-tall stone figure with eight arms, which is said by many to represent Vishnu. Research has since shown that this is unlikely and that the statue is more probably a Lokesvara from a later period; but regardless of this, the statue was clearly a very important part of the local spiritual life, so when the technicians of the GACP were requested by the Heritage Authorities (APSARA Authority) to survey the state of preservation of the statue following the appearance of cracks in the shoulder, one of the first activities that was carried out, in tandem with the scientific research, was making contact with the local spiritual leaders. Every day gifts and donations are made to the statue and our team told us that this was the most venerated of all the statues in the temple, so it was clearly essential to involve the local people in the decision-making process from the outset since this was such an important part of their spiritual community.

We went with a number of friends out to the villages near the temple where the local spiritual leaders live and there we learnt that this statue was not only venerated by the Buddhists but, more importantly, it was part of a more ancient animist cult called Neak Ta, which involves the worship of the spirits and the ancestors. This statue represents the King of the ancestors and spirits. While every house and village has its own little Neak Ta shrine, this statue is the focal point of the whole Neak Ta cult and every Cambodian visiting the temple will always stop and pray before it and make a donation. Simple folk might leave three or five sticks of incense while more prosperous businessmen might leave whole roast pigs in order to ensure good fortune in investments. As couples prepare for the marriage ceremony they will always stop and pray here and people even rub the ankles of the statue to bring luck in the National Lottery.

However we were not only concerned in gleaning knowledge but, given the importance of this statue to all of them, we also wanted to know how they felt about us carrying out a conservation/restoration operation on such a sacred object. Was it correct for us to touch it, or to dismantle broken parts and also would they approve of the removal of the cement replica head and the return of the original that we had found in the cellars of the Royal Palace in Phnom Penh?

They were surprised to be consulted, and very happy, and gave us a great deal of advice as to how we should approach the conservation operation. They were concerned that we should limit the drilling of holes for pins and dowels as far as possible since this might be offensive, for obvious reasons, and we assured them that we expected to carry out very little since there were many original holes created during a sixteenth century restoration which we intended to use again. Three of the arms of the statue were presently made of concrete from a previous restoration in the 1980s and were damaging the original stone, as were the rusting iron dowels inside them. They agreed that this "alien" material should be removed and requested that we make new arms out of the local sandstone, which was more authentic, local and was thus [imbued] with the spirits of the ancestors. This type of integration is not

always approved of by European conservators since it is often seen as a falsification or replica and in most museums new arms would not be carved and attached to an ancient statue. However, in this case, the statue is a piece of living heritage that is in use, so the situation is different. It would have been totally against the will of the community to remove the arms and leave the statue with these evident lacunae and so we agreed to include the attachment of new arms in local sandstone in our proposal. They also asked us, as far as possible, to use other natural materials. Given that we were evidently making compromises, they too were willing to compromise, which was why they always stated that we should "as far as possible" use local materials. We were able to respect this not only for the sandstone of the arms but also in the case of the consolidation of the lacquer that covered much of the surface of the statue, since we had found someone who was still producing the lacquer in the original way. However, we were obliged to use epoxy resin for the attachment of the heavy fragments and we reinforced them with stainless steel or fibreglass dowels. Finally we agreed to erect special scaffolding that gave access to worshippers at all stages of the conservation operation, having programmed the latter so that it fell between the most important festivals of the Neak Ta calendar.

At the end of one of these village meetings the local leader (or Achar) invited us to attend a ceremony, which was being held the next day in front of the sanctuary. This ceremony revolves around a man who acts as a medium for the spirit that is embodied by the statue and in the course of the ceremony he goes into a trance. While he is in this trance, a woman whispers in his ear and tells him what is happening in the community and he reacts accordingly. To our surprise we found, from our friends who were translating, that the woman was telling the King of the Ancestors and Spirits what we intended to do to him, including the fact that we were going to remove three of his arms and his head. He immediately became very disturbed and began to cry until she whispered again in his ear that we were going to give him new arms that would make him stronger and were going to bring back his original head. So we were now not only including the local community in the decision-making process but also the local deities. Fortunately they approved and he became greatly reassured and even joyous and began to dance.

One of the more serious problems associated with this conservation programme was due to an administrative anomaly. When the Angkor Archaeological Park was inscribed on the World Heritage List a special authority was created, by Royal Decree, to manage the site. This well-intentioned idea, however, had the effect of removing the management and administration of the Angkor Site from the Ministry of Culture and Fine Arts, which then found itself in charge of all the heritage in Cambodia bar Angkor. Clearly this did not bode for a good working relationship between the two institutions.

Our problems lay in the fact that prior to the formation of the APSARA Authority, the head of the statue of Ta Reach had been removed to Phnom Penh

for security reasons and had been deposited in a box below the throne room of the Royal Palace, which is outside the area administrated by the APSARA Authority and falls under the auspices of the Ministry of Culture and Fine Arts. We found ourselves in a situation where the body was under the APSARA Authority and the head was under the Ministry. In this delicate situation we, as Foreign Consultants decided that the most correct way to proceed was to remain firmly within our technical field. This heritage was all Cambodian and the decisions had to be taken by the Cambodians, so it was essential that there should be no sign of any foreign intervention or pressure on either party. We therefore prepared three proposals, all of which were technically feasible, and presented them for approval to all the authorities. Only one of these proposals included the return of the original head, the others proposed the conservation of the concrete head or the removal of the damaging concrete and the presentation of the lacuna. We expressed no clear preference or opinion except that we, as technicians and guests at Angkor, were willing to carry out whichever technical proposal the authorities decided to choose.

At the same time the word was spreading among the local communities that the statue of Ta Reach was to get his head back and in a period prior to local elections this became an important issue. Suddenly none of the politicians wanted to be seen as the one who had refused to return the head of the most important statue in the country to its rightful place. Permission was granted.

It was granted because of the key role played by the local people and it was also returned because we made a very clear statement to the National Authorities that they were the key protagonists in the decision-making process.

Obviously we encouraged them in a certain direction by the way in which we proposed the restoration work, but they were definitely involved and essential to the whole decision-making process from the beginning to the end and this was greatly appreciated. Furthermore, the way we had made the proposals absolutely reflected the wishes of the local spiritual community and was our way of genuinely involving them in the decision-making process.

The operation of the transfer of the head from Phnom Penh to Angkor was shrouded in secrecy since none of the authorities wanted anyone to know that such a valuable object was being transferred across the country by road. In fact, we were only told that we would be able to act when it had already arrived in the APSARA Authority Depot and that, at that point, we would have to reattach it the next morning. We were duly informed one Saturday night that it had arrived: we had already prepared the scaffolding and loosened the concrete head so that this operation could be carried out quickly and the next morning we set off at six with a military escort.

However, when we arrived at the West Gate we were all surprised to find that there were more than two hundred people sitting in front of the sanctuary where they had prepared altars, a choir of Buddhist monks and a small orchestra

to welcome the returning head. The various authorities accused each other of leaking the news, but the fact is that there is no such thing as a secret in Angkor and the locals had been informed, probably by a guard in the depot, and had spent the whole night preparing the ceremony. The head was removed from its packaging and perfumed and blessed as were all the people attending the ceremony. We were more than happy to take part in this whole process because at that moment it was very clear that the piece was no longer anything to do with us or any of the authorities, but was the property of the stakeholders who had turned out in force to see it returned at last.

It was the first artefact to be actually returned to the site and it is hoped that this highly successful operation will now be followed by others since it is a sign that there is security and effective management at the site. The return of the head and the restoration of the statue brought a noticeable increase in the veneration of the statue and we followed up the operation with a series of meetings with the community to assess the impact and to keep them involved in the process. They are definitely very happy about the restoration and say that there has been an impact on the community at various levels. The people who already took an active role in the veneration of the statue are, of course, happy and have prepared new vestments and altars to permit the correct worship by more people, but they also told us that the younger people in the village have a revived interest due to the fact that so much attention has been focused on this operation, not just by local authorities but also international agencies.

Finally they told us why the medium, who had so impressed us in the early ceremony, had not been present at the return of the head. It transpired that, in spite of his qualities as a medium, he had not known that it was coming back on that day and had been in the neighbouring province in Battambang where he had been booked to carry out a Neak Ta ceremony. He had been shocked to find that for the first time in his life that he was unable to go into a state of trance and he was very worried that he had lost the capacity to embody the spirit until he returned to Angkor and discovered that the ceremony for the return of the head had been held at the same time, so evidently Ta Reach had chosen to attend that ceremony rather than his less important one in Battambang.

The repercussions of the particular conservation operation have not only been positive for the local community but also for the GACP. While the quality of the conservation science of the project has earned international recognition in the conservation world this special operation, backed by the technical solidity of the project, gave the reputation of the project an added boost. The involvement of the local community has permitted the GACP to create an effective conservation team with a high sense of loyalty to the project and has had a noticeable impact on their careers and professional lives as well as their credibility within the community. The team are always part of the conservation decision-making process and are now in a phase in which they are being prepared for a much greater degree

of independence from the International Consultants. There is no doubt that the programme would have been less successful without the degree of involvement and sharing among all parties that characterised the evolution of the project; and in the specific case of the restoration of the statue of Ta Reach, the success of the restoration programme actually hinged on the involvement of the Cambodians in the decision-making process at every level from the villages right across to the Ministries.

PART V

Archaeological Site Management

As archaeological conservation has become more institutionalized and enshrined in state regulation, it has become a significant discipline in its own right and has acquired its own corpus of critical theory. Archaeological heritage management in the twenty-first century developed out of a Western concern for the conservation of material objects, which—to paraphrase Laurajane Smith (reading 19)—developed into the institutionalization of archaeology and conservation in state agencies and discourses. In addition to dealing with conservation, archaeological heritage management is implicitly concerned with the definition of aspects of cultural identity and associated political issues. It is often, therefore, a contested field.

Part V concentrates on the development of issues in archaeological heritage management that relate specifically to effective archaeological site conservation and the range of further issues, challenges, and conundrums that arise from this narrow focus. The readings address the legal, political, and social context for effective policy development and site management, conservation and management planning processes, management techniques, consultation and community involvement, visitor management, and interpretation.

The globalization of heritage conservation practices presents a key challenge for archaeological heritage management. Practitioners based or trained in the West have struggled to recognize the "Western" origins of the discipline and the need to consider the appropriateness of the transfer of these heritage conservation practices to other cultural contexts. The gradual inclusion of diverse countries into the international heritage community through institutions such as the World Heritage Committee has immensely enriched our global cultural heritage, at the same time bringing recognition of a wider range of heritage values and traditional conservation practices. Intangible values have joined the tangible in international charters and instruments, and archaeological landscapes have equal parity with specific and monumental archaeological sites.

Colonial archaeological features, conserved within a modern structure, provide the focus for education and interpretation at the Sydney Harbour YHA and BIG DIG Archaeology Education Centre in Sydney, Australia. Photo: Cecile Knowles, Godden Mackay Logan Pty Ltd

Recognition of the diverse values of archaeological sites and the complexity of their management environment has progressed along with the recognition that long-term conservation requires integrated planning and management strategies, not merely care of the fabric or regulation through legislation. Values-based management is now seen to provide an effective method for conserving and managing all the values of archaeological sites and to be transferable between cultures. The challenge, of course, is to ensure that these values are well understood from a range of perspectives. Stakeholders may have perspectives, requirements, desires, and approaches different from those of archaeologists, and their involvement in management decisions can therefore be critical to a project's success.

The role of the archaeological site manager has also evolved. Recognition of the multiple values of archaeological heritage and growing ownership assertions by a range of communities has meant that both physical conservation and management are less and less the preserve of experts. There is more involvement from the general community and from groups with special interests or custodial rights. Archaeological heritage managers therefore need a range of additional skills to deal with these new challenges; they may lead by example but no longer by fiat in the face of community views and aspirations. The social context of archaeology has historically involved presentation of archaeological sites to an eager and enthusiastic public, but interpretation (which should develop in tandem with excavation and conservation planning) is increasingly regarded as a core conservation activity.

Approaches to the conservation and management of archaeological sites must be realistic. Conservation actions need to be based not only on retaining value but also on a clear understanding of what can be achieved. Implementation techniques for managing the sometimes complex economic, political, social, and technical issues at archaeological sites can include consultation and community involvement, visitor management (responding to the needs of both place and visitor), awareness of political circumstance, advocacy, and training. There is no one technique or strategy that fits all circumstances.

The development of concepts of archaeological management does not negate the importance of effective and appropriate physical conservation of sites; this remains a major theme and a major concern of site managers and administrators. Rather, the development of integrated heritage management, which incorporates appropriate physical conservation, can be seen as a response to the rapidly changing world that has increasingly threatened the archaeological resource at all levels and as an indicator of the discipline's growing maturity and sophistication. As yet, insufficient attention has been paid to some of the broader management issues within the archaeological community. Unresolved problems remain. However, there are excellent examples that reflect evolving methods, different site types, and diverse cultural contexts. While different management issues and methodologies are demonstrated at different places, the successful exemplars are bound by the common theme of integrated site management.

Perspectives

Successful heritage site management can be defined quite simply as the long-term conservation of all the cultural values of a site. Successful site management, however, is complex and multifaceted, and all its elements are interconnected. On-site we are dealing with a web of cultural values, with technical, social, and political problems and opportunities, as well as resource needs, and with the multiple cultural and economic connections between the heritage site and the local and broader community. All these factors are constantly changing, and the site manager needs to take them all into account to ensure long-term conservation.

While successful site management involves expert care of the site's fabric, in which many senior managers are highly qualified and skilled, it also involves dealing with issues as diverse as tourism pressure; landscaping; water management; financial management and fund-raising; liaising with the local community; finding ways to meet the needs of regional government and the tourism industry without compromising cultural values; running a training school for guides and managing visitors; designing and installing exhibitions; dealing with ongoing and regular maintenance, aging infrastructure, and staff amenities and accommodation; and conducting conservation and academic research.

This point may seem obvious, but many managers and management structures are ill equipped to deal with this level of complexity. By concentrating on a narrow range of issues, often relating to fabric conservation, and neglecting many other elements of site management, they allow significant damage and deterioration of the site and the development of political or social issues that can endanger its long-term viability.

—Sharon Sullivan, "Managing Cultural Heritage Sites: Some Parameters for Success" (2010)

Chiang Saen is an early Buddhist community in northern Thailand dating from the 14th century. It is regarded as an important historic site and therefore as deserving of preservation and protection. A presentation plan for this ancient town . . . has been in operation since 1957. Forty years of attempts to develop the site have seen profound differences in attitude between local people and the government archaeologists and technicians. Problems such as looting, damage to and deterioration of the ruins, and site encroachment have hampered heritage management in the area. Research on the management of the site . . . [reveals] a number of

reasons why this well intentioned preservation project has met difficulties. . . . Government officials conducting CRM work at the site often blame local people for not cooperating with an 'official government project', and for failing to understand the informational value of the site. Local people take a different view; they understand that the site and/or archaeological remains found there belong to the government, so they believe it is the government's responsibility to take care of them. They do not feel a sense of ownership for the cultural property. Interviews with local people suggest that public education and interpretation must be taken seriously. Local people are ready and willing to help if they feel they have a stake in the CRM program.

> —Sawang Lertrit, "Who Owns the Past? A Perspective from Chiang Saen, Thailand"
> (1997)

Visitors and heritage have a symbiotic relationship. People need heritage to add perspective and meaning to their lives. However, it is rarely possible for visitors to directly experience heritage without causing some sort of impact, whether physical, biological, chemical, social or cultural. This impact may reduce the quality of heritage values and the visitor experience.

> —Colin M. Hall and Simon McArthur, *Heritage Management in Australia and New
> Zealand: The Human Dimension* (1996)

The beginning of Cambodia's return as a major destination of international tourism was the beginning of a turbulent journey which would bring numerous contradictions, paradoxes and dilemmas. By the late 1960s [. . .] Cambodia was about to witness an explosion in tourism unparalleled in any other country in recent times. [. . .] [T]his infant industry would focus overwhelmingly on the spectacular temple complex of Angkor. After decades of trauma and with the country heavily dependent on international aid, reconciliation, cultural rejuvenation and economic rehabilitation were urgent and simultaneous demands. Located at the heart of this matrix, Angkor is an intense and fractious convergence between agendas of cultural preservation and socio-economic development. The situation is especially severe due to the country's need to restore a national identity severely damaged by prolonged conflict, the immense scale of the past to which that identity adheres and the dependence of the State on the revenues of tourism.

As a result, Angkor is enduring one of the most crucial, turbulent periods of its 1200-year history. Its immense historic importance, along with its global prestige, has led to an influx of international assistance, with more than 20 countries . . . devoting millions of dollars to help restore and safeguard the temples. While such efforts have prioritised architectural restoration and archaeological research, the

number of international tourists visiting the site has risen by a staggering 10,000% in just over a decade. Not surprisingly, the Royal Government has paid far greater attention to this growth in tourism, with Angkor now regarded as the 'cash cow' of much-needed socio-economic development and wealth generation for a country plagued by shattered physical and social infrastructures. In such a context, culture, history and local communities become entwined in an elaborate set of political, economic and social relations.

—Tim Winter, *Post-conflict Heritage, Postcolonial Tourism: Tourism, Politics and Development at Angkor* (2007)

Sharon Sullivan

Conservation Policy Delivery (1993)

Archaeological conservation regimes have spread across the world. This has created both opportunities and challenges. Sullivan canvasses some key issues relating to the history and development of archaeological heritage management in a global context from a practitioner's point of view. She explores the "Western" nature of modern heritage conservation and the implications of globalization of these concepts for site conservation and management in a range of cultures. Referencing Australian and international experience, Sullivan suggests some parameters for the successful adoption and transfer of traditional heritage conservation practice in the development of legislation, policy, and site management methodology in an international context. In particular, she espouses an open approach to the range of values that heritage places have in a variety of cultures, the need for local ownership of heritage planning processes, and the adoption of a realistic attitude to achievable heritage conservation and management under varying circumstances.

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Cultural heritage conservation, as we know it and as it appears in international conventions, is a recent—and not a universal—idea. How did it arise? Henry Cleere (1989:7) traces the desire for the preservation of cultural relics in Europe to the Enlightenment, which led to an appreciation of the material culture of the

past. Monuments, temples, buildings, castles, streetscapes, landscapes, and the movable items that relate to them are now listed on European (and other) heritage inventories and museum catalogues (Byrne 1991).

In turn, this appreciation for cultural heritage material turned into a sense of fear at its possible loss, in the face of the great upheavals of twentieth-century European history and the advancing tide of the industrial and postindustrial revolutions. It is fear of their loss that increases the value of things we have previously taken for granted. The speed and scale of social and technical change in the twentieth century is unparalleled in history. It is no accident that it has been in the twentieth century that the Western world's appreciation of its heritage has developed into powerful and well-supported national and international conservation conventions and supporting administrative systems.

Such systems, however, show their ancestry plainly. They do not express a universal view of the value of the past, or its management. We can trace in many cultures a respect for, and an active use of and conservation of, the past over many centuries (see for example "Loving the Ancient in China," by Wang Gungwu, in McBryde 1985). Such traditions vary greatly both in their approach and in their philosophical origins. As Byrne rhetorically asks, "If the heritage management we now see in the West derived from an Enlightenment shift in Western thinking, then how can one account for the presence of this same heritage management of countries of the non-Western world which did not experience the Enlightenment?" (Byrne 1991).

To some extent, as Layton (1989), Byrne (1991), and others point out, the current international heritage conservation conventions, and to a large degree their adaptation to various non-Western countries, is in itself a postcolonial phenomenon, or at least a relic of Western influence. This prevailing conception of heritage is also, on the evidence, a very powerful and attractive idea. It is seen as good citizenship in the international community and as a potentially powerful tool for new nations seeking to build a "modern" society and to foster national identity and self-esteem in their citizens. Hence most non-Western countries have adapted some form of these conventions or at least acknowledged their worthiness, and many have heritage management units that mirror Western systems. Byrne points out that an examination of the papers on archaeological management presented at the Southampton World Prehistory conference, which came from all over the world, shows that they all adhered closely to essentially Western-bred conservation methodology.

What, then, are some of the implications of the widespread application of this Western model on policy delivery in the Asian/Pacific region?

First, it is clear that the Western model, as well as Western rationale and methodology, can be an imposition on top of traditional values and lifeways that differ from it, and which run "across the grain." To quote Byrne (1991) once again:

> The problem is . . . likely to be in the lack of fit between the Western approach
> to heritage management and indigenous social systems and values, a case of
> what the development experts call "inappropriate ideology transfer." Non-
> Western countries do have an appreciation of their past, but they are finding it
> difficult to develop appropriate mechanisms to implement it, beset, as they are,
> by outside insistence on the Western model.

In particular, many non-Western cultures have a spiritual rather than mate-rial view of what of their past is valuable. They see individual objects and places as vehicles of great value for communicating deeper, spiritual meanings. The Western view focuses much more on the material aspects of place, and "sees heritage as deductive symbols, with an emphasis on historical legibility" (Wei and Aass 1989). It is this emphasis that leads to the "freeze-frame" methodology we are presented with as an ideal in such documents as the Venice Charter, which may not accord well with a non-Western "sense of place."

We should try not to exaggerate these differences and the resultant meth-odological difficulties. However, it should be noted that another possible result of the uncritical or unintegrated adoption of nonindigenous models of heritage conservation can include the encouragement of divisions within the society and the disempowerment of certain sections of the community. The new models may be administered by a new heritage management elite whose values are rather dif-ferent from those of the population at large, along with their traditional guard-ians, and the skills and long experience associated with them. Indigenous views and feelings about the past held by the wider community come to be disregarded. Often the definition of the "right" or "correct" training and skill is rewritten and then imposed without consultation or integration. A good example of this is the practice whereby in some areas "heritage items" have been removed from their living context, and their continuous use, with the aim of "conserving" them. They cease, for instance, to be living temples or sacred places and become "historic sites" set in heritage aspic.

Another typical phenomenon, which we have seen often in both Australia and America, is the tendency for the "heritocrats" (Bowdler 1988) to appropriate minority or indigenous culture as the heritage of the nation or the world. Hence the management and interpretation of Aboriginal or American Indian sites and culture passes to the academics and administrators, and effectively out of the own-ership and control of their creators. This dispossession has powerful consequences. It constitutes a disinheritance of what is often the only remaining possession of such groups, and it takes control of society's perspective on such minority cultures out of the hands of the people most affected by how their cultures are viewed by outsiders (e.g., see Trigger 1985, Sullivan 1985). This in turn can lead to a tendency to denigrate or discourage traditional use, and to blame or denigrate the traditional users.

The Western model imposes on bodies of cultural material the analytical rigor of categorization, division, and quantification, in place of the synthetic inter-pretive modes of integration and association. This has important implications for conservation practice at many levels (a point to which I will return later in this paper), but a key point I would like to make now is that there is a tendency for there to be separation—affecting legal systems, administration, and methodology alike—between nature conservation and cultural conservation. This split is detri-mental to both, and tends to impoverish and isolate our views on, and practice of, conservation of the cultural environment.

Western models are also often out of scale with the societies or nations that seek to adopt them. Many Western solutions are costly and require an infrastruc-ture and level of maintenance that are unavailable in the region, and that are based on assumptions about conditions and priorities that are out of touch with local circumstances.

It is ironic that the new heritage management establishment, and the changes it seeks to impose are in themselves made necessary by the modernization or "development" of non-Western countries, itself a Western import. Many of the factors threatening heritage in the late twentieth century arise directly from this process, and have led (often as a desperate measure) to the imposition of laws and administrative structures that were not really necessary in the past. The complete disappearance of streetscapes, landscapes, traditional lifeways, and indigenous lit-erature and language is proceeding more rapidly than at any time in the past—at a catastrophic rate, in many cases. This is quite symptomatic of the effects of devel-opment. A good comparison is with the plethora of anti-pollution laws, standards, and compliance mechanisms, made necessary by the rapid increase in the possibil-ity of major pollution incidents.

So these are some of the well-acknowledged problems and tensions that affect policy delivery in the heritage field. However, it is easy to overestimate these difficulties, while failing to acknowledge the very real strengths of the methodology developed to date, and the real and exciting possibility of developing and enrich-ing it further, through its thoughtful adaption to local needs. There are numerous examples of the adaption of international conventions with flexibility and wisdom. Two specific examples of the successful adaption of the Venice Charter are the Burra Charter, of ICOMOS Australia, and the Declaration of Oaxaca, developed in Mexico. ICOMOS New Zealand is also developing a document that will be known as the Charter of Aotearoa.

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A review of the problems of international conventions and standards, and of the imaginative and creative adaptations of them, leads me to suggest that there are some key factors to consider when we come to matching an inherited cultural

heritage conservation methodology to the needs of differing societies and political systems.

We need to continually test the models we are using for the appropriateness and effectiveness in the environment in which we are trying to use them. The basic elements of our heritage management systems and their expression in legislation and in management structures and conservation practice must arise out of the ethos and social environment of the particular culture we are seeking to conserve. Over-all, the power of place and object in the society, and its multifaceted significance to all elements in that society, must be continually kept in view. The development of integrated methods for assessing cultural value is a key task of policy deliverers.

Perhaps the most important consequence of these considerations is the necessity to ensure traditional and community involvement and support at all levels. This is often a slow and difficult path—and one that may produce fewer short-term gains—but in the long run, the conservation of cultural heritage can be achieved, and its integrity and meaning preserved, only by adherence to this principle.

It follows also that heritage practitioners should exercise the utmost caution about the uncritical adoption of recipes from elsewhere, no matter how enticing they may seem, or how appealing the recipe book. In particular, the scale of the proposed measure or policy should be matched with the situation in which it is being applied.

Ideally, the holistic nature of conservation and especially the integration of the cultural and the natural environment should be a principle that guides the development of conservation methodology and practice. [. . .]

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Legislation and Administrative Systems

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Protective legislation is an expression of an ideal by or on behalf of society. It thus has a powerful symbolic value and can be used to justify and promote conservation, even when its actual force is meager. Often the mere existence of a law protecting sites has a very important psychological effect on the site's owners and visitors, since they recognize the site as something valued by society. Used in this way, legislation is an important management tool. Because legislation is not necessarily the expression of the present political will, however, it is often ineffective—or can be made to be ineffective; that is, when a government finds a particular piece of legislation inconvenient or politically problematical, it can usually overturn it or find a way around it.

Legislation is only a framework in which to work—it is not a management recipe. The more it attempts to prescribe detailed management practices and

actions, the more cumbersome and difficult to administer it becomes. Most of the planning and decision-making done by managers will not have a direct legislative base but will exist within a general enabling legislative framework.

A checklist, based on our experience to date, for the development of good legislation might include the following:

- Heritage legislation must arise out of the society for which it is intended and must fit with the traditions, mores, values, and political/social structure of that society.
- It must include strong, mandatory, and workable community involvement and consultation processes.
- It is closely linked to, and provides for, an administrative structure and ongoing financial support (e.g., by the provision of a heritage fund).
- It provides specific custodial and/or consultation rights for those groups (if any) particularly and traditionally linked to the heritage material it seeks to protect.
- It recognizes both the rights of the individual and the fact that cultural property is everyone's heritage. It does provide for resumption by the state in some circumstances.
- It emphasizes positive and enabling provisions (e.g., tax incentives, education funding, and listing of important places).
- It has a minimum of deterrent clauses, which concentrate on key areas and which are enforceable.
- It provides penalty clauses that are real deterrents in the case of serious offenses.
- It provides for an effective field management component (e.g., local or regional staff and administrative back-up).
- It is closely linked to, or embodies provisions about, land planning, environmental impact assessment, and land management legislation.
- It is very simply written and readily comprehensible; it has the "flattest" decision-making structure that is practical.
- It makes recording and registration procedures for sites mandatory.
- It allows for—but controls—destructive research by professionals and managers.
- It protects sites grouped into classes (rather than as individually gazetted places) and defines "damage" and "destruction" broadly.
- It provides for emergency short-term protection (in the form of "interim conservation orders"), to allow investigation of significance, as well as long-term conservation.
- It provides for the protection of a buffer zone around the actual site, to allow for its protection from indirect damage.
- It protects sites on land of any status.

- It provides for "conservation agreements" with site owners, with monetary incentives for cooperation.

In general, minimum rather than maximum legislation is recommended, especially when there is any question as to whether there exist adequate resources for effective implementation. [. . .]

Identification, Documentation, and Inventories

The issues we need to consider relate to the establishment of workable recording systems and inventories, and the conservation and usefulness of records and other documentation. A usable and accurate database is the basis for effective heritage conservation, and it must be emphasized that such a database must be (1) designed to meet consumers' needs, (2) integrated with other systems, and (3) flexible and adaptable.

Inventories as we know them today are the tools of centralized, modern bureaucratic operations, where quantification and set rules for assessment are held to be desirable. We do need such tools to manage in our modern environment, but it is easy to fall into the trap of believing that the inventory is the heritage. Inventories and catalogues do not, however, represent the way people think about places or objects. Inventories almost invariably divorce places and objects from the historical and cultural context, and they ascribe to places and objects an importance they cannot have in themselves.

In Australia, cultural managers have built up an impressive inventory of Aboriginal places and have acted to conserve individual places, without recognizing that Aboriginal sacred sites are merely pinpoints or markers in a sacred and significant landscape, created by the ancestral heroes and from which the individual places derive their significance. In the same way, almost any site has a strong cultural landscape—the local regional and wider historical and cultural context—and a physical landscape, and it loses a great deal of its significance, richness, authenticity, and depth of meaning if it is studied or conserved in isolation. As David Lowenthal said recently, "Everything is important, or nothing is important" (personal communication 1991).

The dangers inherent in sampling or grading our history are also apparent. We can legitimately type and grade the temples in Thailand, or the churches in rural England, and decide which are the most typical, the most architecturally worthy, the most spiritually or historically significant, but these five hundred or five thousand buildings and complexes have, *en masse*, a profound effect on the landscape of these places: In a way, they define it and influence its other elements. Sampling—or seeking to conserve the "best" or most outstanding—will not preserve the ambience or sense of place which they give to the landscape.

This pervasive quality of heritage is both more important and more fragile than its component parts.

We also need to consider the question of movable objects and their relationship to place. Often it is the authentic objects associated with a place that give it its richness of context, or that serve as a trigger to the imagination. Yet often the artifacts are lost, disposed of, or moved to the national museum for safekeeping. This is often necessary—but the cultural context and the primary significance of objects also need to be taken into consideration.

Conservation Planning

The Venice Charter and adaptations of it, such as the Burra Charter, are really recipes for conservation planning. The overriding question is: To what extent are they necessary, effective, and practical? There are very many conservation plans that have never been implemented sitting on all our shelves gathering dust. There are several reasons why conservation plans are inoperative or ineffective.

Perhaps the first thing to consider in heritage conservation planning is what is necessary and what is not. [. . .]

[. . .] The sequence of the procedures is also most important. It is crucial to establish the cultural value of the item before planning its conservation and to design a conservation policy that depends on this, as well as on management constraints and opportunities, before taking up the design of appropriate conservation measures.

Significance Assessment

Wide experience confirms that the assessment of cultural value or significance is the essential first step in this process. This may seem obvious, but its neglect is a major factor in poor conservation planning. [. . .]

It is necessary for several reasons to state clearly all the values of a given place. First, an articulated statement about the significance of a place is an essential piece of information for any planner to consider in making basic decisions about the place's future. Second, even when we are aware of the value of a place in general terms, and the decision has been made to conserve it, the comprehensive enumeration of all its values is needed for the formulation of a successful conservation plan. The aim of such a plan should always be to retain the cultural significance of the place. If we know of only one value of a place, we may, in aiming to conserve this value, inadvertently destroy another. Hence the conservation of the living tradition of a site is sometimes in conflict with its scientific value, or the social or religious significance of a place to a particular group may be in conflict with its potential educational value to the broader public. In the case of physical

conservation, during a "restoration" process, we may unwittingly destroy fabric at least as significant as that which we are attempting to conserve.

The Venice Charter lays great stress on sensitive physical conservation aimed at preserving significant elements that relate to the place's past. However, an emphasis on the historical meaning is not always the automatic outcome of a significance assessment. The process of significance assessment may reveal that the main value of the object is actually architectural, and that it requires stabilization or restoration (in Venice Charter terms). Or (and this is where the process seems adaptable to differing cultures and traditions) the main value of the item may be as a living spiritual or symbolic icon, which gains its significance by ongoing use, change, and development. Consequently, as Wei and Aass (1989:8) note in a discussion of an appropriate conservation policy for monuments in China that have this kind of value, in the field of the conservation of monuments such as Qufu, the Forbidden City, or Chengdu, allowing continuous repairs or even rebuilding respects this emphasis on the spirit of the original monument. Although the physical form may change, the spirit and purpose of the original not only is preserved as a continuity, but can be enhanced through the contributions of succeeding generations.

The decision on how to proceed in such a situation will depend very much on the value(s) the particular society gives to the place. This social context may dictate some unexpected cultural management options, such as permitting its ongoing traditional use, a change in custodianship, no intervention, or ongoing renewal and rebuilding.

The concept of assessment of value is loaded with cultural assumptions and cultural interpretations, which make the process both very exciting and, of necessity, subject to differing processes and outcomes. It is rarely clear-cut and never objective (despite the Western bias to both overvalue objectivity and to believe in the possibility that it can be achieved). There are a few issues of further importance in the process of significance assessment. Perhaps they are best phrased in terms of the characteristics of cultural value, or significance:

Significance is almost always multifaceted. The cultural value of a place or object seldom (if ever) resides in a single definable value. Moreover, its value will be different for different elements in society. Perhaps the most common and dynamic clash of values in the late twentieth century is that between "scientific" and "social" values. In archaeology, this conflict is well expressed by Adouasio and Carlisle (1988): "The quest of the 'new archaeology' was to discover nomothetic covering laws to 'explain' human behaviour. The utility or simple desirability of writing culture history took a backseat to more formal hypothetico-deductive model testing." The more we move toward these concepts, the further we move from the present social or societal value and context of heritage sites. In one sense, a profound current of antihumanism lurks within modern scientific research into the past, which leads to serious conflicts between a site's research value and its social

value. This is particularly a problem when it occurs in a postcolonial setting—that is, when the heritage material in question is the cultural heritage of an indigenous/minority group.

Significance assessment therefore demands a careful balance between empiricism and humanism (i.e., the values of the traditional culture). We all strive for "objectivity" in assessment, and the standard assessment procedures are designed in part to achieve this neutral, dispassionate stance. However, our initial interest in the material is rooted in humanistic concerns, and in the "love of place" that flows from them. The task for the cultural-resource manager is one of empathetically interpreting the different structures of meaning associated with sites, and of developing a broadly framed understanding of the significance of places in people's lives, in both the present and the past.

Cultural significance cannot be assessed in a cultural or geographic vacuum. The cultural context of the site needs to be assessed, and the site needs to be seen as one manifestation of a complex and changing human society, in order for its value to be fully revealed.

The multifaceted nature of significance has important implications for significance assessment methodology. It is important to ensure that all the key interest groups are involved in significance assessment. In many cases in Australia, regional or local heritage studies have been carried out by professional heritage consultants, but these projects have been termed "hit-and-run studies" because of the lack of community involvement in the assessment and in the proposed conservation solutions. This is one area in which conservation methodology in Australia needs improvement. An interesting study undertaken recently by the Australian Heritage Commission in a small Australian country town confirmed the results of an "expert study" of local heritage by surveying the views of local residents on these matters. There was a pleasing congruence between residents' assessments and those of the experts, bur also some interesting differences. Local residents tended to have a more holistic view of the town and to value life processes and rhythms rather than individual buildings or events. They placed much more emphasis on the importance of particular landscape elements in the town's present life pattern and articulated clearly the value of continuity as well as the importance of some elements of change.

Significance or cultural value is always comparative. Ideally, we need to know the universe of such sites before we assess an individual sample. At the very least, sites must be assessed in a regional and local context.

Significance is a dynamic concept. The significance of a site may change as knowledge increases, as society's values change, and as sites become rarer. This means that assessment should be an ongoing process.

Significance or cultural value assessment is more often practiced for places than for objects. Yet such an assessment is an essential prerequisite for the conservation and display strategy for movable objects. To recognize the importance

of this principle, we need only look to the inappropriateness of displaying certain objects—or in some cases, the inappropriateness of attempting to conserve them—when such actions violate, endanger, or destroy the cultural significance the objects hold for their creators.

Conservation Options

Having assessed the significance or cultural value of a place or object, or of a corpus of such items, we often have to assess the options for their conservation. This process depends, in brief, on their value, on their cultural context (what is appropriate in the culture in which they exist), and on the management climate (what goals are practical).

The traditional culture in which these items exist plays a very important role in the conservation strategy chosen. Here once again we find that traditional assumptions and prescriptions stem from European attitudes about preservation and conservation. The Venice Charter was not written in the tropics. It was designed with a more stable climate in mind and with the mind-set that comes from this—one that favors stability, lack of change, and preservation with minimum intervention. Its designers apparently had two major aspects of heritage in mind: the great examples of European development that led to "the Rise of Civilization" (as they saw it) and the monuments that remained of the great "lost" civilizations of the Near East. This outlook can be ludicrously inappropriate when applied to tropical environments. The philosophy, outlook, and values of tropical cultures tend to be radically different with respect to expectations of, and strategies for, conservation. Rebirth and renewal are much more the norm than conservation and immobility. To see this we have only to observe the difference between a medieval European cathedral, rated as to value in terms of its intactness, and a Buddhist temple, rated as to value in terms of its spiritual vitality, most often expressed by change and development.

These issues are closely connected to the important question of "restoration" or "conservation" techniques. Should physical conservation be a role reserved for specialists—a task consigned to an elite equipped with the latest scientific methodology—or should it arise from traditional practices of use and replacement? Standards of traditional workmanship and conceptualization are high and exacting—as indicated by the traditional Indian measure of good masonry: "An ant should not be able to climb it." Yet modern "scientific" conservation is often necessary, because the process of development and displacement has destroyed traditional crafts. The question we must address, then, is where to place our priorities—whether in the high-tech conservation of a valuable cultural icon, or in the gradual encouragement and restoration of traditional cultural skills and crafts. Here we return to the question of what is desirable for the future—and when the issue is phrased in this way, it seems obvious that, over the long term, only contin-

ued traditional use and renewal will conserve the fragile and valuable fabric and spirit of the world's various cultures.

It follows that conservation options must suit the society for which they are designed. This relates not only to the issue of traditional cultural practices and mores, but also to what is actually practical and achievable in a society where the priority afforded cultural conservation is often, perforce, fairly low. High-tech solutions often prove to be short-lived. Even more noticeable to the objective observer is that such measures are often not targeted to the most pressing and simplest of problems. The case of Australian rock-art conservation provides a good example. This body of art is probably the greatest and largest in the world. Many high-tech solutions for its conservation have been proposed. It is certainly true that this art is in an unstable medium, and that it is threatened by natural elements over time.

Complete prevention of natural weathering is almost impossible, and many of the proposed solutions are intensive (with a five- to ten-year lead time), site-specific, and too costly for most conservation authorities. In their effort to discover and document this state of affairs, the researchers proposed very extravagant schemes. However, many overlooked another obvious point: Most of the damage was occurring, dramatically and irrevocably, as a result of the actions of unmanaged or poorly managed visitors. It proved relatively easy, and low-tech, to study visitor behavior and to devise methods to modify it. Often, the simplest and most obvious management techniques are overlooked, even though they return the largest conservation bonus, and require only the simplest methods and technology.

Some Key Elements for the Success of Conservation Planning

It follows from what I have said that conservation planning and conservation practice must be practical and applicable to the local situation. There are numerous models from which to choose. I have discussed some of the options and some of the elements that I consider to be essential. Outside these technical guidelines there are others that relate to the appropriateness of the whole process to the society in which it exists. In brief:

- Conservation planning must be realistically suited to the cultural and social conditions of the society.
- Conservation planning must be designed and written with the involvement and agreement of the key players—conservation professionals, local staff, local interest groups, politicians, and so on.
- Conservation planning and practice must be realistic in terms of cost, technical feasibility, and the ongoing management structure and funding.
- Conservation planning never takes place in the ideal situation—one that would allow us to contemplate cultural value divorced from proposed use, or to carry out regional assessment prior to site assessment. In the real world,

cultural conservation planning is generally carried out under crisis conditions, relating to visitor pressure, to political agendas, and to ongoing social disruption and disempowerment. The key is to operate within this environment to find the most realistic and authentic solution to a complex and exciting problem.

In summary, the major point I have made here about conservation policy delivery is that the conservation policy must evolve from the society whose heritage it seeks to conserve. In this region, we have a unique opportunity and responsibility to develop a new set of such policies, which are an integral part of our developing societies and which respond sensitively to their needs. Furthermore, we have the opportunity to enrich and reinvent the ethos of heritage conservation, and hence to contribute significantly to the ongoing development of the discipline and its practice.

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References

Adouasio, J. M., and R. C. Carlisle. 1988. Some Thoughts on Cultural Resource Management Archaeology in the United States. *Antiquity* 62:234.

Bowdler, S. 1988. Repainting Australian Rock Art. *Antiquity* 62:517–23.

Byrne, D. 1991. Western Hegemony in Archaeological Heritage Management. *History and Anthropology* 5:269–76.

Cleere, H. 1989. Introduction: The Rationale of Archaeological Heritage Management. In *Archaeological Heritage Management in the Modern World*, H. Cleere (ed.). London: Unwin Hyman.

Layton, R. (ed.). 1989. *Conflict in the Archaeology of Living Traditions*. London: Unwin Hyman.

Sullivan, S. 1985. The Custodianship of Aboriginal Sites in Southeastern Australia. In *Who Owns the Past?*, I. McBryde (ed.). Oxford: Oxford University Press.

Trigger, B. 1985. The Past as Power: Anthropology and the North American Indian. In *Who Owns the Past?*, I. McBryde (ed.). Oxford: Oxford University Press.

Wang Gungwu. 1985. Loving the Ancient in China. In *Who Owns the Past?*, I. McBryde (ed.). Oxford: Oxford University Press.

Wei, C., and A. Aass. 1989. *Heritage Conservation East and West*. ICOMOS Information 3.

Martha Demas

Planning for Conservation and Management of Archaeological Sites: A Values-Based Approach (2000)

Archaeological site managers in the modern world face a constantly changing and increasingly complex array of values, issues, and threats. This circumstance has led to a search for a values-based management planning system that provides for long-term conservation in a realistic and achievable way. Demas provides a model for a robust and comprehensive conservation planning system in which all of a site's values are assessed, including those of stakeholders, and provides for ongoing management of the threats and issues relating to these values. Importantly, this methodology integrates the need for physical conservation with the need to tackle broader, and equally significant, management issues.

In recent decades, the need for a planning methodology for the conservation and management of archaeological sites has arisen in response to the rapidly changing world in which we now operate. The extent and pace of change—whether manifest in the physical destruction of sites, in the varied uses of sites, or in our ways of thinking about and valuing the past—pose an enormous challenge for those involved in preserving and interpreting the archaeological record. In the face of such challenges, the planning process described in this paper provides a way of managing change and making decisions about the way in which an archaeological site will be conserved and managed in the future. It is premised on the following three assumptions or convictions that have been explored in previous papers presented at the workshop and in this publication:

1. Many of the problems facing archaeological sites today [. . .] are rarely capable of being solved definitively, but can be managed; that is, their adverse impacts can be mitigated or controlled.
2. The best or most appropriate decisions for a site are those that will preserve the values of the place and are sustainable. [. . .]
3. "Good" decisions are the result of careful planning.

Accepting these premises, the planning process will serve as a road map for making good decisions and managing problems. Although this process can be applied to all types of cultural heritage, the emphasis in this workshop and paper is on archaeological sites; in particular, those sites already recognized as having value and, therefore, having been given some form of legal protection and public access.

Why Is There a Need for a Planning Process?

The benefits of engaging in a planning process, which requires a commitment of time and staff, are not always easy to appreciate in the midst of crisis management—the state in which many managing authorities of archaeological sites find themselves. Too frequently, importance is attached to a specific outcome or destination (a "plan"), while the process for achieving that end (the "journey") is undervalued or overlooked. The process in and of itself always yields benefits that go beyond any specific outcome—or, in the words of the Alexandrian poet Constantine Cavafy, the journey makes you "rich with all you have gained on the way."[1] In more prosaic terms, the benefits of engaging in a planning process may be stated as follows:

A planning process is an opportunity to

- create a shared vision among staff responsible for the site and external parties who have an interest in the site;
- involve key players, and thereby strengthen relationships, negotiate conflicts, and form alliances that will benefit the site;
- engage in transparent decision making; that is, to make the decision-making process open and clear to all;
- reassess, evaluate, and synthesize information about a site; and
- take account of the needs of future generations as well as our own.

A planning process is also a powerful tool for

- thinking and making decisions in a logical way;
- sorting through complex issues facing archaeological sites today;
- setting priorities by understanding what is really important about a site;
- explaining and justifying decisions; and
- ensuring that the results of decisions are sustainable.

Finally, where altruism fails, there is always self-interest to help motivate the unconvinced. All the current trends in conservation point to management planning for archaeological sites as the tool of the future. Anyone dealing with international organizations today will have seen that trend whether it be the European Union, UNESCO (United Nations Educational, Scientific and Cultural Organization), ICCROM (International Centre for the Study of the Preservation and Restoration of Cultural Property), the World Heritage Centre, the World Bank, or granting programs, such as the Getty Grant Program or the Heritage Lottery Fund in England. All of these organizations are engaged in management planning initiatives or require management plans prior to approvals for funding.

Why This Particular Planning Process?

The planning process advocated here has its origins in the Australia ICOMOS (International Council on Monuments and Sites) Burra Charter, which has been used by Australian government agencies and the private sector for over twenty years with a high degree of success and continues to evolve in response to experience and changing values [. . .].

This process places values and the participation of a wide spectrum of interested parties at the core of the decision-making process. This is an adaptable and flexible process: it is culturally adaptable in that it has been adopted and used successfully in many parts of the world and it is flexible in that it can be applied to a site, a region, or an entire country or even to an individual monument or structure within a site.

Despite all these commendations, however, neither this nor any planning process is a magic formula for making the right decisions; the process is only as good as what one puts into it. Valid data are essential, but so too are the efforts toward building relationships based on trust and mutual understanding.

The Planning Process

The planning process is structured as a logical progression from the collection of information (phase 1), through assessment and analysis of all the factors that influence management of the site (phase 2), to decision making (phase 3). Implicit in this structure is the understanding that decisions cannot be made in a vacuum but are the result of sound information and the careful assessment and analysis of that information. The three major phases of the planning process are as follows:

1. Identification and Description: collecting information;
2. Assessment and Analysis: taking stock; and
3. Response: making decisions.

Planning Process Methodology

| **1. Identification and Description** |
| *Collecting Information* |

1.1 **Aims**	1.2 **Stakeholders**	1.3 **Documentation and Description**
What are the aims and expectations of the planning process?	*Who should be involved in the planning process?*	*What is known about the site and what needs to be understood?*

| **2. Assessment and Analysis** |
| *Taking Stock* |

2.1 **Cultural Significance/Values**	2.2 **Physical Condition**	2.3 **Management Context**
Why is the site important or valued and by whom is it valued?	*What is the condition of the site or structure; what are the threats?*	*What are the current constraints and opportunities that will affect the conservation and management of the site?*

| **3. Response** |
| *Making Decisions* |

3.1 **Establish Purpose and Policies**
For what purpose is the site being conserved and managed?
How are the values of the site going to be preserved?

3.2 **Set Objectives**
What will be done to translate policies into actions?

3.3 **Develop Strategies**
How will the objectives be put into practice?

3.4 **Synthesize and Prepare Plan**

| **Periodic Review and Revision** |

Figure 1
Flowchart showing planning process methodology.

This structure also implies sequence: a beginning, middle, and end. A common mistake among those professionals with decision-making responsibility has been to begin at the response phase—that is, to make decisions—and then work backward to collect and assess information that is relevant to those decisions. While the integrity of the process rests on following sequence, it is also important to recognize that this is an iterative process; that is, it is not strictly linear in its progression and frequently necessitates looping back to previous steps to check, clarify, and augment information and modify the assessment. Graphic presentation of the process in the flowchart (Fig. 1) shows the logical progression of phases, but the dynamism and feedback loops are more difficult to convey and need to be kept in mind.

The result of the process is a plan that makes clear a strategic vision, while it documents and publicizes the essence of the process's three major phases. It stands as a record of the process and the decisions reached about how the site will be conserved and managed for a defined period of time.

1. Identification and Description

The first phase of the planning process—identification and description—is essentially about gathering background information and laying the groundwork for the assessment and analysis phase to follow. There are three discrete aspects of this phase, which are not necessarily sequential:

1.1 Stating the Aims

During the initial stages of the planning process, the lead organization and those stakeholders who will play a key role should be encouraged to state their motivations for engaging in the process and what it is that they anticipate getting out of it. Each participant will come to the table with preconceived ideas and expectations; therefore, it is important for all involved to hear these expectations and begin to establish common ground, as well as to understand where expectations differ and may be in conflict. This stage of the process is not to be confused with making decisions about a site at the beginning of the process: rather, it is a way of clarifying the planning process itself, its aims, and the eventual outcomes.

1.2 Identifying a Planning Team and Stakeholders

The planning process is in essence about bringing the right people and organizations together with the correct information. Identifying the individuals and organizations to participate in the process is, therefore, critical to success in making good decisions about a site. The managing authority (that is, the principal decision makers of the lead organization), which will lead and guide the planning process, takes on this responsibility.

The selection of a core planning team to oversee and guide the process is the first step in identifying the right people and ensuring continuity throughout the process. Although outside expertise may be required, it is crucial to involve in-house professionals (that is, professionals from the managing authority) so they feel like they are a part of the process (ultimately they will have some level of responsibility to carry out the decisions).

The second critical group to identify are the stakeholders: that is, those who have a special interest or stake in how the site is used, developed, interpreted, or preserved; those who have the potential to impact the site (for better

or worse); and those who are themselves impacted by what happens at the site. These are the people who will need to be brought in or consulted as the process unfolds.

Typically, stakeholders include the following:

- Government agencies, such as environmental agencies, tourist agencies, religious authorities, or nongovernmental organizations (NGOs) with an interest in the site;
- Archaeologists and other researchers who have done significant work at the site;
- Groups with an affinity or ancestral relationship to a site, such as Native Americans in the United States;
- Local community members who benefit economically or who want to use the site for commercial or social purposes; or conversely, who may be adversely affected by the site as a result of land disputes or influx of tourists and traffic;
- Private tourist agencies representing the interests of tourists and local or regional business interests; and
- Specialized tourists, such as religious tourists or pilgrims, or groups who come in large numbers and may have special requirements or may impact the site.

The makeup of this diverse group will vary depending on the context of the site. At many archaeological sites in the Americas and Australia, groups claiming an ancestral relationship may play an important role; at other sites, tourism interests may be paramount. Some stakeholders, especially those who exist outside the social and political power structures, may need encouragement to become involved or express their opinions. In these cases, it is important to find culturally appropriate ways to engage them in the process.

These are the people (or their representatives) who should be invited to participate in the process. This is often one of the most difficult steps for the managing authority, who may question the practicality or perhaps the very premise of inviting stakeholders to the table. The reluctance to do so stems from the feeling that we will give away control of our sites to people we may not like—to the very people who cause us sleepless nights and who we believe damage the site, degrade its values, or wish only to exploit the site for economic gain. Against this sense of loss of control should be weighed the pitfall of not inviting others to participate and the benefits of bringing them into the process.

The Pitfall: There is one major pitfall associated with not inviting stakeholders to participate: they will cause you grief later. To adapt an adage from the 1960s, if you do not make these people part of the solution, they will make themselves part of the problem.

The Benefits: Stakeholders can offer resources, knowledge, different perspectives, and a concern for different values that we need to recognize in order to make deci-

sions about the site. If these stakeholders are on our side, or at least engaged in the process, they can become very powerful forces for good. At the very least we will have more opportunity to influence them or mitigate their impact by understanding their intentions and their motivations. Furthermore, this is not a one-way street: it is equally important for stakeholders to understand the perspectives, constraints, and values of the managing authority if the authority hopes to enlist their cooperation for the benefit of the site.

If the practicality of engaging stakeholders is being questioned, the following mechanisms and strategies have been developed to help manage consultation and enhance cooperation:

- Use an external facilitator: a neutral outsider, who is trained in bringing people with diverse interests together, can be helpful in negotiating difficult relationships;
- Convene small workshops to address specific issues: planning is often most efficiently done with relevant stakeholders in small intensive workshops at key points in the process;
- Prepare discussion papers on key issues: a clear exposition of difficult issues for comment by relevant stakeholders is a way of soliciting interest and gauging reactions prior to engaging in face-to-face discussions;
- Undertake a tourism marketing study: determining the site's potential economic benefit to the local community, or ways to ensure that profits from tourism stay in the community, displays a commitment to stakeholders;
- Target the educators: enlisting the support of teachers within a community will bring to the fore stakeholders who have a special interest in the site and are highly regarded by the community; and
- Encourage the development of advocacy groups: community members with interests in the site may be eager to contribute their skills and can be a means of persuading and influencing the larger community for the benefit of the site.

It is undoubtedly easier to write a plan oneself or bring in an expert to do it than to engage in a participatory process, but the end result is always less viable. Participation and consensus-building almost always results in some compromise, which means that values may be affected. The closer one can get to a true participatory process, however, the better the chances to reach realistic decisions that can actually be implemented and sustained over time and will preserve the multiplicity of values of a site.

1.3 Documenting and Describing the Site

The purpose of this step in the process is to delineate the components of the site and to collect and synthesize information and documentation. This involves

identifying and inventorying important documents and archives; delineating the boundaries of the site (both legal and cultural); and identifying and naming its specific components for purposes of defining discrete management entities (if appropriate) and for consistent reference throughout the planning process and in the planning documents.

The archaeology and history of sites for which planning is being undertaken is often well known and documented. What this stage in the process offers is an opportunity to identify gaps in knowledge that will influence decisions about the site; this is a time to assimilate and synthesize what is known and identify what is not known. The information that is most important in this synthesis is the history of interventions, both excavation and conservation, and the state of research at the site.

The mistake that can be made with this activity is to see it simply as compiling information for its own sake. Rather, the activity needs to be seen as strategic: the results will inform the assessments and contribute to establishing policies for research and excavation, interpretation, conservation, and use of the site.

To conclude, phases 1 through 3 will provide the necessary background preparation, in terms of clarifying the aims of the process, identifying stakeholders, and collecting and synthesizing data, to move into the next phase.

2. Assessment and Analysis

Assessment and analysis is the core of the planning process. Decisions made about the site will flow directly from this phase, with the implication that much of the burden of work and the integrity of the process reside here.

There are three types of assessment in this phase:

2.1. Significance: establishing why the site is important and to whom;
2.2. Condition: establishing the physical condition and identifying threats; and
2.3. Management: establishing the constraints and opportunities that may affect the ability of management to preserve and protect a site.

The understanding of the site and its management context derived from these three assessments will guide all subsequent decision making. Although an assessment involves collection of information, it is principally a process of evaluation and analysis of information, in which value or worth is revealed, and relationships analyzed—both cause-and-effect relationships and those between people and institutions. In this undertaking, the skills of analysis and synthesis, as well as experience, are important qualities to look for in staff and consultants assigned to carry it out.

2.1 Assessing Significance

Why is this site important or valued and by whom is it valued?

Since archaeological sites have no meaning other than those we give them, one can understand the importance of a place only by defining its values. [. . .] [T]he multiplicity of values attributed to archaeological sites derives from the varied perspectives and judgments of persons, professional groups, and communities. Within the planning process, the assessment of significance serves to identify the range of values that people have attributed to a site, which, in turn, drives the decisions about why and how to preserve and protect the site.

It is necessary to remember, however, that the idea of conservation as a values-driven process for making decisions is not a new one. A values-based approach to conservation is precisely what lies behind the traditional reliance on conservation guidelines and principles of the type that we are familiar with in the Venice Charter and other national and international guidelines, such as the principles of minimum intervention, reversibility of interventions, compatibility of materials, and distinguishing old from new materials, to name the most prominent. All of these principles derive from the high value we place on authenticity and original fabric, artistry, and design. These are the historic and artistic values that have been the foundation of conservation theory for the last century. Principles or guidelines help us translate these values into practice.

With a values-based approach to planning, we are simply expanding on a traditional reliance on values to inform a broader range of decisions. In the last thirty years of conservation practice, society has been transformed through a resurgence of ethnic and racial identity, a concern for the natural environment, increased access to information, global tourism, and many other factors, with the result that there are now many more groups of people (the stakeholders) with a vested interest in archaeological sites, and, therefore, many more values with which to contend. Archaeologists—who were once the sole group with a recognized stake in archaeological sites—are now only one of many constituencies vying to define the significance of archaeological sites.

At its most fundamental level, therefore, the planning process is a means of identifying those diverse values and the constituencies that they represent and integrating these values into decision making about a site.

Values Attributed to Archaeological Sites

Looking briefly at the variety of values attributed to archaeological sites, one can distinguish two broad categories of values. Historical, artistic, and research values are the traditional or core values, as defined by the professionals who have long had an academic or professional stake in sites. Natural, social, spiritual, symbolic, and economic values are championed by a more diverse and recent set of stakeholders, whose claims

on archaeological sites are today a reality. It is these latter values (and their varied constituencies) that are often not sufficiently considered when assessing significance.

Historical and artistic values, along with research values discussed below, have been the core values of the stakeholders with the greatest interest in archaeological sites until very recently—namely, the archaeologists, historians, art historians, and other scholars whose professional lives depend on archaeological sites. More than any other category of cultural heritage, archaeological sites are repositories of information and artistic creations essential to understanding the past. For this reason alone, historical and artistic values, which have been central to informing conservation decisions in the past, will continue to be of fundamental importance to guide decision making about archaeological sites.

When it comes to particular buildings or features at a site where intervention is planned, however, frequently we do not consider these values in sufficient detail nor do we articulate them in a way that is meaningful for decision makers and the public in general. The more intervention planned, the greater the need for a clear and detailed understanding of why a site or structure is important: what are the particular features, design elements, materials, technology, and historical associations that give this structure or place historical and artistic values? This point comes up again when strategies are discussed below.

Research value is the potential of a site to yield new information and answer research questions. This is an especially important value for archaeological sites— one that is often not considered adequately when making decisions about the future of a site. We tend to plan for and manage sites based mainly on their revealed or known values, but it is equally if not more important in the case of some sites, to manage them for their future potential to yield information. The implications of identifying and understanding this potential will be seen most clearly when it comes to establishing policies and objectives; for instance, sites with high research potential often need protection against looting, poor excavation strategies, erosion, agricultural activity, and so forth. The relationship between research value and decision making is further explored in the example of policy development at the end of this paper.

Natural values are evident in the survival of habitats or species of flora or fauna, especially at sites that have long been protected but not fully excavated or opened to the public. There may be a conflict of values when excavation or presentation to the public is contemplated. Conversely, of course, many places protected as natural reserves preserve important archaeological remains. Under this same rubric might also be included landscapes and vistas, and more elusive values such as clean air or a clear night sky unimpaired by light pollution.

Social or civic values relate to how people use sites: for recreation (for instance, picnics or social gatherings); for concerts and festivals; for social rituals or ceremonies; or as a focus for regional or national pride or political sentiment. These

values can create a very strong bond between the site and its proximate communities, which often makes the site part of the civic activity of a community once again. The ability of a site to impart knowledge and understanding of the past to the public—its educational value—is another important way that it can serve a greater social purpose.

Spiritual or religious values are associated with spiritual or religious aspirations of diverse groups, and may be manifested in a traditional or contemporary manner. New Age spiritual seekers have shown a significant interest in certain archaeological sites, attracted by astronomical events or ancient myths; the gathering of such groups at archaeological sites during the so-called Harmonic Convergence in 1987 is one such example. Christian pilgrimage at many archaeological sites in the eastern Mediterranean has flourished with the increase in international tourism.

Symbolic or identity values are the means by which specific groups claim their place in the world through a spiritual and cultural connection with sites, or these values may assert or symbolize a community's ethnic or cultural identity. The strong links between prehistoric archaeological resources and aboriginal peoples is now a political reality in many countries.

Economic values of archaeological sites have lingered for some time in the shadows, a vaguely sinister presence that we would sooner banish from the pure land of culture. Many heritage professionals prefer to exclude economic values from the roster of values, seeing them as secondary to or derived from the primary values. Such exclusion, however, does not reflect the reality of many archaeological sites today. For many major stakeholders—local community, business interests, and government agencies—the question "Why is this site important and to whom is it important" can only be fully answered with reference to its economic value. That this economic value is a reflection of the site's cultural and natural values is key to framing the issue, but it does not diminish the economic value in the eyes of the stakeholder.

Conservation and the derivation of economic benefit from sites are not inherently antithetical but have been too frequently cast as antagonists; clearly it is time for a more productive discourse. As a profession, we need to consider more carefully the fragile but potent relationship between cultural and economic values, broadly speaking, and the relationship between the site as economic benefactor to a local community or the national treasury and the investment required to conserve and maintain that site. We also need to better understand the willingness of the public to sacrifice tangible and quantifiable economic benefit for the "public good" (that is, the less tangible and quantifiable values that society attributes to heritage sites). It is, of course, the tension between that segment of society willing to forego economic benefit to preserve a place and those who hold economic values most dear that must be negotiated at the level of the stakeholder and within the context of values.

How Do We Assess Significance?

Assessment of significance requires a comparative approach. We cannot assess the importance of a site in isolation: one needs to look at a building within the context of other structures and the whole site, and to examine the site within its regional context. Without a comparative approach, it is not possible to say whether a site is unique or rare, representative of a particular period and culture, a well-preserved example, of high or low research potential, and so on.

Significance is multifaceted and, therefore, may require expertise from different professions and input from varied stakeholders. The stakeholders will play one of their most important roles in making clear what it is they value about the site. Attempts to establish methods and criteria for identifying significance abound. While there is no consensus on approach, criteria, or categories of values—nor likely ever to be one—the many models put forward offer insights and ways of thinking about values.

Who Should Make the Assessment?

An assessment of significance must be done with integrity, empathy, and sincere intent to consult with and understand other people's perspectives. Outside expertise is often required for greater objectivity, but final responsibility falls on the managing authority, which must ensure completeness of information and coverage, and the integrity of the process. The core team is often the most knowledgeable about a site, while stakeholders can provide a broad understanding of the varied meanings associated with a place.

What Is the Outcome?

The assessment results in a clear statement of significance that reflects all the values of a site, It is not at this stage, however, that one resolves conflicts among values; this occurs in the next phase, when formulating policy. All values need to be assessed, recognized, and put into a statement of significance, but potential conflicts need to be identified and acknowledged.

2.2 *Assessing Physical Condition*

What is the condition of a site or structure; what are the threats?

The purpose of a condition survey is to document and assess the physical state of a site or a structure. The end product of a condition survey is an archive of valuable graphic and written documentation representing baseline data about the site, which can be used to make recommendations for its future use and treatment and to monitor change over time. Assessment of a site's physical condition is viewed

by some practitioners as being a part of the management assessment because it involves evaluating strengths and weaknesses of the site. This is a good way of looking at this assessment since the physical condition of a place will have tremendous influence on its use and the level of intervention needed to preserve it.

A condition survey will generally proceed in the following three basic stages:

- Collection of historical documentation relating to past condition, use, and previous interventions to structures or site. Some of this documentation may have already been identified and gathered in phase 1.3.
- Objective recording of the current physical condition. Condition recording, like standard archaeological recording, strives to be an objective record of what exists. It is concerned primarily with effects (with what one sees), rather than causes.
- Diagnosis and prognosis. Diagnosis is concerned with examination and analysis of current condition to determine probable causes of deterioration. It requires an integrated approach through analysis of the whole structure or site, using the knowledge and experience of specialized disciplines such as architectural conservation, engineering, hydrology, and so on, and may also necessitate further research and long-term monitoring. Implicit in diagnosis, but not usually brought forth explicitly, is prognosis. By linking extant conditions with historical documentation and diagnosis, rates of deterioration may be estimated, and thus priorities of intervention are brought to the fore in decision making.

The condition survey is also the time to identify significant threats to a site such as erosion, vegetation, floods, cliff instability, and other external forces; or from human actions such as visitation, looting, inappropriate development near the site, or lack of maintenance. A detailed condition survey of a building or features can be a lengthy undertaking and one needs to decide the level of recording needed for purposes of planning. On a large, complex site, the outcome of a condition survey may simply be prioritization of problem areas or identification of structures that need more detailed condition recording or monitoring. Undertaking of such recording would then be integrated into the plans for the site in the future.

2.3 Assessing Management Context

What are the current constraints and opportunities that will affect the conservation and management of the site?

The management assessment looks at all the relevant factors other than condition that may affect the future conservation and management of the site. Some of these factors involve assessing the sort of information that managers of sites deal with all the time, ranging from financial resources to visitor statistics. Other aspects may

benefit from an analysis of the political and economic context in which the plan will operate. This could mean determining, for instance, the plans for regional development and projections of tourism to the area, and identifying the real power brokers who make decisions that will affect the welfare of the site. The management assessment is in some respects a reality check and needs to be tackled early on in the process. Along with the condition assessment, the results of the management assessment may restrict how values can be preserved and revealed.

Examples of Categories of Management Assessment

Legal and legislative context: Is the legal protection for the site sufficient? Does it have an adequate buffer zone? Is there legislation that needs to be taken into account or that may impose constraints in making decisions for the future, such as land-use or zoning regulations?

Financial base: What financial resources are available? Are there opportunities for securing funds that should be explored?

Power base: Who are the people and institutions that hold decision-making power at the local, regional, or national level? How can the managing authority best leverage this power base for the good of the site?

Infrastructure: This refers to capital development and improvements, often to accommodate visitors, such as roads, parking, amenities, restaurants, and so forth. What is the current situation and what are future needs? Where can development be located and what will be its impact?

Regional and local development context: Are there regional and local development plans that may impact the site? Can the plans for the site be integrated with other, regional plans?

Visitor numbers, profile, and impact: Are visitors a threat to the site? Has a carrying capacity been established, and if not, is it warranted? What is known about visitors to the site? Is more information needed?

Structure of organization: Is the management organization adequate to meet current and likely future needs? Can it be changed or augmented within the existing legal and financial context?

Staff resources and expertise: Is there sufficient staff with the appropriate expertise? Do the staff need training in particular areas of expertise?

Monitoring and maintenance systems: Are the existing systems adequate? Is maintenance receiving priority before any new interventions, such as restoration of a building or new excavation? Can the resource be adequately maintained in the future?

Research assessment: What are the research needs of the site? What are the gaps in knowledge, as identified in the synthesis of background information in the first phase?

This type of assessment—sometimes called a SWOT analysis, since it looks at Strengths, Weaknesses, Opportunities, and Threats—is mainly the responsibility of the managing authority, which generally deals with it in isolation; however, it benefits greatly from consulting with relevant stakeholders for two reasons: first, stakeholders have information the managing authority needs and may well have resources it could use, and second, stakeholders are more likely to be cooperative or understanding if they realize the constraints under which the managing authority is operating.

Some aspects of a management assessment may be highly political and beyond the control of the managing authority. This is all the more reason to assess what we can control, and therefore where we can be most effective.

Achieving a global view of the main values, issues, conditions, threats, and opportunities that arise out of the assessments is essential to understanding how the condition and management assessments may impact the values of a place. This will require a concise summary of the main values, issues, conditions, and so on, so that they are readily understandable and accessible for the purpose of making decisions in the next phase.

3. Response

The response phase is in many respects the moment of truth in the planning process. This is when decisions are made resulting from the assessments of significance, condition, and management context. This is also the time when any conflict of values is resolved or a compromise found, and when the preservation of values must be balanced against existing constraints of condition and management context. In this difficult process of balancing values, stakeholders' interests, and existing constraints sustainability principles [. . .] can serve as a useful guide to making decisions.

The overarching guiding principle, however, for determining whether decisions are appropriate is that they preserve the values of the site. If, as a result of decisions taken, values will be destroyed or compromised, this is where we make clear why and what steps will be taken to mitigate or compensate for loss. [. . .]

There are three levels of response, which can be seen as a hierarchy of decisions progressing from the general to the specific:

3.1. Establishing Purpose and Policies: deciding the overall vision and guiding principles;
3.2. Setting Objectives: deciding what will be done; and
3.3. Developing Strategies: deciding how it will be done.

3.1 Establishing the Purpose and Policies

For what purpose is the site being conserved and managed? How are the values of the site going to be preserved?

Policies, or guiding principles, as they are sometimes known, are the critical link between the assessments of values, condition, and management context on the one hand, and the objectives and strategies on the other. Policies identify the most appropriate ways of preserving the values of a site and serve to guide its future care and development. In establishing policies, it is necessary to ask the following questions: is this a policy that will preserve and reveal the identified values? Does it conflict with other values? Is it technically and financially feasible? If all the values of a site cannot be fully preserved, policies will address how to reduce adverse impact or compensate for loss of value and will explain why a particular value cannot be preserved.

It is useful to establish policies in terms of programmatic or activity areas— examples of which are given below—since most, if not all, of these categories will be carried through the rest of the process; that is, through to establishing objectives and the strategies needed to achieve the objectives. Nevertheless, it is equally important that policies for programmatic areas add up to a unified vision for the site. A broad statement of purpose in managing the site is, therefore, a necessary prelude to ensure that the overall vision does not become fragmented in multiple policy statements.

Examples of Typical Policy Categories

The following examples of policy categories reflect typical programmatic or activity areas that are applicable to most archaeological sites, but additional or different categories can be defined to better suit a particular site and its management needs.

Appropriate Use   Appropriate use is a broad and very important policy category. It can govern use of a site for research and excavation purposes; for access by the public and interpretation to visitors; for entertainment, recreation, or other social purposes; for religious pursuits; for commercial gain; and so forth. One sees most clearly here the connection with value assessment and stakeholders, since stakeholders often want to use the site in a particular way. Thus archaeologists are major stakeholders who want to use the site for excavation and research purposes; tourist authorities or agencies may have a strong interest in the use of a site that draws large numbers of visitors; and community leaders or special-interest groups may claim a stake in the use of a site for recreational or other social purposes. If any of these uses will have a significant impact on the site and its resources (such as the use of an ancient theater for performances) or if any use is of particular relevance to an archaeological site (for instance, a policy on research and excava-

tion, as described below), these can be discussed in separate policy statements. It is helpful, however, to have a general statement on appropriate use that puts specific uses in the context of the overall vision for the site.

Conservation Intervention   In this category typically are policies that define a philosophy of intervention or establish limits to intervention. Such policies may require that interventions be governed by existing international or national charters, guidelines, or laws. These are important from both a legal and professional perspective, but they cover fairly general ground. In addition to these general policies, it is always good to try to spell out what is special about the site. So, for instance, for sites with monumental classical buildings, where restoration, anastylosis, and reconstruction are often practiced, one might want a specific policy addressing those types of interventions; or on a multiperiod site, there might be a policy that refers to conserving all periods or favoring one period by removal of later buildings or deposits, or by reburial of earlier remains. All policies, but especially controversial ones such as allowing removal of later deposits or buildings or reconstruction of a building, must be justified in terms of the significance assigned to the site.

Visitation and Interpretation   Closely linked with conservation and use policies are those policies related to visitation and interpretation: what will the visitor see; where will access be denied; will there be limits on visitor numbers or an attempt to increase visitation or attract a particular type of visitor; is a policy needed on differential fees for local versus foreign tourism? A policy could also relate to interpretation—whether it is the language of interpretation or the need to interpret a site in a sensitive manner to a particular constituency; here again the relationship between stakeholders and values is obvious.

Interventions such as restoration or reconstruction often have their rationale in the desire to interpret a site to the public, rather than in the need to conserve a building. In this case it is the educational value of the place that is being promoted, and this should be made clear in the policy statement.

Research and Excavation   Research and excavation policies, which may also include curation of artifacts, are clearly among the most relevant for archaeological sites. Typically, policies will state the general conditions under which research and excavation can take place, and set limits on the extent and nature of excavation, or forbid any excavation. Policies may also address such issues as ensuring adequate integration of conservation during and after excavation, and the protection of archaeological resources that have not been excavated.

Maintenance and Monitoring   A policy statement is an opportunity to establish the critical importance that the managing authority places on maintenance and monitoring. A policy, for instance, might make clear the role that is played by maintenance as a preventive measure in slowing damage at a site. Even

where maintenance practices are routine, they should be given high priority and emphasis within the formulation of policies. Since most maintenance regimes are repetitive and interventionist, however, they can lead to loss of fabric (for example, continuous repointing). Thus, depending on the maintenance needed, some caveats or limits may be in order.

Facilities and Infrastructure   Policies under this category may address ensuring standards for design and construction and placing limits on the extent and location of facilities for touristic and commercial development, interpretive exhibits or displays, water and utilities, transportation and parking, and so on. A policy might also refer to the need for archaeological clearance prior to any subsurface disturbance for construction of facilities or infrastructure.

Consultation   There may be a need for a policy to ensure ongoing consultation with and involvement of the stakeholders in situations where stakeholders hold opposing views, where they need to be reassured that their views are being taken into consideration, or where regular input would be of value to the managing authority.

To summarize, the statement of purpose and policies defines the broad framework and limits within which specific actions will take place. Taken together, they provide the big-picture thinking about the site. The picture that emerges may reveal, for example, a site where research and excavation are paramount while visitation and interpretation to the public is restricted or even prohibited; a site where use for social and tourist purposes is balanced with research and excavation; or a site where tourism prevails, infrastructure development is extensive, and excavation is forbidden.

Whatever the picture is, there should be a demonstrable correspondence between it and the values identified in the assessment of significance; that is, the picture should reflect what is valued at the site. If it does not reflect this, it needs to be stated why not. In writing policy statements, therefore, it is important that context is conveyed by indicating what values are being preserved or what constraints or conditions prevail that make preservation of a value difficult or impossible.

Policies, therefore, set the stage for why the managing authority is following a particular trajectory for a site. What will be done and how it will be achieved are the actions that come later with the development of objectives and strategies.

3.2 *Setting Objectives*

What will be done to translate policies into actions?

At this stage it is necessary to identify specific objectives related to the policies defined for each programmatic area or activity. Objectives are clear targets with

measurable results. The distinction between objectives and strategies is not always clear and even the most experienced practitioner can become confused. Some practitioners prefer to go directly to strategies from policies. One way to think about the distinction is to see objectives as destinations and strategies as the road map to the destination. Mastering the distinction, however, is not nearly as important as simply setting clear targets for achieving the purpose for which the site is being managed, whether those targets are framed as objectives or strategies.

One method used by practitioners to clarify objectives and to make them more targeted and measurable, is to state what will have been achieved within a specific time frame (for instance, by the end of five years we will have achieved these specific objectives), then list them. In this way the objective can be formulated more concretely, since its results are envisioned. An example of an objective related to tourism and interpretation could be to have undertaken a visitor survey (within a specified period of time) in order to better understand the types of visitors and their motivations and interests in visiting the site. This is a clear target whose completion can be easily verified.

3.3 Developing Strategies

How will the objectives be put into practice?

Strategies are the most detailed level of planning, specifying how the objective will be achieved and establishing resources required and time frames and responsibilities to get the work done. If an objective is to undertake a visitor survey—to continue with the example used above—the strategy will state how and by whom that targeted goal will be achieved; it may be accompanied by a detailed plan, which in this case might specify the methodology to be followed, the questions to be asked, and the personnel and budget required.

Unfortunately, the development of strategies for intervention is too often the stage at which we begin when responding to the challenges of conserving and managing a site, since action is equated with progress and detailed planning is perceived as time not well spent. What typically happens when strategies are allowed to became the starting point at a site is an "organic" proliferation of independent "strategy projects"; that is, projects carried out independently by different institutions, organizations, or individuals and without reference to the objectives and priorities established in the plan. The individual projects (for example, excavation, documentation, or conservation projects, or a tourism initiative) may have their own justification, but too often they fulfill the needs of the institution or individual who is carrying them out rather than the needs of the site and the managing authority.

In the development of strategies, separate, detailed plans for complex undertakings are necessary. These strategy plans must begin, however, with a clear link

to the general plan, repeating the relevant policies and objectives of the appropriate programmatic area so that there is a clear continuity of purpose. This becomes especially important if a strategy plan is being developed by an organization other than the managing authority.

When it comes to physical intervention, it is in the development of strategies that we often need a deeper understanding of what is really important about a site's structures or features, as was touched on in the discussion of values. Having made the decision that a certain structure, for instance, requires restoration, stabilization, or protective sheltering, it may be necessary to revisit the assessment stage to establish more detail about significance, past interventions, and present condition. This process of returning to the assessment stage is inevitable for any complex site or component of a site, since the level of detail required for a major intervention is impossible to achieve when planning long-term for the whole site. The level of detail required for full development of many strategies would, in fact, only weigh the general planning process down with data not pertinent to establishing the big picture for the site.

3.4 Preparing the Plan

The emphasis in this paper has been on the planning process, but obviously there is an end product, a plan that may variously be referred to as a management, conservation, or even a master plan, depending on local usage and the ambition and scope of the undertaking. During the course of the process and after completion, the information collected and decisions reached must be documented and written down in a plan; however, there are differing opinions about what level of information should be included in the final plan. A few remarks will suffice about the "product," which espouse a minimalist approach based on wise advice from practitioners who have written and implemented many plans. The general plan—whatever it is called—should be

Holistic and integrated: Examples of fragmented authority, differing visions, and multiple implementors working at cross-purposes abound at complex archaeological sites. While it is useful and frequently necessary to bring in consultants, partners, or collaborators to develop and implement aspects of the plan, there must be one lead authority that coordinates all efforts and one plan that articulates the importance of the place and the goals for its conservation and development in the future.

Short, concise, and accessible: A plan that can be understood by all the stakeholders allows everyone to easily grasp the vision and overall goals and the reasoning behind decisions, which means a plan that is short, concise, and written

with a broad audience in mind. Background information—whether it be interviews conducted to work out significance, detailed condition surveys, or historic documentation—is vital to preserve, but can be included in reference binders. Detailed strategy plans can and often should be separate and, in fact, are frequently developed later as the plan is implemented. As mentioned earlier, these should begin with the policy statements and objectives for the relevant category to provide the link with the general plan.

Legally binding: Not all or even most plans are statutory plans in nature, but if a system exists for legal approval and ratification by the national authority, this will allow the plan to have not just moral weight but legal clout as well.

Comparable and compatible with other plans: If it is possible to achieve a national approach to management planning, this will simplify evaluation of plans for approval purposes, allow comparability of management plans among sites of similar character, and promote an integrated vision for cultural resources at the regional level.

Ultimately, the plan is a vehicle for communicating a message to a potentially diverse audience of professionals, government bureaucrats, business interests, and, in some instances, even the general public. The essence of that message needs to be: this is why the site is important and this is what is planned to preserve that importance. The more clearly the message can be formulated and the more widely it can be disseminated, the better the chances for it to become an effective tool to protect the site and its values.

It is equally beneficial, once the planning process is complete, to keep the lines of communication with stakeholders open and active. Periodic review of the plan can be one opportunity to reinforce these relationships. Furthermore, since there is no such thing as a perfect plan and circumstances are sure to change, periodic review allows for regular fine-tuning and revision of the plan.

Conclusion

Like most challenges in life, the first time one works through a planning process is always the most difficult. Subsequent reviews and updates will build on the foundation of the first plan, so the better the foundation, the easier it will be next time around and the more sustainable will be the outcomes. One of the most common responses to planning is the assertion of "no money, no time, no staff to do it or implement it." Good planning does require a commitment of time, staff, and money. Increasingly, funding is available for planning, as organizations recognize the importance of planning before implementation. While strategizing to increase

resources is certainly part of planning, the decisions that are made must be commensurate with the resources available. The aim of planning is not to decide how to spend a pot of money but to make decisions about what to do within the constraints and resources at hand. Nor is the aim of planning to solve all the problems of a site; it is more satisfying and more sustainable to aim for small incremental changes from present conditions to better conditions than risk being thwarted by unrealistic expectations of achieving major changes.

Perhaps the greatest challenge to pursuing a values-based approach to planning is acknowledging that values are mutable and there are few absolutes in terms of what is right or wrong. As social, political, and economic conditions change, interest of the stakeholders waxes and wanes, and research goals and strategies evolve, so too will the values that we attribute to sites. Values-based planning is an approach capable of being manipulated, or, for the faint of heart, of being turned into formulas or rules. It needs honesty, integrity, and dedicated practice, but the reward is a far more intellectually engaging process, yielding a deeper, broader, and more intimate understanding of what gives a site relevance and meaning to society.

Given the focus of this workshop on conservation and management of archaeological sites, it is fitting to end this paper with a challenge to the archaeological and conservation professions. Almost thirty years ago, when William Lipe issued his prescient call for archaeologists to adopt a conservation ethic,[2] both the archaeological and conservation professions were still too preoccupied and vested in excavation and technical interventions, respectively, to respond in an integrated way to the challenges facing archaeological sites. More recently, developments in archaeological theory (postprocessual archaeology) have called for archaeologists to become more engaged in the world beyond the academy, and to recognize other values, voices, and perspectives in the practice and interpretation of archaeology. Since the early 1980s the conservation profession has been moving in much the same direction in developing and advocating a values-based approach to the conservation and management of archaeological heritage.

These two conceptual movements have thus far developed largely on parallel tracks, with very little convergence. And yet they have their essential starting point in common—the archaeological heritage—and much to gain from one another. Archaeology will benefit from the conservation profession's more practiced engagement with the world; conservation can find much of value from an understanding of archaeology's theoretical framework. At a time when the archaeological heritage is recognized as so necessary to our quest for a past, and yet is so threatened, it is hard to imagine a more natural and productive alliance among professions.

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Notes

1   The complete text of the poem entitled "Ithaca" (1911) by Constantine Cavafy is found in *The Complete Poems of Cavafy*, trans. Rae Dalven (New York: Harcourt Brace, 1961).
2   See William D. Lipe, "A Conservation Model for American Archaeology," *The Kiva* 39 (1974): nos. 3–4, 213–45. See, however, Laurajane Smith, "Heritage Management as Postprocessual Archaeology?," *Antiquity* 68 (1994): 300–309, for an attempt to bridge the gap.

MEREDITH WILSON

Yalo Conservation and Management Plan (1999)

Values-based management methodology has been transported to a range of cultures. At Yalo, a spirit cave in northwest Malakula, Vanuatu, the management plan and process were customized to reflect local requirements and conditions. The cave is of great archaeological significance in Vanuatu and a focal point in the life and ritual of the local indigenous people. The Management Plan is written in Kriol and English; for reasons of space we give the English text and Kriol/English headings. The plan explores the significance of the sites and presents a simple community-based management strategy that is being undertaken with and by the indigenous community. The project presented here is important because of its simplicity, its values-based management process, and its control by stakeholders.

Introduction

This plan contains information about how the custodians of *Yalo* cave (Tenmiel Area, northwest Malakula), [Vanuatu] and the local community, would like this site to be looked after. It was designed by the chief of Wombrav (first chief of Tenmiel Area)—Chief Pita Dan Senembe; local Cultural Centre fieldworkers and staff; and foreign researchers. In this plan we have considered both *social* and *physical* issues affecting Yalo. Social issues include, for example, *who* has access to the site, and physical issues include the actual physical changes that have taken place at the site over time, such as the growth of algae. Our aim has been to ensure that the plan remains flexible, such that should any new social or physical issues arise, they can be easily incorporated into the plan and taken account of. We began working

on this plan in August 1998, and it has since undergone some significant changes due to changes in land ownership issues and other (mainly social) issues.

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Plan blong Yalo, Tenmiel Area, Malakula, Vanuatu 1998–1999.

Yalo Plan, Tenmiel Area, Malakula, Vanuatu 1998–1999.

Ol pipol we i tekem pat long projek ia:
The people that took part in this project are:

- Chief Pita Dan Senembe (Jif blong Tenmiel Vilej)
- Chief Jimmy Sanhambath (Vanuatu Kaljoral Senta filwoka)
- Numa Fred Longga (Kureta, Malakula Kaljoral Senta)
- Abong Marcelin (Vanuatu Kaljoral Senta)
- Chief Jonah Toakanase (Sanasom Vilej, South Maewo)
- Meredith Wilson (Australian National University, ACT, Australia)
- Dr. Bruno David (Monash University, Victoria, Australia)
- Nicholas Hall (Australian Heritage Commission, ACT, Australia)
- Graham Senembe (Tenmiel Vilej)
- Christophe Tarey (Eria Sekrateri, Malampa Provensol Govman, Lakatoro ofis)
- Professor John Brayer (Dipatmen Komputa Saens, Neu Meksiko, Amerika)
- Dr. Henry Walt (Konsulten Arkeolojis, Neu Meksiko, Amerika)

Wok blong yumi—The work
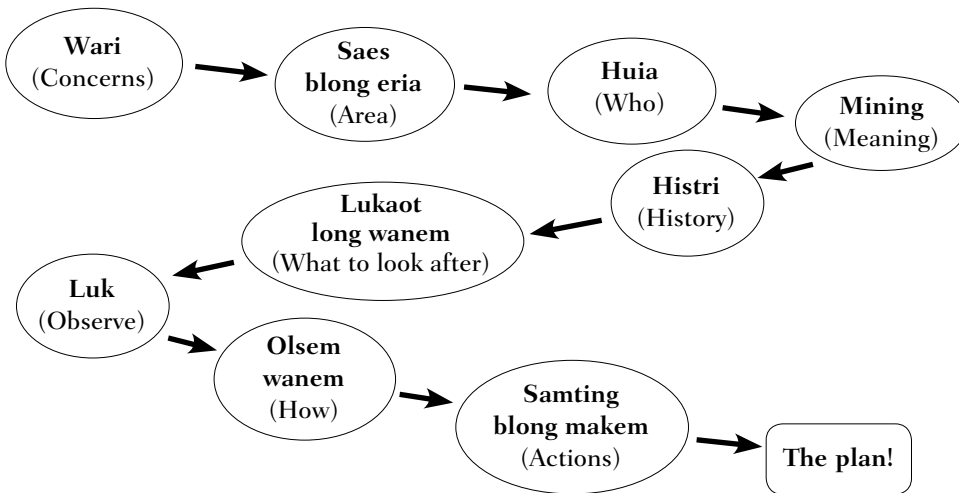
OL WARI BLONG OL MAN WE OLI STAP

CONCERNS

    A. The whole of north-west Malakula must recognise Chief Pita Dan as the owner of Yalo

    B. When people visit Yalo, Chief Pita Dan wants to know what happens inside

    C. Tourists cannot damage any kastom areas inside Yalo

    D. The people that visit Yalo cannot write on the rock art; make graffiti

    E. The stone is falling down

    F. The bats

    G. The algae

    H. The things that grow on top of the pictures

    I. The things that remove the pictures

    J. Chief Pita Dan wants to pass kastom information on to his children
- This is very important because the Yalo kastom represents the identity of Chief Pita Dan and his family

    K. Many people cannot know the tabus of Yalo
- Only Chief Pita Dan can know some of Yalo's custom
- There is a restriction on who can know the customs of Yalo

    L. The people that visit Yalo cannot go inside any place that is tabu
- All tourists must stay outside the Nakamal, on the other side of the stones that block this area

SAES BLONG ERIA

SIZE OF THE AREA

This list includes areas inside and outside Yalo

    A. Inside the cave

    B. The area in front of the cave until the coconut plantation

    C. The area of the coconut plantation (the area of access for going inside Yalo)

    D. Malua Bay to Matanvat

    E. Mlonveveo (north-west Malakula Council of Chiefs)

    F. The places where the tourists are, e.g.:
- *Norsup airport*
- *Lakatoro (government offices; the people of Lakatoro)*
- *The tourist place on Wala Aelan, and other guesthouses (like Banam Bei in the south)*
- *Sailing boats*
- *Vanuatu's Cultural Centres*

- *Vanuatu's tourist offices*
- *Overseas*

This list includes all the places that are connected to Yalo.

A. Apialo (kev blong Big Nambas)
B. Ol kastem ples blong Smol Nambas
C. Lejarsangavöl (which means *kill 1000 pigs*): a traditional *nasara* (dancing ground) belonging to Chief Pita Dan. A standing stone in this nasara has got rock art on it. This rock art looks similar to the rock art in Yalo. Chief Pita Dan says that in the past, this stone was in Yalo. Then, around seven generations ago, one of Chief Pita Dan's ancestors took the stone and put it in his nasara. The stone has remained at the nasara until today.

HUIA

WHO

A. **Chiefs**
- Chief Pita Dan
- John Willie Senembe
- Mlonveveo
- The chiefs of the local area (Malua Bei to Matanvat)
B. **The two owners of the coconut plantation (Paul and Willie Tien of Matanvat)**
C. **Cultural Centre fieldworkers**
- Jimmy Sanhambat (local area)
- Numa Fred Longga (Malakula Cultural Centre)
- Ralph Regenvanu (Director of the Vanuatu Cultural Centre, Port Vila)
D. **The people of the local area**
- Malua Bei to Matanvat
- Chief Pita Dan's family
E. **Church**
- Church elders
- The people that go to church (Seventh-Day Adventist, Catholic, Presbyterian, Protestant)
F. **Government**
- MALAMPA Provincial Government (Office of Lakatoro)
- Different government departments:
  - *Agriculture*
  - *Public Works*
  - *Culture*
  - *Tourists*

G. **Non-government groups**
- Peace Corps (at Lakatoro)
- Other groups

H. **Research people**

I. **Tourists**

J. **The people that help tourists**
- At tourist guesthouses (e.g. Peter Fidelio, Wala Aelan)
- Norsup airport
- The people of Lakatoro
- Taxi drivers
- The people of the local area that take tourists to Yalo
- The people of the local area that talk to tourists
- The people that write tourist books (e.g. Lonely Planet)

K. **School**
- School teachers
- Children

L. **People and groups that have an economic interest in the area where Yalo is located**
- Forestry
- Copra (e.g. the people that work with Willie Tien to make money)
- Public Works
- Mining Companies
- The people of the local area

M. **People from other islands that come to visit friends and family at Malua Bay–Matanvat**

N. **People and groups that want to practice kastom inside Yalo**
- They must ask Chief Pita Dan first.

MINING

MEANING

Chief Pita Dan opened this meeting with a small speech. He talked about *kastom* meanings associated with Yalo. After, we wrote down the *kastom* information that is accessible to the public.

A. **Information accessible to the public**
- 2X2
- bubu
- nakamal
- graves
- underneath the stone

- throwing the stone
- tree

B. **Chief Pita Dan's three rules**:
  - It is up to Chief Pita Dan to decide who is allowed to go inside Yalo
  - When people want to visit Yalo, they must ask Chief Pita Dan's permission first
  - Before anyone goes to Yalo, they must conduct a *kastom* ceremony first

HISTRI

HISTORY

A. **Before 1965**
  - Underneath the stone
  - Throwing the stone
  - Blowing the bubu
  - Lots of people go in the cave but it is difficult to know what they were doing
  - Pita Dan's grandfather goes inside at special times
  - To practice kastom
  - When someone dies, their family goes to the cave to observe the tracks of the dead person
  - People sleep at the front of the cave
  - Coconuts are planted between 1940–1950
  - The Seventh-Day Adventist church starts at Tenmiel in 1914
  - Secret kastom things that are unable to be included in the plan

B. **Earthquake in 1965**
C. **After 1965**
  - Caroline Leaney (1965)
  - Tourists start to come
  - There is no 'underneath the stone'
  - People do not sleep at the front of the cave
  - Secret kastom things that we cannot write down in the plan
  - Throwing the stone
  - Blowing the bubu
  - Observing the tracks of dead people

D. **1970–1980**
  - They build a road to Espeigles Bay
  - 1972: Pita Dan becomes a chief
  - 1970–1980: copra is smoked in the cave

    E. **1980–1990**
- 1983–1984: the main road is built
- School groups visit the cave
- People of the Province
- Department of Health
- Public Works
- Willie Tien with small groups
- Many tourists
- Kirk Huffman with John Pita of Tenmaru

    F. **1990–present**
- David Roe
- 1994: Professor Matthew Spriggs, Ralph Regenvanu and Stuart Bedford
- 1995: Stuart Bedford and Jimmy Sanhambath
- 1996: Meredith Wilson, Jimmy Sanhambath, John-Willie Senembe, Elilot Senembe
- 1997: Meredith Wilson, Sylvie Sanhambath, Ronald Senembe
- 1998: The rock art conservation training project team
- 1999: The rock art conservation training project team

LUKAOT LONG WANEM

LOOK AFTER WHAT

Chief Pita Dan's talk
- Training the children of the area
- Training tourists
- Giving money to the family of the chief
- Continuing with archaeological research
- Protecting the pictures
- Removing algae
- Removing the bats and the birds
- Ensuring that the stone doesn't fall down

LUK

OBSERVE

    A. **Stone**
- Areas where the stone is falling down (because of earthquakes)
- Areas where small pieces of stone falls down after an earthquake
- Areas where the stone has split (up and down; across; random)
  - Big splits as a result of the structure of the stone
  - Small splits where the stone swells up inside

- Areas where on the outside the stone it is strong, and inside it is soft
- Areas where small pieces of stone dislodge
- Areas where the outside of the stone is like sandbeach and as a result the stone falls down at random

B. **In situations where the stone is old, and the stone is growing**
- Shawls
- Areas where water drips on stone
- Areas close to the ground where stone grows ('re-deposited limestone')
- Areas that look the same as scabies. Scabies is found where algae grows
- Areas where there is something that looks like boils. Boils grow in places with a ceiling, where the sun is not strong, and where rain does not reach

C. **Algae**
- It is bad on Panel C and H/I, and I
- It grows in places where the sun is strong

D. **Small brown bats (Vespertilionid)**
- They live in the areas where Panel F and E are
- They live on the ceiling
- They smell, and they defecate everywhere
- There are close to 5,000–10,000

E. **White ants**
- Their nests are underneath the ground and their trail on the stone
- It is necessary to remove the nest first to make sure they don't continue to follow their trail
- Now (August 1998), they don't use their trails
- When their trails disintegrate they can removes stone and paint
- When they build their trails they use objects in the cave (e.g. stone, ground, wood)

F. **Different kinds of insects, birds, crabs and rats**
- Wasp's nests located close to the front of the cave. Some are found on pigment. Not considered a very big problem.
- Coconut Crab. They dig the ground and remove pigment on the rock.
- Bird (Swallow). They live inside the cave but they don't damage the pictures.
- Rats
- Spider webs

OLSEM WANEM & SAMTING BLONG MEKEM

HOW AND ACTION

CONCERN	SOLUTION TO PROBLEM	WHO	WHEN
Yalo cave is owned by the Senembe family	• Send a letter of apology to John Willie Senembe (chief of Potorvov; second chief of Tenmiel)	Meredith	Meredith sent this letter in August 1999
	• Ask John-Willie to join this project	Meredith	Meredith has asked him already
Tourists	A. Tourists must see Chief Pita Dan before they visit Yalo		
	B. Tourist book (in English, French and Bislama)	Meredith, Nicholas and Bruno	Hemi stap long Tenmiel finis
	C. Talk with the chiefs in the local area about who can take tourists to the cave.	Speak with the Mlonveveo during the 'awareness program'	2000 (We will need 12,000 vatu to run this awareness program for the *Council of Chiefs*
	D. Write a letter to Lonely Planet to ask them to remove 'Peter Fidelio' and the 'Lakatoro Office' from their description, replace 'guardian' with 'chief', and add the telephone number of the Malakula Cultural Centre: 48651	Meredith (Numa Jimmy, Chief Pita Dan, and John Willie must check this letter and sign it) Numa will contact Peter Fidelio (Wala Island) to inform him who the owner of Yalo is	1999
	E. Tourists must pay money to Chief Pita Dan before they enter Yalo		Nao
	F. Train guides: • Guides must not allow tourists inside tabu areas • They must tell the tourists where they can take photos • They must tell the tourists what they can do inside Yalo	Chief Pita Dan, Jimmy	2000, 2001

	G. Chief Pita Dan Senembe would like a water tank and a toilet to accommodate tourists that visit the cave	Meredith	By 2001
Graffiti	• Start a project of teaching culture in the schools of the local area • Talk with school teachers • Talk about this problem at the meeting of the Mlonveveo	'Awareness Program' for the local community run by the people taking part in the conservation project in 2000	2000 2000
Stone falling down	• Record the pictures inside Yalo	Meredith	Task completed 1999
	• Find money for the project to record the pictures	Meredith, Ralph	
	• Make a map of all the areas inside Yalo where the problems exist		Task completed 1999
	• Write a brief report about the big problems that must be dealt with now. In this report indicate where all the problems are, what damage the problems are causing, whether the area is safe or not, and how to deal with each problem	Nicholas	This information can be found in Nicholas Hall's report which is included in this plan
	• More research about how the stone is falling down	Ralph, Nicholas, Abong	
Ol Bat	• Disturb the bats every time you go inside Yalo	Ol gaed	There were no bats observed in the cave in 1999. Meredith has spoken with two bat specialists already: Greg Richards and Les Hall (Australia). They might travel to Yalo next year (in February) to have a look at the problem.
	• Talk with someone who specialises in the area of bats	Meredith	

Nalumlum	• Once a month look at the area where we removed the algae and take a photo of it	Jimmy, Numa, Chief Pita Dan	A problem regarding this proposal: in 1998 and 1999 we have had insufficient funds to pay Jimmy, Numa and Chief Pita Dan to do this work.
	• Once a week read the equipment that gives the temperature, humidity and rainfall amounts.	Jimmy, Numa, Chief Pita Dan	
	• Find money for this work		
	• Record these things in a book	Meredith (send book)	
(redeposited calcium carbonate, known by the local community as 'scabies' and 'boils')	• Research in Australia to find out exactly what grows on the stone in Yalo	Nicholas	See Nicholas Hall's report
Apialo	• Follow the project for Yalo with a project for Apialo		2000, 2001
	• Talk about this project with the chiefs of the Mlonveveo	'Awareness program'	2000
This plan	• Send this plan to the Ministry of Culture, Provincial Government, Mlonveveo, Malakula Cultural Centre, Vanuatu Cultural Centre, Yosi Sinoto of the East-West Centre, Hawai'i, Malampa Province, everyone in the 1998 conservation-training group	Meredith	1999
How old?	• Start a project to find out how old the pictures are	Meredith, Bruno	1999: We are currently waiting to hear whether or not we have secured funding for this project. We are to inform Numa at the Malakula Cultural Centre by February next year about whether we have been successful in obtaining funding

White ants	• Look at where they are	Jimmy, Numa, Chief Pita Dan	
	• Send to Chief Pita Dan some information about how he can remove white ants	Nicholas	This information is in Nicholas Hall's report
Notice/Sign	The sign's message must include: • This cave is very important for local custom and future generations • Look after this cave. You cannot write on the stone or throw your rubbish around • Before you go inside this cave you must ask the permission of local chief of Tenmiel: Chief Pita Dan, or the Senembe Family • This cave is part of a project which includes Chief Pita Dan Senembe and his family (Tenmiel Village), Vanuatu Cultural Centre (Port Vila), Malakula Cultural Centre (Lakatoro) and researchers Signed: Director of the Cultural Centre (Ralph Regenvanu), Curator of the Malakula Cultural Centre (Numa Fred Longga), local fieldworker (Jimmy Sanhambath), and Chief Pita Dan and John Willie Senembe (Tenmiel).	Ralph, Meredith, Nicholas, Bruno, Chief Pita Dan, Jimmy, Numa	Take the sign to Malakula next year (2000)

Nicholas A. Bainton, Chris Ballard,
Kirsty Coillespie and Nicholas Hall

Stepping Stones across the Lihir Islands: Developing Cultural Heritage Management in the Context of a Gold-Mining Operation (2011)

The "Stepping Stones" process is a version of values-based heritage management developed for use in traditional cultures. In this example the process is shown in Tok Pisin (Local Kriol), as used at Lihir in Papua New Guinea, as well as in English.

The steps

Step 1 Vision for the future
Helps people clarify what they want to achieve in land or heritage conservation

Step 2 Who is involved
Identifies the people who are already involved, could be or need to be involved

Step 3 What we know
Reviews what information is available and what information is needed

Step 4 What is important
Iidentifies carefully what is important about a place, area or aspect of heritage

Step 5 What the issues are
Clearly identifies what the major issues are that will affect the way things happen

Step 6 Strengths and weaknesses
Summarises all of the information from previous steps to help see the strategic picture

Step 7 What the ideas are
Looks at the ides or components for moving ahead, based on the knowledge from the steps above

Step 8 What the objectives are
States achievable goals for management and defines any necessary policies

Step 9 Action plans
Sets out the actions, responsibilities and resources necessary to make the ideas happen

Step 10 Making it happen
States how the plan is going to work, including how it will be monitored and reviewed

rot bilong lukautim kalsa

stepping stones for heritage

1. Wanem samting mas i kamap long taim bihain
Dispela bai helpim ol manmeri long wokim wanem samting ol laik wokim

2. Husait bai wokim
Makim husait i wokim dispela kain samting nau, husait inap
kam insait, na husait ol i nidim long kam insait

3. Wanem samting ol i save pinis
Makim wanem samting ol i save nau, na
wanem samting ol i gat nid long painim aut

4. Wanem samting em i bikpela moa
Tingim na makim gut wanem ples, kastam o sampela samting
em i bikpela insait long kalsa

5. Wanem kain samting ol bai painim long rot
Makim wanem kain samting inap kam insait na senisim rot bilong
dispela wok

**6. Wanem kain strongpela samting na malomalo
samting i stap**
Tingim long olgeta samting ol i makim pinis insait long dispela plen,
na lukluk gut long dispela

7. Wanem kain tingting ol i gat
Nau ol i bin makim na tingim planti samting pinis, tingim hau ol bai
wokim dispela dispela wok

8. Wanem samting ol laik wokim na kisim
Wanem samting ol lida i ken stretim, na wanem samting ol i ken
stretim long polisi pepa

9. Plen bilong wokim
Putim long ples klia wanem samting ol mas wokim, husait mas
lukautim wanem samting, na wanem samting ol i gat nid long usim
long mekim dispela wok ng polisi pepa

10. Statim na wokim
Hau dispela plen bai wok, husait bai sekim dispela plen i karim kaikai

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Jane Thompson

Conservation and Management Challenges in a Public/Private Partnership for a Large Archaeological Site (Herculaneum, Italy) (2007)

Since its first seasons of excavation the condition of Herculaneum has declined as a result of varied, complex, and seemingly intractable issues, which this reading vividly describes. Among these issues is the cessation of maintenance owing to lack of funding but also other factors such as privatization, funding new excavation rather than maintenance, and continually increasing visitation. The Herculaneum conservation project was designed to overcome these and other challenges, using a new model of private/public partnership, and developed a strong management structure that dealt well with both the complexity of issues and the rigorous demands of technical stabilization and conservation. Thompson illustrates how complex, long-standing problems, the results of earlier interventions and management decisions, are addressed by integrated and innovative management design.

Introduction: Caring for an Uninhabited City

Were a residential district of a modern city to become uninhabited, the survival of its buildings would depend on many of the routine actions of the inhabitants being continued: cleaning water channels of leaves, removing unwanted vegetation or repairing cracks in the mortar as each season passes. The daily presence of inhabitants and their familiarity with, and affection for, the buildings they occupy place them in a strong position to observe such irregularities and take prompt remedial action. With these inhabitants gone, replacing what is effectively an optimum

regime of continuous care—constant surveillance with regular preventive measures and a fast response time when problems arise—is not a simple task.

Without a doubt, guaranteeing equivalent 'continuous' care of a reasonable quality is one of the biggest challenges facing those trying to safeguard large, open-air archaeological sites. As the case of Herculaneum demonstrates, failure to sustain such a regime can wield destruction similar in scale—even if more spread out over time—to a violent volcanic eruption, such as that which buried the town in over 20m of volcanic material for nearly two millennia.

Understanding the urgent remedial measures required to overcome the widespread and exponential decay that years of neglect can create, and finding conservation strategies and maintenance models to ensure such neglect never occurs again, is exactly the task that the Herculaneum Conservation Project team has been working on since work started in 2002. This task is all the more daunting because many of the features that protect residential districts of a modern town no longer exist in the ancient city of Herculaneum, a situation common to many open-air archaeological sites.

The Particular Case Herculaneum Presents

Maintenance, the Main Challenge at Herculaneum:
Why It Failed Here (and Elsewhere)

A series of complex interconnected factors led to the maintenance programmes at the publicly owned site of Herculaneum grinding to an almost total halt in the 1980s and early 1990s. The first is the nature of the site itself: its sheer size (roughly one quarter of the original city, some 45,000m² excavated in different phases,[1,2] a factor that is often overlooked given the even greater scale of Herculaneum's sister town, Pompeii, with 440,000m² excavated) and the intactness of the ancient structures that have survived (including their upper floors and organic materials).

Secondly, it can be said that after each excavation campaign the Italian Ministry of Culture failed to commit the kind of routine funding that the care of this and other UNESCO World Heritage–listed archaeological sites of the Soprintendenza Archeologica di Pompei warranted.[3,4] This, paired with the absence of structured planning, had major repercussions for the survival of the site. But there were other more complex factors, also common to heritage elsewhere in Europe, that are worthy of study.

More rigorous European health and safety standards in the workplace and on building sites[5] wisely placed emphasis on responsibility being shared more widely, but led to the closure of many in-house maintenance facilities (upgrading costing too much) and maintenance staff no longer being able to operate. Those staff members, often craftsmen from the same families over generations, had, until the 1980s, carried out small but important interventions which had constituted the

programme of continuous care of the site during Amedeo Maiuri's campaign and after it. This interruption in routine site maintenance led to the need to outsource works and to outsource them in larger contracts because, of course, the absence of maintenance meant the problems were more serious. Needless to say, the public sector did not have the resources for these larger works contracts and so a form of stalemate was quickly reached. This situation was made worse by the damage to the archaeological sites during the 1980 earthquake[6] and by the cripplingly procedure-heavy administrative machine[7] that governed the Soprintendenza Archeologica di Pompei's spending of Ministry funds; it simply could not spend the annual funding it did receive in an effective way.

In addition, a Europe-wide trend of the last two decades towards regulatory reforms that favour reducing fixed internal costs and increasing open contracting and outsourcing (instead of investment in in-house staff) proved a substantial factor. If managed effectively and well supervised, site works procured through external contracts could have encouraged excellence and value for money at the right moment. However, the shortcomings of the personnel available and the impossibility of change[8] often led to sporadic commissioning of distinct blocks of works, inadequate use of the legislation available and insufficient continuous technical supervision which, in turn, impeded the accrual of knowledge.

In the period that decay was becoming critical, 1989–1997, substantial one-off capital funding came in from central government and the European Union. This could have been a turning point for the sites but, in the case of Herculaneum, funding was channelled primarily into new excavations instead of conservation and maintenance.[9]

Other factors still hinder those seeking to re-establish routine maintenance. Supplementary funding sources (European money, private sponsorship, etc.) still tend to lay emphasis on capital investments and not on sustaining or rationalising site running and maintenance costs. Political will often places short-term visible results (one-off 'flagship' restoration projects or, worse still, excavation) before maintenance programmes. Lastly, the Italian system (unlike some other nations) expects the considerable liability that site operations generate to be shouldered personally by the individual public officer, who is neither indemnified by his employer nor given the instruments and incentives to manage such liability (e.g. efficient administrative procedures, adequate pay, insurance cover and the resources—human, financial and intellectual—necessary to handle such responsibility effectively). This contradiction, paired with legislation that is difficult to decipher, can lead to 'no action' being a safer route to choose or to energy being dedicated to 'safer' initiatives (e.g. exhibitions and publications).

Evidently, the maintenance problems arose not from financial shortages alone but also from the absence of the instruments and the expertise required to spend money well.

Escalation of Decay with Closure of Site Areas and Increases in Visitor Numbers

By the late 1990s the site of Herculaneum was in a state of such serious neglect that it began to attract international attention.[10] The absence of regular maintenance had brought about a serious and widespread state of disrepair and decay, a phenomenon that was compounded by the lack of much needed remedial work on the ancient city's infrastructure (drains, roofing and escarpments) and the fact that previous restoration interventions were themselves 'ageing'. Moreover, this decay across the entire site was becoming worse for two more reasons.

The very closure of houses that had become unsafe (maybe only in a single corner but critical for visitor access) brought about an acceleration in the deterioration process; with no one visiting them on a daily basis their decay escalated unchecked, pigeons installed themselves and the houses became too unsafe to access, even to evaluate the work that needed commissioning.[11]

This trend has been matched by an equivalent phenomenon in the areas remaining open to the public: the total area of the archaeological parks at the foot of Mount Vesuvius (Herculaneum, Pompeii, Oplontis and Stabiae) open to the public has gradually reduced down to roughly a third of the area that was open to the public 40 years ago.[12] In parallel, the number of visitors has more or less tripled and is still increasing,[13] and this has naturally provoked an absurd occurrence whereby the continually increasing number of visitors is concentrated in an ever decreasing area of each site, with the consequential wear and tear on the monument.

Defining the Conservation Challenge

It was not just a general state of disrepair that faced those wanting to turn around the continual decline of the previous decades. In order to address the question of what was required to 'save' Herculaneum from this serious state of accumulative neglect it was not sufficient simply to understand the operational difficulties of the past. It was necessary to understand the site itself and the other, more particular conservation challenges presented, those which derive directly from its dramatic history and environment. To quote Herculaneum's archaeological superintendent himself: 'To understand, therefore, what type of city needs reconquering'.[14]

Even though for nearly two millennia Herculaneum's archaeological remains were protected from the 'torment of time and history'[15] that plague most ancient sites, by the volcanic material that surrounded them, the buildings we see today are no longer those of their original creators. First of all, the town's buildings had already been battered by previous earthquakes, and repair works were still under way when the AD 79 catastrophe hit. This makes the structures that have survived incomplete and complex to understand and conserve. In addition, the violent

pyroclastic flows and surges of the eruption of AD 79 caused serious damage to, or even eliminated, many vital elements of the cityscape, features such as roofs, sewers and access routes which make a city sustainable.

What remained of the city—masonry structures, decorative features, fixtures and fittings in timber and metal, human remains, foodstuffs and other organic materials—was then kept stable for nearly 2000 years thanks to the extraordinary preservation conditions created by the volcanic material that engulfed it. Two major campaigns, the Bourbon-period tunnelling of the 1700s, and then Amedeo Maiuri's open-air excavation in the 20th century, revealed a vast legacy of remarkably intact, multi-storey buildings complete with precious architectural features (far more intact than at Pompeii). However, these works also disturbed the equilibrium those very fragile remains had enjoyed whilst buried.[16] The cycle of transformation and change interrupted by the volcanic eruption of AD 79 was resumed.

The state of structures exposed by the open-air excavation necessitated systematic and *simultaneous* conservation and restoration work,[17] which sought to reinstate the original condition of the buildings when archaeological evidence permitted. It was a campaign that allowed the city to stand again and was exemplary for its time in many ways. However, Maiuri's legacy has left us with a complex monument to conserve, an elaborate mixture of Roman phasing and modern integration where up to 50% of standing structures are 'modern' or partially 'modern' and where the normal rules of bottom-up sequential historical layering do not apply, making presentation to visitors difficult. What is more, this systematic campaign led by Amedeo Maiuri has taken on its own historical value within the archaeological and conservation fields, and his measures cannot simply be eliminated or reproduced blindly. Nor can new approaches be integrated easily without eroding the coherency of what is for the most part either Roman or 'Maiuri', or a complex blend of the two.

In addition, the measures taken to protect the monument, during and immediately after Maiuri's excavation, were not always adequate in the first place (the excessively steep and often unstable escarpments which separate the site from the modern town) or depended on an intense programme of care (many decorative features were preserved by daily repairs, thanks to the continuous presence of a taskforce of craftsmen, rather than by preventive measures such as shelters). Others have not stood the test of time due to technical shortcomings (problematic use of concrete, paraffin wax on carbonised wood melting under the sun, ambitious attempts to display artefacts within the site, etc.).

Thus at the beginning of the 21st century, the archaeological site presented a district of a town not just in a general state of disrepair but afflicted by more primary problems. Infrastructure fundamental to the survival of this townscape was missing and a series of elaborate technical challenges came to the fore, some

widely studied elsewhere (e.g. seismic damage, salts, pigeon control) and others less familiar (e.g. carbonised wood, reinstatement of Roman drains, site access issues from the modern town into the ancient city some 12–20m below). In addition, other factors had to be taken into consideration: illegal buildings overhanging the site; balancing the demands of conservation and rights of visitors (keeping the site open all year round); threats of further volcanic activity;[18] sea air, pollution and vandalism; shortcomings of the local conservation contractors; and the weak interface with the local community and the rest of the cultural landscape.

Above all, it was necessary to understand what to conserve and for whom.

For the local community the lost cities of Pompeii and Herculaneum are all too clear reminders of the terrible threat they live with—Vesuvius. Any new beginning for this ancient city also has to extend to the modern city of Ercolano surrounding the site, and to those neighbouring towns that, together, make up one of the most densely populated areas in Europe today, but which also host an extraordinarily rich and diverse cultural landscape.[19,20]

How Herculaneum's Problems Are Being Addressed: The Herculaneum Conservation Project

Conserving a large site in an extreme state of disrepair, with complex conservation problems, was a task that could not be resolved by the resources of the Soprintendenza Archeologica di Pompei alone. More importantly, the problem was not limited to securing the vast financial resources required. Initially, and above all, it demanded the clear definition and adoption of a methodological and organisational approach.

The Packard Humanities Institute showed interest in helping Herculaneum at an important moment. Decay was spiralling out of control but the context was favourable. In the 1990s the heritage authority gained: a new superintendent (Pier Giovanni Guzzo in 1995); new scientific, administrative and financial autonomy from the Ministry for Culture, with the associated budget increases it brought;[21] and Herculaneum gained a new site director (Maria Paola Guidobaldi in 2000). These changes generated a change in thinking and in practice: the era of excavation and one-off flagship restoration projects was to some extent abandoned in favour of structured conservation planning to safeguard the already excavated archaeological heritage.[22] In addition, the recruitment of numerous external partners helped push forward the conservation cause and, above all, advance knowledge of the sites through numerous academic research initiatives.

This background meant that in July 2000 a meeting took place between representatives of the local heritage authority, the Soprintendenza Archeologica di Pompei and representatives of the Packard Humanities Institute, and within nine months of the first meeting, the first partnership agreement was signed.

Financial and Methodological Support

> *Memorandum of understanding between the Packard Humanities Institute and the Soprintendenza Archeologica di Pompei — 16 May 2001*

Though only three pages long, this agreement provided the foundations for a collaboration that could evolve intelligently: 'The parties wish to begin with several pilot projects and then, after reviewing the situation, to consider the best organisational structure for supporting the longer term goals of the project' (part A, article 7). This Memorandum of Understanding created the framework for the Packard Humanities Institute to support the conservation and enhancement of ancient Herculaneum. Project activity in this first phase was split between two areas:

Pilot projects: in 2001, conservation works already programmed by the Soprintendenza were adopted for reimbursement.[23] These works were modest initiatives proposed by the Soprintendenza, approved by a committee of scientific experts and monitored as pilot projects to encourage dialogue and understanding.

Case study in the Insula Orientalis I: a small interdisciplinary team of Italian specialists was appointed by the Packard Humanities Institute in 2002. They worked closely with the archaeologists, architects and archive staff of the Soprintendenza Archeologica di Pompei in order to develop conservation proposals for one urban block (a Roman *insula* made up of three Roman houses), which could also be applicable to other blocks of the city grid, and to monitor the pilot projects mentioned above.

This joining of forces helped address economic difficulties but, more importantly, it brought about a more major change. It allowed energy to be dedicated continuously to an improvement in conservation approaches and knowledge of the site, thanks to external expertise being united with the knowledge and experience of the public officials in a constructive way. The emphasis placed on case studies and pilot interventions as learning tools in these first years, together with the strong presence of the team on site, promoted dialogue and ensured that the project approach placed the real needs of the archaeological site and the heritage authority at centre stage for decision-making and project evolution from day one. Indeed, by 2003 the lessons learnt were already coming together to shape a more structured methodological approach that worked towards long-term, sustainable strategies addressing the whole site:

Site-wide campaign in areas at risk: in documenting and preparing long-term conservation proposals for one urban block, it had become very evident that the fragility of the archaeological remains needed a more flexible approach that offered a faster response time. In-depth study and testing of long-term conservation proposals in a specific area had to be complemented by a light campaign across the site in the areas most at risk.

Joint monitoring (involving conservation specialists of the public and private partner) of the Soprintendenza-led sites initiatives had also demonstrated the problems that arose with sporadic works packages managed in isolation and often delivering results of a limited lifespan. It was evident that this site-wide campaign needed to offer *continuity* and a more enduring form of intervention where possible. This was especially true for works of a structural nature since so many temporary measures taken in the past were becoming sources of new problems, e.g. temporary props failing or short-term measures to remedy water ingress over timber floor plates deteriorating and leading to collapse.[11] Emphasis was thus placed, where possible, on: slowing down decay and eliminating its causes as part of a rolling campaign across the site; taking remedial measures with a longer lifespan; and on finding and testing models of continuous care that could sustain the new, more stable equilibrium established for the site.

Reinstating the city's infrastructure: it also became apparent that it was impossible to plan for one urban block or to intervene locally without having understood something more of the wider infrastructure issues. A site-wide strategy was needed to improve water collection and disposal, repair and substitute roofing, stabilise the 20–30m high escarpments and reduce the punitive cost of site works by improving site access. Otherwise, problems arising in the properties or site boundaries adjacent to each project area would gradually annul the positive impact of work done. Furthermore, in order to plan these works, the entire site needed better documenting in terms of surveying (both a systematic site survey and more detailed, localised documentation where complex problems demanded it); geomorphological research; and gathering archaeological and conservation information from archival sources.

Research, experimentation and site trials: the role of the case study project (Insula Orientalis I) did not diminish in this expanded vision, but remained a critical experimentation ground for conservation approaches which could be applied elsewhere in the site, as demonstrated by the conservation trials of emergency works and then experimental shelters between 2004 and 2006.[24]

It was evident that the project strategy had to work at more than one level simultaneously to be effective, combining in-depth study in specific areas with a broader site-wide approach. It was also clear that the Soprintendenza Archeologica di Pompei needed operational support from the Packard Humanities Institute as much as, if not more than, it needed financial and methodological support, i.e. capacity-building for conservation activity. A new organisational structure was needed to unite the project partners and support the longer-term goals of the project, a structure that allowed the private partner to reinforce the heritage authority's operations from within. The British School at Rome[25] was identified as the additional partner that could help consolidate the operational strength of the Herculaneum Conservation Project partnership.

Financial, Methodological and Operational Support

> *Sponsorship agreement between the British School at Rome, with support from the Packard Humanities Institute, and the Soprintendenza Archeologica di Pompei — 14 July 2004*

An innovative sponsorship agreement using very recent legislation[26] was identified as the most suitable route to allow the private partners to contribute more actively to the heritage authority's conservation remit. For the first time, a private partner could intervene *directly* on the public site in order to carry out conservation works at its own cost and under its own management, using a private commissioning route with specialist contractors suitably qualified according to the requisites of Italian law. A specific declaration from the Ministry of Culture's legislative office was issued to confirm this interpretation of the new law.[27]

The resulting eight-page contract, the first of its kind in Italy, represented an unprecedented change of approach and creates a rapid and flexible model for carrying out a series of conservation interventions,[28] which, if commissioned within the public procurement route available to the Soprintendenza, would take several years to complete.

One of the principal qualities of this form of sponsorship agreement is that it is made up of shared experimentation within a clear framework, i.e. that provided by the existing heritage authority, the Soprintendenza. The private partner works from within the Soprintendenza decision-making structure (with Soprintendenza staff involved in project planning on a daily basis). This approach brings together the best of the public and private sector and allows improvements in the management system and technical methodology to be forged *together* (i.e. Soprintendenza staff and project specialists working together) as project activity is planned and implemented. This discreet form of capacity-building of 'learning by doing' can succeed only if grounded in a well-constructed partnership and with a long timescale available. However, the results can be more relevant and enduring than more established forms of capacity-building (which often depend on training programmes, management planning, etc.).

Thanks to this approach, together, a common body of knowledge (documentation, new work methods and contractual approaches, research results, etc.) is being developed and refined. In over two years of site operations, we have intervened in all areas of the site closed to the public (around 60% of the site area) with preliminary measures and checks which include: vegetation management, cleaning work, installation of pigeon nets, localised emergency measures (particularly on decorative features), photography and regular monitoring. All structures in the site have been stabilised and made safe, with the exception of those areas (equating to some 15% of the site area) that have elaborate problems requiring more in-depth conservation proposals. These often are areas of the site where roofing repair and substitution will take place in the near future or are properties subject to on-going

Soprintendenza projects (e.g. House of the Atrium Mosaic, House of the Bicentenary). In some cases, they are complex structures (e.g. the cryptoporticus and terraces of the Palaestra, the Suburban Baths) where long-term conservation projects are awaiting the improvements under way to site infrastructure—drainage and site access—and the results to be gained from research initiatives and the case study project (see above). In terms of decorative features, the most critical situations of decay have all been eliminated and a two-pronged campaign (dispersed emergency interventions along with preliminary measures and maintenance on a house-by-house basis) is bringing the condition of the decorative features across the site to a more manageable level.

In the area of continuous care, models of outsourcing which encourage high standards in technical and organisational terms, within the limited resources and constraints posed by the public works procurement route, are gradually being established. Within a fairly short timeframe, the archaeological site will have been stabilised sufficiently, and critical infrastructure reinstated, to make it manageable once more by the public authority. It is hoped that this approach of shared experimentation, together with the vast legacy of knowledge and documentation, will gradually translate into a sustainable future for the archaeological site to be taken forward by the Soprintendenza and other partners.

Operational Strategies and Developing a Sustainable and Re-applicable Approach

From the outset of the Herculaneum Conservation Project it was evident that only a light, responsive and flexible operation working within the public organisation could relieve rather than compound the Soprintendenza's procedural difficulties and deliver the type of results described above. A light and flexible operation could also cope with the multi-headed 'client' that results from partnership. This was particularly important because, in this case, the partnership was destined to evolve continuously and could only give short-term contractual commitments, given the unknown territory into which the project was heading: that of major private involvement in archaeological conservation in Italy where heritage has always been predominantly in the public domain. Only such a light operation could forge change and capacity-build in an environment with so many constraints to consider and obstacles to overcome.

The Team

Organisational lightness was achieved in part by investing in a form of 'lean' project management[29] which foresees a single individual, a freelance professional manager rather than a large consultancy, being the channel of all communication between the project team (including Soprintendenza colleagues) and the project partners

and other interested parties: this is one of the mechanisms by which change is forged.[30] Emphasis was also placed on pulling together a small core team of specialists to found the project and take it forward in close collaboration with Soprintendenza colleagues. This team has gradually evolved and extended to include other specialists and conservation contractors, but the original strategy of the fixed interdisciplinary core team, in daily coordination with Soprintendenza colleagues, has been, and still is, pivotal in project evolution.

Project 'responsiveness' to site and local heritage authority needs has been achieved by involving those project team members (including Soprintendenza colleagues) regularly on site in preparing recommendations. This was true for the operators, as much as the specialists, given the need to encourage the establishment of a competent local skill-base for future maintenance. As a result, decision-making for project strategies was led primarily by the needs of the site and the Soprintendenza.

The strong presence of the specialists on site also facilitated an interdisciplinary approach—something easy to declare as 'adopted' but, in practice, very hard to achieve—and encouraged dialogue and compromise to be embraced.[31] It has also counteracted the negative trend in the heritage sector of the conservation 'expert' who turns up, gives an opinion or instruction and leaves. Moreover, it has improved decision-making so that the substantial outlay in professional expertise is offset by the improved relevance and efficiency of site works.

Reporting, Coordination and Appraisal Strategies

With the new impetus gained from the 2004 sponsorship agreement, a bigger team and a much larger and more complex output, it was evident that a more formal management approach was required to guarantee good decision-making and optimum use of the resources available. The introduction of effective coordination meetings and systematic pre- and post-meeting reporting procedures was a vital step in ensuring the quality of project results did not diminish with the increased annual output. It was also important to ensure all project activity worked towards the objectives agreed with the project partners and employed only the strategies approved by the project partners. The approach had to allow effective and swift evaluation of each decision to be made on site, identifying at what management level the decision should be made and with which parties, and then how that decision needed to be recorded and implemented.[32]

The ability of each individual member of the core team to identify and critically appraise their own output and not work in isolation was also improved by encouraging exposure to other specialists working in the heritage sector through conference participation, publication and continuous professional development, and also through the collaboration with the International Centre for the Study

of the Preservation and Restoration of Cultural Property (ICCROM) launched in 2004 where Herculaneum has been adopted as a case study for several mid-career training courses.

Endorsing, where appropriate, direct contact between members of the project team, project partners and other interest groups to solve problems (e.g. public officials working with similar challenges in Pompeii or further afield) and encouraging team members to step out of their disciplinary boundaries and offer and receive pragmatic and constructive criticism of each other's work have helped the project team members (including Soprintendenza colleagues) feel a high level of responsibility for project output.

Learning to Spend Money Well: Effective Use of Resources and Refinement of Long-Term Models

By 2006 a functioning archaeological conservation operation under the sponsorship agreement had been established, the site was being brought to a more stable and manageable status quo and longer-term conservation strategies were being tested. The onus on the project team shifted at this stage with the need to make this organisational machine deliver greater continuity and value for money. The Soprintendenza did not need the additional funds the private support offered[33] as much as it needed the actual change in approach that this partnership could bring about.

Higher standards needed to be established, not just in conservation methods but in many other areas: the distribution of resources, information management, contractual approaches, works management, health and safety standards, response time, monitoring and self-appraisal. In the case of the site-wide campaign,[11] this has had to be done anticipating the constraints of the public system (more limited flexibility in tendering and contracting) so as to find long-term maintenance models of outsourcing that can be effectively transferred to the Soprintendenza Archeologica di Pompei, in a staged process over the following years, and sustained.

Ground has been gained in the last year with regard to improving the administration, supervision and documentation of a continuous campaign of routine and 'extraordinary' maintenance.[11,24] New policies have been introduced such as the adoption, where possible, of objective measures of work done (unit prices and quantities over hours worked) to release those supervising site works from counting heads and compiling time-consuming registers in order to dedicate their time to improving the quality and yield of site operations. Similarly, the subdivision of conservation works into manageable packages has enabled a better match between project results and the original objectives set. Investment in better management of project results (particularly *post-operam* documentation, both of a technical and administrative nature) is delivering a Geographic Information System (GIS)

database which facilitates evaluation and monitoring of project output and so is becoming a working tool to inform project planning while the project proceeds. It will also deliver an invaluable archive and investigative tool for those who come after.

The development of flexible, mixed works contracts whereby a fixed team (defined by time and the number of workers) for routine work is expanded periodically to cover specific works packages (defined by objectives) has benefited from direct involvement of the team in contract preparation. Plans are afoot to further refine the contractual approach by testing it on new contractors. A similar 'group' approach to the definition of the various professional appointments for the team of consultants has helped ensure no unnecessary consultancy services are commissioned.

Proposals are also under development to formulate real 'joint' pilot projects, where both the public and private partners commission site works in a specific area in unison, involving legal expertise to make the most of existing laws to test, refine the contracting approach and make it work better for the site and the needs of the heritage authority. It is envisaged that this will be the significant step in improving procurement strategies that will give consent to the effective transfer of operations of the continuous campaign of routine and 'extraordinary' maintenance from the Herculaneum Conservation Project partnership to direct commissioning by the Soprintendenza in the next five years.

Conclusion: The Future—Bridge-Building Locally, Nationally and Internationally

[. . .] Project research initiatives (archaeological, geological and in conservation science), information management strategies, water management work and long-term conservation proposals and trials deserve separate attention. But there is still much to do to create a positive and effective model of public/private collaboration that delivers sustainable results. The close working relationship between the project partners and between the specialists on the ground has established an approach that does not erode but reinforces the Soprintendenza Archeologica di Pompei as the owner and the organisation responsible for, and capable of, overseeing the safeguard of the archaeological site and this is vitally important at this delicate moment for the future of heritage in Italy.[34] In the first five years of this joint venture, the rate of decay has been brought under control after a long period of neglect and the outstanding conservation challenges have been defined. Long-term conservation strategies are being explored, both through research and pilot projects (large and small) to improve conservation methodology and through testing effective approaches to outsourcing of emergency and maintenance works. However, the project is now facing its biggest challenge.

In September 2006, the founding partner of the project, the Packard Humanities Institute, agreed with the Soprintendenza Archeologica di Pompei [on] a set of

very clear priorities to be addressed in future years of the project, placing emphasis not only on the conservation—with particular emphasis on investing in infrastructure and in sustainable strategies—but also on the enhancement of the archaeological site, its facilities (including the site museum) and its surroundings, particularly improving the relationship between the site and the modern town.

One of the most difficult operational challenges currently being faced is the transfer from a 'bottom-up' phase of the project (when the site's needs were the primary reference for identifying priorities) to a 'top-down' phase (where operational factors and stakeholder requirements shape strategies more heavily), the necessary precursor to gradually transferring our operations to the Soprintendenza over the next five years.[35] Another immediate challenge to help us achieve these ambitious goals is that of improving our ability to communicate with the world beyond (via the website, publications, conferences, etc.) and learn from others facing similar challenges elsewhere.

The impact of the Herculaneum Conservation Project reaches beyond the immediate impact of its project activities and this is with much credit to the Packard Humanities Institute's commitment to and high expectations of the Herculaneum initiative from the beginning, and the readiness of the Institute to create and support a complex and unprecedented initiative in Italy that does not deliver the visible or easily quantifiable, tangible results many sponsors seek. Through capacity-building of a single public institution, this initiative supports some of the most simple operations which guarantee the survival of an archaeological site of this type.

As Superintendent Pier Giovanni Guzzo wrote in 2003: 'It is not sufficient to release an increased quantity of financial resources to ensure the safeguard of cultural heritage. Precisely because that heritage is defined and distinguishable by subjective terms, it is only with a cultural approach that one can invert the trend. And culture passes through mankind, and not through money'.[36]

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References

1 See Figure 3 in Wallace-Hadrill, A. The Herculaneum Conservation Project: Introduction. *Conservation and Management of Archaeological Sites* [8, no. 4] (2007) 187–190.

2 Camardo, D. Archaeology and conservation at Herculaneum: from the Maiuri campaign to the Herculaneum Conservation Project. *Conservation and Management of Archaeological Sites* [8, no. 4] (2007) 205–214.

3 Between 1984 and 1997, the annual designated sum from the Ministry budget for archaeological conservation and maintenance for all the heritage authority's sites—Pompeii, Herculaneum, Stabiae, Oplontis and Boscoreale—averaged less than 1.5 million euros a year. However, this annual funding was complemented by other episodic capital funding, for example from the European Union, adding an average of 4.5 million euros to the annual budget; but for enhancement initiatives as well as archaeological conservation. If calculated as a price per square metre for all the

sites under the Soprintendenza control, it becomes swiftly evident that the funding available was barely sufficient to keep the sites free of litter and invasive vegetation and could not allow for an adequate conservation programme.

4 Zan, L. and Paciello, L. Rilanciare Pompei: anno zero, le attese verso approcci manageriali e forme moderne di accountability. *Rivista di Studi Pompeiani* **9** (1998) 7–39.

5 Culminating in Italy with law 494 of 1996, but departing from a late 1992 European directive which was applied in each nation of the European Union according to different timescales.

6 Ministero dei Beni Culturali e Ambientali. Sisma 1980: effetti sul patrimonio artistico della Campania e della Basilicata. *Bollettino d'Arte, supplemento* **2** (1982).

7 For example, three years of paperwork between three public organisations (local heritage authority, the regional health department and the Ministry of Culture) were needed just to validate a period of sick leave. See [4] above, in particular table 7 of the article.

8 In 1997 the Soprintendenza Archeologica di Pompei had a staff of over 700 (many of whom have now retired and not been replaced), with an estimated annual cost financed directly by the Ministry of 23 million euros. Within this 700-strong team there was a very limited supply of technical staff and no adequate in-house legal/administrative support to allow good contracting. Even after financial and administrative autonomy was awarded to the Soprintendenza in 1997, staff remained under direct control of the Ministry and this, paired with union pressure, made restructuring impossible. See ref. [4] above, page 19.

9 The 'Fondi FIO 1989' resources from the European Union, worth some 29 billion Italian lire (c. 15 million euros), were spent at Pompeii and Herculaneum between 1989 and 1997. In Herculaneum they financed the excavation of the Villa of the Papyri and the main site's ancient shoreline. See ref. [4] above, pages 27–28.

10 Bumburu, D., Burke, S., Harrington, J., et al. (eds) *Heritage at Risk: ICOMOS world report 2001/2002 on monuments and sites in danger*. K.G. Saur, Munich (2002).

11 Pesaresi, P. and Martelli Castaldi, M. Conservation measures for an archaeological site at risk (Herculaneum, ltaly): from emergency to maintenance. *Conservation and Management of Archaeological Sites* [8, no. 4] (2007) 215–236.

12 Guidobaldi, M.P. History of the excavations at Herculaneum and an overview of the site. Paper presented at the Friends of Herculaneum study day on Herculaneum: scholarship, reception, prospects. London, 4 March 2006.

13 There were 2.57 million visitors to Pompeii in 2006 and 296,000 to Herculaneum in 2006, an increase in visitors respectively for each site of 19.4% and 25% since the year 2000. Visitor information is available from the official Soprintendenza Archeologica di Pompei website: www.pompeiisites.org.

14 *'Sapere, quindi, quale tipo di città si vuole riconquistare.'* Guzzo, P.G. *Pompei 1998– 2003: l'esperimento dell'autonomia.* Electa, Milan (2003) 31.

15 Melucco Vaccaro, A. The emergence of modern conservation theory. In: Stanley-Price, N., Talley, M., Kirby, Jr., M. and Melucco Vaccaro, A. (eds), *Historical and philosophical issues in the conservation of cultural heritage. Readings in Conservation.* Getty Conservation Institute, Los Angeles (1996) 203.

16 The initial results of geological research currently under way are actually questioning this assumption since it would appear that gradual water erosion within the volcanic deposit could be in some cases the cause of the mid-height damage of the standing

structures (rather than structural damage being solely due to the original volcanic eruption).

17   Underpinning requirements made this essential since the lower portions of the walls had often been swept away.

18   The threat of volcanic eruption or earthquake activity is something that any risk assessment at Herculaneum highlights as a primary consideration. Studies have been undertaken based on past experiences, e.g. the 1980 earthquake (see ref. [6]), and various partners have worked together to develop strategies for protecting cultural heritage before, during and after such catastrophic events, for example see: Department of Civil Protection *Preservation of Archaeological Heritage: Preservation and Salvage Interventions of the Movables Located in the Roman Villa of Somma Vesuviana*. Dipartimento della Protezione Civile, Rome (2006).

Beyond ensuring conservation measures do not aggravate the vulnerability of the site in the case of earthquake activity, the Herculaneum Conservation Project's preventive measures for volcanic activity are mostly concentrated on documentation and information management: thorough documentation will allow us to preserve the memory of the site in the worst case scenario and a Rome-based automatic back-up system provides a second archive of all project results far away from the area at risk.

19   Pace, S. *Herculaneum and European Culture Between the Eighteenth and Nineteenth Centuries*. Electa, Naples (2000).

20   The Campania Region covers 13,595km², has 5,790,929 inhabitants (second in Italy only to Lombardy) and has the highest national territorial density with 426 inhabitants/km². The majority of these inhabitants are in the Province of Naples. The towns at the foot of the volcano in the 'red zone' (the area identified as very vulnerable in the case of volcanic activity and where incentives are available to encourage inhabitants to move away) such as Ercolano and its neighbours, have some of the highest figures for population density/km² in Europe. See Buondonno, E. *Osservazioni: piano territoriale di coordinamento provinciale*. Assessorato alla Valorizzazione e Assetto del Territorio, Comune di Ercolano (2006). For further material on the risks of catastrophe, see ref. [18].

21   The Soprintendenza Archeologica di Pompei's autonomy was established in 1997 with law 352, article 9. There are substantial advantages to this reform: it has increased the finances available; it has brought decision-making closer to the sites in question and simplified procedures; it has created clear 'accountable' figures and entities (the administrative council, the superintendent and administrative director, and the auditors) which were previously lacking at the local level; and performance in all areas is monitored by the Ministry. However, there are also some shortcomings in the formulation of this autonomy. As with all new legislation much of its success lies in whether its application is realistic and effective. In this case staff continue to be controlled by the Rome-based Ministry and no increase in flexibility has been gained in that critical area. This has meant the Soprintendenza is without the necessary tools to apply the other improvements the reform allows. The reform requires greater detail in conservation planning, which is a good thing, but there is no increase in technical staff to cover this additional demand. Furthermore, the administrative director is a personal nomination of the Minister, which has made the role vulnerable to political manoeuvring.

22   This change was marked by the readiness of the Soprintendenza Archeologica di Pompei to be subjected to a rigorous critical review by Luca Zan and Lucia Paciello

over a six-month period from October 1997 and, moreover, to allow the results to be published in the *Rivista di Studi Pompeiani* (see ref. [4] above). Similarly, the '*Piano per Pompei*' (a strategic plan developed with the World Monuments Fund between 1998 and 2001), which measured and made very evident the extreme levels of decay, and highlighted the need to stop further excavation in favour of conservation at the site of Pompeii, was a clear expression of the desire for change and for partnership. See: Ministero per i Beni Culturali e Ambientali, Soprintendenza Archeologica di Pompei, World Monuments Fund *Un piano per Pompei: piano programma per la conservazione e la gestione del patrimonio storico-archeologico della città antica.* MIBAC/SAP, Rome (1997).

This thinking was extended to Herculaneum in 2000 with the commissioning of a *piano programma*. This first systematic survey of the decay of the site was essential for an initial evaluation of the resources necessary to achieve a widespread improvement of the general site condition. It delivered a basic order of priority compatible with the resources available in the general budget of the Soprintendenza Archeologica di Pompei and within the obligatory three-year programming requirements of Italian public works (the latest three-year programme is available from the official Soprintendenza Archeologica di Pompei website (www.pompeiisites .org) under the section '*Bandi e estiti di gara*'.

23   At this stage Italian legislation did not permit the private partner to directly contract conservation works on a public-owned heritage site.

24   Pesaresi, P. and Rizzi, G. New and existing forms of shelter at Herculaneum: improving approaches to facilitate the continuous care of the site. *Conservation and Management of Archaeological Sites* [8, no. 4] (2007) 237–252.

25   The British School at Rome was already involved indirectly through its Director, Andrew Wallace-Hadrill, also heading the Herculaneum Conservation Project. The Rome-based research institute had been operative in Italy for over a century in the field of archaeological research and excavation. Increased institutional involvement at Herculaneum in 2004 was seen as a positive step to extending the foreign academy's scope to the safeguarding of the heritage it had studied for so long. See Wallace-Hadrill, A. *The British School at Rome: One Hundred Years*. British School at Rome, Rome (2001).

26   The sponsorship agreement between Soprintendenza Archeologica di Pompei and the British School at Rome (n. 577 signed on 9 July 2004 at the Ministry of Culture, ratified by the Soprintendenza administrative council with n. 535 on 14 July 2004) applied the following part of the *Codice Urbani*: law 449/1997, article 43; law 109/1994, article 2.6, as substituted by law 166/2002, article 7; *Decreto Legge* 42/2004, article 120; *Decreto Legge* 30/2004, article 2.

27   The official interpretation of the law (see ref. [26]) was issued by Mario Luigi Torsello, head of the Legal Office of the Ministero per i Beni e le Attività Culturali (Ministry of Culture) on 21 June 2004, protocol no. 11647: '*Sponsorizzazione dei lavori su beni culturali: questioni interpretative*'.

28   The operational advantages gained by the sponsorship agreement were first outlined in Thompson. J. La protezione e la valorizzazione di un sito a rischio. *Forma Urbis* 10 3 (2005) 35–39.

29   A project management approach developed by UK project manager, Eric Gabriel. See Gabriel, E. The lean approach to project management. *International Journal of Project Management* **15** (1997) 205–209.

30   The heritage sector often fails to identify the difference between management (managing a stable situation) and project management (managing change). The fact that many heritage situations require the latter in order to improve a status quo is often overlooked. Much can be learnt from the commercial sector in this field. See Burke, R. *Project Management Planning and Control Techniques*. John Wiley & Sons, Chichester (2003).

31   Interestingly, setbacks in the launch of site works in the first years of the project (a result of the time required to formalise contractual relationships for an initiative that had no precedent) strongly favoured the establishment of interdisciplinary dialogue and a common vision within the team: it gave team members valuable time to identify each other's strengths and discuss their ideas, thereby uniting them and increasing their determination to deliver a project that offered something significant to archaeological conservation in Italy. Team building was a major factor in the successful development of the project, and Meredith Belbin's work on the topic was of particular value. See Belbin, R.M. *Management Teams: Why they Succeed or Fail*. Butterworth-Heinemann, Oxford (2005) 72.

32   In early 2005 a regime of fortnightly coordination meetings was adopted. Each specialist delivers an illustrated, pre-meeting progress report on the last two weeks of activity. These are distributed in a single document to the entire team at least one working day before the coordination meeting, ensuring meeting time is only dedicated to future planning and problem solving instead of recounting work done. The introduction of structure, such as meeting minutes, to working practice is particularly significant given the general absence of such formalities in the heritage sector in central and southern Italy. Within the meetings, an evaluation is made as to whether the decisions in question need to take place at team level or involve the Site Director and Project Manager or, in the case of strategic decision-making, involve the Project Director and, in certain cases, the Superintendent and the Sponsor. Much decision-making is made during joint site visits which follow the formal coordination meeting.

33   The following quote is the Superintendent himself commenting in public on the major shortcoming not being lack of financial resources but the lack of instruments to spend them well: 'it is recognised that having gained financial autonomy the Soprintendenza di Pompei is no longer as poor as it was previously. Having resources available and not being able to use them is not the best situation one could wish for. Running a Soprintendenza with such bureaucratic tools is the demonstration of how much cultural poverty characterises the current overall management of the Ministry [of Cultural Heritage]' ['*come è noto, a seguito dell'autonomia finanziaria la Soprintendenza di Pompei non è tanto povera quanta lo era in precedenza. Avere disponibilità di risorse e non riuscire ad utilizarle non è la situazione migliore che si possa desiderare. Amministrare una Soprintendenza con tali strumenti burocratici è la dimostrazione di quanta povertà culturale caratterizza l'attuale gestione complessiva del Ministero.*'] Guzzo, P.G. *Considerazioni finali*. In: P.G. Guzzo (ed.) *Storie da un'eruzione: in margine alla mostra. Atti della tavola rotonda, Naples, 12 June (2003)*. Associazione Internazionale Amici di Pompei, Pompeii (2005).

The current three-year programme 2007–2009, available from the official Soprintendenza Archeologica di Pompei website (www.pompeiisites.org) under the section '*Bandi e esiti di gara*', confirms the funding programmed for spending in 2007 as over 11 million euros (funds directly available from ticket sales) for the

management of the entire territory (excluding staff costs). In the 2004–2006 three-year programme the 2004 figure was three times this amount (such erratic increases being in part due to the integration of European funding).

34 The traditional role of the Italian public sector as the principal owner and guardian of cultural heritage is being questioned. Heritage management approaches are being reviewed and steps are being taken, so far mostly in the museum sector, to encourage private involvement, not just in terms of delivering services but also at the level of strategic planning and management of cultural heritage.

35 Stovel, H. Top-down and bottom-up management. *ICCROM Newsletter* 30 (2004) 16–17.

36 '*Non è sufficiente poter disporre di una maggior quantità di risorse finanziarie per assicurare la tutela ai beni culturali. Proprio perché quei beni sono qualificati e distinguibili solo in grazia dell'aggettivo, è solo con un approccio culturale che si può invertire ta tendenza. E la cultura passa attraverso gli uomini, non attraverso i denari.*' Guzzo, P.G. *Pompei 1998–2003: l'esperimento dell '*autonomia. Electa, Milan (2003) 27.

Chen Tongbin

Planning for Conservation of China's Prehistoric Sites: The Liangzhu Site Case Study (2006)

Many of the problems confronting large archaeological sites located in an environment of rapid development are evident in China. Taking Liangzhu as a case study, Chen Tongbin describes the resolution of such issues using a combination of Chinese and Western conservation policies. Liangzhu is an important Neolithic site encompassing 60 square kilometers in the downstream region of the Yangtze River. Population density, dynamic urban development, and industrial growth within the boundaries of this huge site mean that a massive effort at master planning is required to ensure the protection of the site and its authenticity and integrity. The plan employs the methodology described in the Principles for the Conservation of Heritage Sites in China to achieve these aims. However, the size and importance of the site and the complexity of population and development issues have resulted in extensive interventions based on a model of centralized control. Among the policies and strategies employed are relocation of citizens and of a large number of industrial businesses (both with compensation) and rerouting of the transport system. The paper discusses community attitudes to these interventions and provides a realistic assessment of the significant ongoing challenges.

Overview of Prehistoric Site Preservation Planning in China

Status of Site Preservation

China's economy is in a state of robust development that has been accompanied by unprecedented nationwide urbanization since the 1990s. This is endangering a

great number of archaeological sites, in some cases to the point of destruction. In the absence of effective protective measures, unforeseeable consequences could result within the next ten years. Hence the urgency to develop policies and plans to ensure the preservation of all the archaeological sites.

Professional and Legal Framework for Preservation Planning

In accordance with Article 9 of the *Principles for the Conservation of Heritage Sites in China* (the *China Principles*, issued by China ICOMOS with the approval of the State Administration of Cultural Heritage), there are six steps prescribed for the preservation of cultural relics: (1) investigation; (2) research and assessment; (3) implementation of the four legal prerequisites; (4) determination of objectives and preparation of the conservation master plan; (5) implementation of the master plan; and (6) periodic review of the master plan and action plans. The preservation plan constitutes the backbone of protection, and it constitutes a statutory document for the implementation of protection measures for each site in China.

In view of the nonrenewable nature of heritage sites, planning for their preservation should be given priority in China's current development plans for economic construction:

- Preservation plans should precede the tourism development plan and become its raison d'être.
- Development plans should be the basis for preservation planning for famous historical and cultural cities.
- Development plans should be incorporated as an essential part of the planning system for urban and town development and overall urban plans.
- The central role of planning in the protection procedure as prescribed in the *China Principles* is clearly defined. However, it has not been given the attention and support it deserves in China's prevailing system of laws and regulations.

Challenges in the Protection of Ancient Sites

Twenty-two and a half percent of the 1,271 national-priority protected sites in China, that is, 286 sites, are archaeological sites, of which 103 are prehistoric. These sites are much larger in scale than many other sites in terms of the area of land they occupy. The long history of Chinese civilization and the many sites scattered over the vast expanse of territory pose varied challenges, both human and natural, to planning for their protection.

Human destructive factors include large-scale urban and rural economic construction projects, development for tourism, high population density, and extensive

farming. Natural destructive factors are erosion resulting from loss of vegetation, erosion from wind and rain, weathering, and freeze-thawing.

Basic Concepts for Preservation Planning

Compliance

- Law of the People's Republic of China on the Preservation of Cultural Relics
- Law of the People's Republic of China on Urban Planning
- *Principles for the Conservation of Heritage Sites in China*

Basic Criterion

- The principle of keeping cultural relics in their original state must be adhered to.

Preservation Objectives

- To keep the remains and ruins and their surroundings authentic, intact, and undisrupted

Basic Tasks

- To identify sites for preservation and determine their boundaries
- To demarcate protection zones and devise rules for management
- To work out protection measures
- To develop specific subplans for interpretation, use, management, and maintenance
- To formulate plans for periodic implementation and cost estimates.

Planning efforts in recent years for the preservation of Chengtoushan, Niuheliang, Dadiwan, Qianjianglongwan, and Liangzhu prehistoric archaeological sites and other ancient sites originating from other historic periods, in compliance with the Laws and Principles, have identified protection zones, devised management rules, worked out protection measures, and developed specific plans for interpretation, use, and management with a view to keeping the sites authentic and intact. Of these cases, the Liangzhu site is of particular concern because of its strong potential for economic development.

Overview of the Liangzhu Site

Description of the Site

Liangzhu is one of the most significant sites in the Yangtze River basin for archaeological study from the late Neolithic period. The remains date to around 3,000 to 2,000 years B.C.E. Liang encompasses more than 130 sites discovered so far and

covers an area of 60 square kilometers within which two administrative towns, Liangzhu and Pingyao, are located. The remains include a large-scale man-made terrace, architectural structures, dwelling places, a graveyard, altars, and massive construction projects. The archaeological finds are largely fine jade artwork, coupled with ceramics, stone, bone, and lacquerware.

Geographic and Climatic Conditions

The site is located inside the Yuhang district of Hangzhou municipality, Zhejiang province. This is an economically developed region of China's southeastern seaboard. It is in a contiguous area between hilly land in western Zhejiang province and the Hangjia Lake flatland. The remains are scattered in the river valley plain at an elevation of 3 to 8 meters above sea level. They are close to the low hilly land in the west and north and connect with the waterway plain in the east and south. Hence the terrain is level and open. The site is within the southern fringe of the northern subtropical monsoon region.

Significance

Liangzhu is typical of the initial period of China's civilization and is therefore an extremely important archaeological site. In terms of its large scale and advanced culture, it bears witness to five thousand years of Chinese civilization. The finest collection of jade utensils for ritual purposes so far has been excavated from Liangzhu; they are without match worldwide from the same period. Many achievements of the Liangzhu culture were later inherited and developed in the Shang and Zhou dynasty cultures. Therefore, the site has played an important role in the development and evolution of Chinese civilization.

Case Relevance

Protection of the Liangzhu site has a direct bearing on the productive activities and lifestyle of the local inhabitants as well as the socioeconomic plan of Hangzhou city. Similar cases in China are the ancient Chang'an city site of the Han dynasty, the Qinshihuang Mausoleum, and other large archaeological sites that cover scores of square kilometers located on the outskirts of cities. Hence, in a country such as China where economic development is in full swing, protection of Liangzhu is of great importance.

Challenges in the Preservation of the Liangzhu Site

The site is located in the developed area south of the Yangtze River and northwest of Hangzhou city. This area became part of urban Hangzhou in 2001; it borders the urban area of Hangzhou, and its center is only 23 kilometers from downtown

Hangzhou. Given the lack of land for urban development, it is an ideal location for construction. There are about 30,300 inhabitants on the site, scattered in four townships and twenty-seven villages. The average population density is 739 persons per square kilometer. Urban construction and industrial development within the area have experienced dynamic growth—more than 200 percent since 2000 (these data are based only on the number of investment projects)—and its periphery is attracting the attention of Hangzhou real estate developers.

Urbanization: The Main Destructive Factor

Archaeological sites such as Liangzhu are destroyed by earth moving, house building, road construction, pipe laying, and other large-scale urbanization activities. Certain agricultural activities, such as fish farming and deep plowing, also pose a considerable threat.

   The population problem is a distinctive feature of China, hence the production activities and lifestyle of the inhabitants in the area put tremendous pressure on protection efforts. The desire to speed urbanization is of importance to the local economy, but at the same time it is a factor that hinders protection efforts. Therefore, the question of how to balance the needs of the inhabitants with the need to protect the large Liangzhu site figures high on the local agenda. Other challenges such as conservation treatments for cultural relics and site management will have to be addressed at a later time.

Policy Considerations regarding Protection of the Site as a Whole and Urbanization

Presentation of the authenticity of the site involves primarily interpretation, which pertains to academic and technical concerns but has little to do with the day-to-day concerns of site inhabitants. Nevertheless, efforts to keep the site intact must be closely linked to the interests of the local people.

   Protection planning for Liangzhu follows the relevant laws and the *China Principles* and involves a spate of policy measures targeted at specific problems while also taking into account local socioeconomic development plans.

Essential Preservation Measures

To control urbanization within the site, it is necessary to

- put on hold transportation system development by intercepting the town and township trunk roads where they cut across the key preservation zone so as to regulate the transportation network inside the zone;
- halt industrial construction by prohibiting new industrial projects and moving out 117 industrial and mining firms;

- place restrictions on construction activities in farmers' dwellings by means of three methods, moving, scaling down, or levying heavy taxes;
- bring agricultural activities under control by limiting tilling and planting;
- introduce ecologically sound measures aimed at retaining water bodies and maintaining the man-made wetland environment;
- reduce population density by phased moving of 806 households (10,000–20,000 persons) out of the area;
- concentrate the amount of land for construction and prepare havens for those staying behind, and keep the preservation zone tidy and clean;
- change the way the land is used by reducing by over 400 percent the amount of land approved for construction so as to have a larger proportion of land for preservation, agriculture, forest, and even barren land.

To intensify the urbanization process in areas bordering on the site, the following steps need to be taken.

- Streamline the traffic system. Main trunk roads should be planned for towns and townships bordering on the site so as to gradually do away with the heavy transit traffic and improve the traffic situation outside the zone.
- Adjust the economic structure by setting up a consolidated industrial zone and a farm-products processing base, thus enabling relocation of industrial and mining firms and the employment of farmworkers on labor-intensive projects.
- Speed up urbanization by resettling those uprooted from the zone in newly planned towns and townships.

Basic Preservation Measures

- Set up multilevel preservation zones
- Develop prioritized management plans
- Fine-tune the traffic system
- Work out a specific population control plan
- Formulate dwelling quarters control plans
- Change the way the land is used
- Incorporate all this in the overall local socioeconomic development plans.

Existing Problems

Criteria Governing the Census of People Remaining

Ascertaining the number of people residing inside the preservation area is one of the crucial problems of the overall plan, as it is closely related to the effectiveness of the preservation effort and to the amount of funding to be invested in pres-

ervation. At this point China has no specific indicators available for acceptable population density within an archaeological area such as Liangzhu. What is taken as the parameter for reference in preservation planning for Pingyao and Liangzhu is the value of the average population density, namely, 257 to 430 persons per square kilometer. This figure is multiplied by the area of the total preservation zone—41.93 square kilometers—to derive a population ceiling. The base result is 10,800 to 18,000 persons.

The data are obtained by calculating the status of the current capacity of the area; however, this falls far short of an ideal criterion.

Earmarked Funding

The Phase I relocation plan involves 2,894 persons, or 806 households. Moving and resettlement costs are 160 million yuan (200,000 yuan on average per household). The overall size of the industries and mines to be relocated involve 16.5 thousand square miles, and the moving expenses total 333.2 million yuan (800 yuan on average per sq. m). Together, the cost is approximately 500 million yuan (493.2 million RMB, or U.S. $60 million).

This amount has to be raised from various sources. Funding sources and structures are yet to be explored, as is the availability of such a large sum for preservation.

Management

Many large-scale archaeological sites are located on the outskirts of cities and involve several administrative zones (cross-village, cross-county, and even cross-province and cross-municipality). How to establish effective site management organizations under the existing administrative system, what kinds of functions they are expected to perform, and how efficient they will be are all questions that need to be addressed in the implementation of the preservation plan, especially when this entails moving a large number of people and controlling land use.

Special Economic Policies

Measures in large-scale archaeological site preservation planning will necessarily entail compensation for relocation of people, population limits on site, and restrictions on agriculture—measures that have implications for the life and gainful activities of the local people. There is clearly a need for special economic policies. The question and challenge today concerns the need for special policies for site preservation under the prevailing government policy on the dismantling of housing and resettlement.

Interest of Local People

Local inhabitants have mixed feelings about preservation of the site. On the one hand, they hope that the park built there will bring them income from tourism; on the other hand, they are worried about the economic loss and restriction caused by the relocation and limited agricultural use. Therefore, they are as skeptical as they are expectant and await the details of special government policy and the availability of funding to implement the plan.

Nelly Robles García

Social Landscapes and Archaeological Heritage in Latin America (2006)

In Latin America extreme social pressure may result in mass movements that promote non-negotiable agendas, which are unlikely to result in the best decisions for the conservation of cultural heritage. Unlike the situation in China (see reading 68), there is no possibility that the state will have absolute control over archaeological sites. In this situation knowledge and use of the contemporary social setting is as important to effective archaeological site management as technical skill. Robles García outlines the very complex social issues that surround Monte Albán, a World Heritage Site in Oaxaca, Mexico, and profoundly affect the management and conservation of its archaeological heritage. She discusses the need in heritage conservation to master issues as diverse as the array of social actors, the range of institutions, political jurisdictions, land tenure speculation, land use, indigenous land claims, urban growth, and quality of life.

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Background

In Mexico and other countries in the region, the emergence of archaeology coincided with a certain attention to indigenous roots as a manifestation of nationalism. Archaeology offered nation builders a way to link the descendants of a noble and accomplished past to visions of a proud and prosperous future.

By 1939 Mexico had institutionalized broad-based oversight of archaeological heritage, which placed control of all modalities of archaeological research and protection in the hands of the state. Nominally the state left room for some participation in conservation efforts by creating the possibility of neighborhood or community councils (INAH 1972). In practice, however, state tutelage constrained the liberty of action by a wide range of actors, especially in relation to land use (INAH 1972). This created a tension or antagonism over both the process of decision making and the substance of conservation policy that continues to bedevil conservation efforts.

From 1962 to 1964, when Mexico made a concerted effort to create what would become the National Museum of Anthropology, there emerged a series of debates over the decision to display simultaneously evidence of past and present material cultures, that is, the archaeology and ethnography, of indigenous peoples. Although a broad-based spirit of nationalism supported the establishment of the monumental museum, this did not silence the voices of discontent that objected to the combination of archaeological heritage and contemporary ethnography in a single collection under a common roof, in effect linking pre-Conquest with contemporary landscapes.

More recently, efforts by the Committee of the Americas of the Society for American Archaeology have revived hopes for a better understanding between archaeology and heritage preservation in Latin America (Drennan and Mora 2001). Nevertheless, this convergence continues to fall short as it lacks insights and methodology from social and economic anthropology that would produce a more complete picture of the social complexities that shape heritage management. In effect, one of the most persistent dilemmas has been the reluctance of traditional specialists and practitioners to recognize the changing context of their work. Without such recognition, pleas for more broadly based approaches to heritage management appear to have little hope of prospering.

Contemporary Complexity

Today a more open academic environment facilitates discussion regarding different elements and processes in site management or the myriad tasks of conservation. Attention has shifted to trying to understand the elements of society and the conditions that generate the persistent stress affecting sites (Demas 2000; Hoopes 1997; Robles 1998; Robles and Corbett 1995).

Using an anthropological or sociological lens, it is possible to identify those actors who shape the social context of a specific archaeological site and to calculate their level of influence over the processes of conservation or degradation affecting it. We can also calculate the benefits the site condition may distribute to those actors (Robles 1998). Without undermining archaeologists' research in

different areas, we need to understand that independent of the scientific values that may permeate a heritage site, at any moment—but especially once a site's significance is established—that very process may trigger or revive an array of interests associated more closely with its status as a resource than as a focus of scientific study.

Today social research tends to document indigenous affairs related to cultural heritage in general and to archaeology in particular. We see, nevertheless, that social considerations in their broadest sense include a wide array of societal environments. Thus we can find an extensive assortment of challenges linked to urban, city-country, modern, traditional, political, or other interests that form part of the mix that has been put into play. In this sense we understand the need for social research focused on heritage matters, as it permits a more reliable assessment of the range of conditions that characterize the relationship between a site and the larger society of which it is a part (Robles and Corbett 1995).

The *social landscape* may be understood as a complex concept that elaborates not only the list of actors present at a site or area but also the relationships that exist between the actors and the site, with the concept of heritage, and among the actors themselves. The concept also captures the array of interests centered on the site and on cultural heritage, which generally prove more extensive than we first imagine.

In this respect a heritage site may be known but may remain unexplored for generations without any alteration in its relationship with the social environment. Archaeological research removes the site from anonymity, and a successful project generates value by converting the site to an attraction; this in turn can trigger a struggle of economic interests linked to several sectors, particularly tourism. This occurs independent of and often without explicit recognition of other dimensions of social complexity such as property, land tenure, values, or other constructs.

Taking Monte Albán as a case study to demonstrate what the concept of social landscape can mean for most archaeological sites in Mexico or elsewhere in Latin America, several levels of analysis are necessary to understand the variety of stakeholders that interact with the site. The result has been a fascinating complex of overlapping social groups, individuals, and interests clearly differentiated from one another, a complexity in which heritage resources play a central role, not only in a scientific sense. For some of these actors, this site can be understood as simply an enormous piece of earth and as such can be treated according to the rules of the free market and speculation. Others may see it as a large open space for recreation and outdoor activity; still others see it as part of an ancestral heritage whose grandfathers set it aside to be preserved and appreciated. Meanwhile scientists see it as an important setting for understanding a culture stretching back centuries or even millennia.

The Monte Albán Experience

Experience gained in working at Monte Albán, a World Heritage Site in Oaxaca, Mexico, has enhanced sensitivity to social realities in the context of heritage sites. These become as important as understanding historical events, physical conditions of structures, or other elements such as chronologies. A site such as Monte Albán, immersed in a physical context of urban marginality and poverty, demonstrates the need to mobilize social science methodologies to understand the social complexity of the site. Some of the levels of analysis used in this study are discussed below.

Social Actors

Information collected directly in the field reflects the diversity of actors playing a role in the setting of the site. These include site workers, scientists, visitors, and students, as well as those who, without being present at the site on a daily basis, nevertheless generate demands on it, such as hotel owners, travel agents, neighbors, property owners, shepherds, and others, including institutions.

Institutions

In Mexico, based on a single law, the federal government has control of heritage resources, including archaeological resources as they are considered part of the national heritage (INAH 1972). The National Institute of Anthropology and History (INAH) was established to study, preserve, and interpret for the public different elements valued in archaeological sites. This monolithic character makes INAH an institution almost without parallel in the archaeological world and at the same time shows that the Mexican public accepts the notion that heritage is a responsibility of the state. Elsewhere in Latin America, institutional counterparts of the Mexican model have been created, for example, in Guatemala, Peru, Cuba, and Colombia. Nevertheless, these culturally oriented institutions are not the only ones that may play an active role in the conversation of archaeological resources. This role now stretches across institutions that address tourism, public works, urban planning, and the management of land and ecological resources, in addition to others with the capacity to affect the archaeological heritage. To date, none of these offers an agenda that addresses heritage conservation, given the Latin American political tradition that assumes that heritage issues are complicated, delicate, and exclusive.

Political Jurisdictions

In Latin America social relations structured around land historically have been of exceptional importance given its status as the central resource sustaining communities and cultures. In Mexico, as in most Latin American countries with a

history of conquest, the problems of land tenure go much further and deeper than the simple relationship between land and property. Independent of the type of land tenure, the law referenced above and the Mexican Constitution recognize the municipality as the legally sanctioned institution with the power to decide on the future of archaeological remains within their political jurisdiction.

In the case of Monte Albán one must deal with four municipalities on these issues, even though there are constant internal contradictions regarding who should make decisions, especially when dealing with different socially defined properties. These are widely recognized and distributed in Mexico, and they complicate decision making as municipalities claim their authority over available resources, whether natural or cultural.

Land Tenure and Speculation

Much more important than the recognition of ancestral values and appreciation of cultural heritage are values related to land and access to potential economic resources generated by the archaeological sites. In Mexico, values associated with land are deeply grounded in the various indigenous and mestizo cultures. *Ejidos* (common lands), communities, private property, and federal property appear to be legally and legitimately differentiated by specific institutions. However, in practice there may be unwritten, yet locally recognized, values that a narrow technical perspective may omit or overlook but that form important parts of the local value system. In the case of the protective boundary around Monte Albán, there are four types of land tenure, each clearly represented by different social groups and leaders. Stakeholders may find that INAH presents an obstructive presence, limiting their capacity to behave as they see fit in the management of resources they consider to be theirs rather than under the control of the federal government.

In this sense, landownership and its defense has been such a long-standing condition across Mexico and Latin America that it has generated, besides bloody internal struggles, the emergence of a complex system of power parallel to the official political structures (Stephen 2002). In this way, discussions necessary to further the goals of conservation within the boundaries of the Monte Albán archaeological zone, whose priority is the control of speculation on community and ejido lands, have had to focus on representatives of agrarian interests rather than on the municipal authorities who, according to law, are the agents formally charged with addressing land conflicts.

Speculation on lands having a specific social character (ejidos and communities) represents a threat to the integrity of cultural heritage within the Monte Albán archaeological zone for two reasons. First, excavation to create foundations for modern buildings presents an ongoing danger in the form of destruction of materials and disturbance of the subsoil. Second, during excavation, the likelihood of illegal extraction and trafficking in archaeological materials is also heightened.

The history of Monte Albán as a site open to the public reflects a permanent struggle to resist the proliferation of irregular, marginal settlements overlapping the boundaries of the protection zone. The complexity of land tenure, the lack of commitment on the part of local and state governments, lack of clarity regarding alternatives, and budget scarcities in the agencies responsible for heritage values combine to create an environment that is ideally suited to the encouragement of speculation on community and ejido lands, nuclei that on the whole belong to small-scale speculators whose uncoordinated activities have the effect of promoting a constant invasion of supposedly protected spaces. And this takes place at the archaeological site that is the single most important tourist attraction in Oaxaca, whose renown generates more than half a million visitors annually and serves as the engine of the tourist economy in the state (Robles and Corbett 2002).

Nevertheless, this problem cannot be resolved simply by having the state take absolute control of all land showing evidence of archaeological materials, as the social unrest that would create would be enormous. The governments of the region will never have the resources to acquire so much land: the official archaeological zone of Monte Albán covers 2,078 hectares, of which approximately 10 percent has been opened to the public. Even if they could acquire the land, there would not be sufficient funding to support archaeological exploration, restoration, services, and protection. The undeveloped lands would continue to draw squatters and looters. The central issue is land tenure and the speculative activities associated with it. These conditions and all that flows from them in terms of stakeholder activity and competition for advantage must remain the central focus of any social analysis supporting conservation (Olea 1997:153–56).

Land Use

The different actors and interests provoke a flow of decisions regarding land use and access to related resources. In governmental models addressing the conservation of heritage sites in the region, there is no possibility of formal expropriation giving the state absolute control over the land. Therefore, archaeological research and heritage protection, or tourism and interpretation, are simply uses to be added to those already associated with diverse features of the site, for example, agriculture, grazing, collecting and gathering, and other extractive uses. At Monte Albán, some of these uses have relatively low impact on the archaeological remains, but others, for example, house or road construction, clearly result in continuing erosion or drastic alteration of a variety of significant features of the site. Different stakeholders clearly pursue conditions such as tenure security, access to agriculture and grazing, extractive rights, and general control over access to resources in ways that assure the rights of use and disposal. Land use rights may be so grounded in custom and practice that they rarely exist in written form, but this does not reduce their powerful hold on notions of justice and legitimacy. In this respect, no

matter how valued and reasonable heritage protection appears to the archaeologist, to many stakeholders it will simply be a rather new arrival among the long list of claimants to land use.

Indigenous Land Claims

A critically important aspect of the social landscape in archaeological heritage consists of claims by indigenous groups over possession, access, gain, and values flowing from different archaeological sites and museums. This element is exceptionally delicate in that two streams of discourse flow from it, each subject to logic grounded in the ways in which interest groups define and legitimize their values.

First, there are the historic claims of indigenous groups to use traditional and ancestral lands in ways consistent with their values and accustomed practice. Marginalized from the period of the Conquest to the present, indigenous people in Mexico and elsewhere in Latin America seek recognition of rights long ignored. These claims, which above all refer to the rights of indigenous communities for access to their culture—a right stipulated in Article 2 of the Constitution of the United Mexican States—concern the right to continue exercising their worldview, which attaches the highest values to ancestral sites, to continue practicing traditions and beliefs, and to shape practice in ways that are far from the utilitarian perception imposed by the state, which regards diverse archaeological sites as tourist attractions to generate income.

This legal component raises a serious challenge to Latin American governments in the sense that historically they have accepted ancestral values as ideological instruments that legitimize accession to power or other behaviors within the group, but they segregate contemporary indigenous populations from decision-making processes related to the future of cultural heritage or the control of other resources. This practice of exclusion, which in Mexico is a long way from resolution in spite of serious efforts over the past decade, contains the potential for disruptive and destabilizing confrontations.

However, indigenous groups may also demand dominion over heritage sites for reasons distant from ancestral concerns or a desire for cultural continuity. To the extent that "in many communities there is a belief that archaeological zones are big business" (Martinez and Bader 1998), the central concern may be economic, not ethnocultural.

A second, very different perspective on indigenous claims has to do with the extent to which they have been borrowed or reshaped to serve the interests of specific groups who seek to legitimize their claims on heritage resources by linking them to presumed indigenous interests. Indigenous discourse serves to justify and mask claims on the state that in reality draw on a clear economic interest such as commercializing heritage sites either through provision of services or by treating them as commodities to be bought and sold, in effect engaging in disguised

speculation. This subtle difference, not readily recognized by the inexperienced, traps anthropologists, conservation professionals, archaeologists, and those generally sympathetic to indigenous causes.

Even leaders of indigenous movements may fall prey to this. In 2001 Subcomandante Marcos, the EZLN moral leader, passing through Oaxaca, publicly defended "indigenous" claims to parts of Monte Albán, unaware that the group requesting his support was in fact a group of speculators cloaking themselves in indigenous rhetoric. Some of the most assertive participants in efforts to secure control over lands within Monte Albán's boundaries on the grounds that they should be under the control of neighboring indigenous communities are in fact migrants from other parts of the state seeking a tactical advantage in negotiations with INAH.

Urban Growth

The increased concentration of urban housing is probably among the most damaging forms of land use to protected areas. While planned settlements certainly generate damage, much more damage comes from the spontaneous settlements commonly associated with poverty and marginalization across Latin America. Some of the region's most important heritage sites are vulnerable to such pressures. Irregular settlements involve all kinds of excavation, from foundations to terracing. These destroy and bury archaeological materials as well as important elements of the natural and cultural heritage.

The concentration of population also generates a demand for public services. Streets, schools, water lines, and other services require excavation and/or burial. The affected populations, however, are much more concerned with access to services than any damage their provision might cause. Around Monte Albán spontaneous growth and the formation of poor settlements is part of contemporary reality. More than one hundred thousand people live on the fringes of the archaeological zone in at least fifty unplanned, poorly serviced *colonias* (Corbett and Gonzalez Alafita 2002). This situation opens the door to politicians inclined to promise all kinds of services or improved conditions in return for political support. The politician or agency manager who is reluctant to respond may quickly become a target of marches and demonstrations. But the extension of services only encourages further settlement and the process becomes self-perpetuating.

Quality of Life

It is worth noting the tendency toward a negative relationship between successful heritage sites—defined in terms of annual visitors—and the quality of life in the settlements that surround them. As more major sites in the region become engulfed by the growth of metropolitan areas or even their own service popula-

tions, the sharp contrast between local conditions and the apparent prosperity of heritage site visitors becomes more apparent. The average income of the majority of families living in the immediate area of Latin American heritage sites is at the poverty level, on occasion well below minimum wage. Monte Albán represents an extreme case in which many families live in extreme poverty without basic services such as education, access to health care, or urban infrastructure. The great majority of the economically active population work at casual labor or in the informal economy, with low incomes, no benefits, and few prospects, The consequences for families are predictable: poor diets, bad health, and minimal services. The average level of education in communities around the archaeological zone is less than six years of primary school.

Today the surroundings of heritage sites such as Monte Albán and others in Mexico reflect poverty, social marginality, and conditions hardly conducive to an appreciation of the values of heritage conservation. This description, regrettably, is not an exception, as we can see by comparing Monte Albán to other well-known heritage sites in Latin America. Teotihuacan, Tula, and Mitla in Mexico; Machu Picchu and Chan Chan in Peru; Kaminaljuyu and Quirigua in Guatemala, to name a few, present similar profiles.

When speaking of the relationship between society and heritage in Latin America, we describe a series of conditions that overlap in diverse ways to create the social landscape that characterizes the contemporary life of the site in question. Unfortunately, in Latin America these landscapes all too frequently refer to settings of conflict over resource access and control linked to a low quality of life, urban poverty, and social problems such as drugs, assaults, pollution, congestion, and other indicators of a highly stressed existence. Meanwhile, the heritage sites themselves become the targets of looting, vandalism, depredations, and other behaviors very much at variance with what we hope they will convey about human aspirations and accomplishments. Both the sites and the populations around them become targets for opportunistic, even corrupt, behavior.

Without a doubt, in Latin America we see a clear association between cultural heritage conservation in general and archaeological protection specifically and levels of development. It is essential to find research methods adequate to produce a clear understanding of the social setting of heritage protection in order to formulate alternatives for inclusion in development planning. The goal must be to generate development programs that create positive environments for efforts to protect the archaeological heritage.

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References

Corbett, J., and O. Gonzales Alafita. 2002. Crecimiento urbano, deterioro ambiental, y el futuro de Monte Albán. In *Patrimonio arqueológico y sociedad en el Valle de Oaxaca*, 337–47. Memoria de la Seguna Mesa Redonda de Monte Albán, INAH. México, D.F.: INAH.

Demas, M. 2000. Planning for conservation and management of archaeological sites: A values-based approach. In *Management Planning for Archaeological Sites*, ed. J. M. Teutonico and G. Palumbo, 27–54. Los Angeles: The Getty Conservation Institute.

Drennan, R., and S. Mora. 2001. *Archeological Research and Heritage Preservation in the Americas*. Washington, D.C.: Society for American Archaeology.

Hoopes, J. W. 1997. El Cayo Project. *SAA Bulletin* (Society for American Archaeology) 15 (4):20–21.

Instituto Nacional de Antropología e Historia (INAH). 1972. *Ley Federal sobre Monumentos y Zonas Arqueológicos, Artísticos, e Históricos*. México, D.F.: INAH.

Martinez, M. A., and C. Bader. 1998. Patrimonio arqueológico: Su administración y manejo. In *Memoria, 60 años de la ENAH*, coord. Eyra Cárdenas Barahona, 443–46. México, D.F.: INAH.

Mason, R., and E. Avrami. 2000. Heritage values and challenges for conservation planning. In *Management Planning for Archaeological Sites*, ed. J. M. Teutonico and G. Palumbo, 13–26. Los Angeles: The Getty Conservation Institute.

Olea, O. 1997. Conclusiones. In *Especulación y patrimonio: 40 Coloquio del Seminario del Estudio del Patrimonio Artístico, Conservación, Restauración y Defensa*, ed. A. E. De Anda, 153–56. México, D.F.: Universidad Nacional Autónoma de México, Instituto de Investigaciones Estéticas.

Robles García, N. 1998. Management of archaeological resources in Mexico: Experiences in Oaxaca. *SAA Bulletin* (Society for American Archaeology) 16 (3):22–25.

———. 1998. *El manejo de los recursos arqueológicos: El caso de Oaxaca*. México, D.F.: CONACULTA-INAH.

Robles García, N., and J. Corbett. 1995. Land tenure systems, economic development, and protected areas in Mexico. In *8th Conference on Research and Resource Management in Parks, Sustainable Society and Protected Areas Management and on Public Lands*, 55–61. Hancock, Mich.: George Wright Society.

———. 2002. Land use, regulatory failure, and public policy in Mexico. Unpublished paper prepared for the Lincoln Institute of Land Policy Seminar on Speculation, Boston, Mass., 7–9 March 2002.

Stephen, L. 2002. *Zapata Lives! Histories and Cultural Politics in Southern Mexico*. Berkeley: University of California Press.

Giorgio Buccellati

Presentation and Interpretation of Archaeological Sites: The Case of Tell Mozan, Ancient Urkesh (2006)

Management of archaeological sites should be viewed not as an additional layer imposed from without but as something that issues from the intrinsic value of the monument itself. Management and interpretation initiatives undertaken during the excavation process become embodied in the monument in ways that may not be achievable post-excavation, and make a broader understanding of the monument flow seamlessly from its intrinsic value. Buccellati uses his work at Tell Mozan to present the specific advantages for conservation that this approach engenders, including an emphasis on conveying the meaning of the site and the excavator's care and appreciation to others as well as his ongoing long-term stakeholder involvement, especially that of local people.

Archaeological "Localization"

Let me propose a metaphor, taking my cue from a neologism. The term "localization" has come to be used regularly in information technology and related domains to refer to what we might normally call "translation." There is a whole industry built around this concept: it addresses the particular need to make commercial websites accessible not only and not so much in different languages, but in different cultures. How to advertise bathing suits to Eskimos might be a reductio ad absurdum of this process. The point is that to sell a product one has to make it "locally" relevant; one has to translate not just words but a whole mind-set and the

material embodiments by which it is represented. You might say that localization is the commercial side of semiotics.

So it should be, I would argue, with the presentation and interpretation of archaeological sites. We seek to convey understanding. In a commercial venture, understanding is seen primarily as appeal: it is not so much that a firm wants customers to understand the inner workings of its product; it only wants them to understand what can appeal to them so that a potential customer becomes an actual one. In a cavalier, and ultimately patronizing, approach to the presentation of an archaeological site we may fall prey to the same syndrome: whatever the *vulgus* can accept, that's what we'll provide them. But this attitude, and any shade thereof, must be avoided—for three good reasons.

First, there is an intrinsic value to presentation and interpretation—to archaeological "localization," if you will. Culture is a continuum, and there should be no hopeless rift between the technical aspects of archaeology and the interests of the layperson. Gradual transitions in the kind and amount of detail, yes. But a sharp break—no. When presenting and interpreting, the archaeologist must be like an orchestra conductor: few if any people in the audience may be able to read the score, but the music performed is the score, not a watered-down semblance of it. It is such a profound respect for the continuity of culture that will save us from any form of paternalism, whether vis-à-vis stakeholders or tourists. And note that just as a conductor is first and foremost a musician, so must archaeological "localization" remain in the hands of the archaeologists. It should not become a job that we gladly relinquish to outsiders, leaving it for them to decide what the rhythm should be or where the crescendos should go.

Second, presentation and interpretation are an extension of our teaching mission. We must be able to gauge the common ground between our technical knowledge and the degree of readiness in our audience. We must be in touch with the concerns of our audience, and address them—not in order to sycophantically modify our data for the sake of pleasing but rather in order to present what we perceive as real values in such a way that they can be truly appropriated. The other side of paternalism is a "take it or leave it" attitude: this is what we offer, too bad if you don't like it. Instead, we must identify with legitimate interests, stir them, and provide answers.

Third, presentation and interpretation should enrich our own archaeological horizon. We must become better archaeologists precisely through the effort of explaining. After all, the whole of scholarship is a form of translation. As archaeologists, we translate a mound of dirt into a pile of paper or its digital counterpart. And this process develops in a capillary sort of way from the most synthetic to the most analytic. But the data so understood and so presented remain always a single whole: answering the broadest question has implications for the most remote detail. This is also why we archaeologists must be the presenters. Trained, there is no doubt, by the skills that show us how to help the audience appropriate the

intended target, but also trained to bear in mind the nature and value of this same target.

In this light, "popularization" is not a secondary endeavor with which the archaeologist cannot be bothered. It is rather an intrinsic aspect of our task. In the few remarks that follow I deal with a few instances that may help to show how this can happen in a concrete situation, using as a test case our own work at Tell Mozan, ancient Urkesh, in northeastern Syria. In so doing, I plan to address the concerns of the overall theme in this session of WAC from a perspective that is only seemingly tangential. It goes to the core of the problem, I submit, if we view management (at least as far as it pertains to an archaeological site) not as an additional layer that is imposed from without but as something that issues from the intrinsic value of the monument. From this perspective, the best management practice is one that reflects the strategy that has brought the site back to light in the first place. The excavator ought to communicate the motivation behind the recovery, because that is the same motivation that governs any effort at conserving and presenting. Thus the thrust of my argument is that the archaeologist-excavator must work with a view toward final conservation and presentation from the very beginning of the excavation process. Such an effort will remain inscribed in the monument in ways that could never be proposed later and will make a broader fruition of the monument flow seamlessly from its intrinsic value as progressively perceived through the excavation. For better or for worse, that has been my concern at the site about which I am speaking here. It may be said that if ancient Urkesh lay buried under what came to be known as Tell Mozan, we as excavators are the ones who have once again turned Mozan into Urkesh. Here, then, I seek to describe how we have gone about this task.

What Popularization Can Do for Scholarship

In our effort at protecting the mud-brick walls of a royal palace that is undergoing long-term excavation, we have aimed at combining conservation with reconstruction. This makes the ruins much more understandable to even the occasional visitor, particularly with the addition of color schemes and signs that explain the function of the various rooms through which one can in fact walk with a newly acquired sense of appreciation for such things as circulation patterns or size of rooms, which remain abstract when just laid out on paper. But unexpected results quickly become apparent for the archaeologists as well. No matter how well trained one is to read floor plans and sections, the danger is always present to perceive them as they are on our reading medium (whether paper or the computer screen), that is, as planes rather than as indices to volumes. The effort at "reconstructing" our walls by means of metal and canvas coverings could not be justified only in the function of correcting this misperception. But, having embarked on a reconstruction program that aims at presenting the architecture to the public in an

understandable way, there is the unquestionable benefit that the archaeologist, too, can perceptually relate to volumes rather than just planes. There is a very telling example of the continuum about which I was speaking earlier: the effort of visualizing serves the same function that biofeedback does, because the volumes one reconstructs for public presentation elicit a new understanding of the very premises on which the reconstruction is based in the first place.

It also quickly emerges that only the team of archaeologist and conservator could accomplish this. One cannot subcontract the task to outsiders, because the questions that arise in the process require a full understanding of the stratigraphic premises on the one hand (archaeology) and of the limits of intervention on the other (conservation). An apt parallel can be found in the textual sphere. A "good" translation is not the "translation of a translation," that is, the reworking of a "literal" translation. Rather, a "good" translation is one that transfers the syntactical, semantic, and semiotic valence of the original text—hence one that requires an even greater understanding of the source language than is needed for a "literal" translation, that is, a rendering of mere morphological and lexical features. Thus in the case of our palace, every detail of the reconstruction is assessed both in terms of its stratigraphic and functional relevance as understood by the archaeologist and in terms of its susceptibility to preservation.

Virtual reality reconstructions are another good example of how important it is that archaeologists be directly involved in the technology. No such project can be handed to an outsider the way we give a manuscript to the printer. We do not want to just present an aesthetically attractive rendering to the public. Rather, the presentation ought to serve as a vehicle for an in-depth consideration of spatial relationships that may not be immediately apparent, even after the walls are restored to their original dimensions. A three-dimensional model elicits questions from the archaeologist that have an important heuristic function, in that it directs attention to aspects of connectivity that one might not otherwise suspect.

Ultimately, a thorough effort at presentation and interpretation becomes involved in matters of semiotics that can also be surprising. Signs were dynamic and easily perceived by the culture from which the monuments arose. Palace and temple were endowed with a richness of meaning that is only dimly hinted at in the meager remnants we bring back to light. The very words *palace* and *temple* may in fact be more evocative than the ruin. But we must assume that the ancients would instinctively have had a full semiotic perception—that is, an awareness of the valence a monument can have as a sign. Perhaps no amount of reconstruction and explanation can ever again elicit such a perception, but a committed effort to a reconstruction and explanation so directed can endow the ruin with a resonance it lacks when we, the archaeologists, stop after we have laid bare the skeleton. The effort to communicate the value of ancient signs to the public forces scholars to think more deeply about just what such value was. In this respect, presentation and interpretation, resting on stratigraphic understanding and conservation

skills, serve as the conduit for a proper humanistic approach to archaeology. The overriding concern of such an approach to the past lies in the appropriation of past experience, an appropriation not based on fantasy but rather on a controlled reflection about what the ancient experience in fact was. We may say that the archaeologists' first task is to establish, with the tools and the sensitivity of a social scientist, the patterns that are recognizable in the physical record. At which point, they continue with the tools and the sensitivity of the humanist to reach beneath the simple clustering of patterns and to inquire after the meaning that gave them origin in the first place.

What Popularization Can Do for Conservation

More specifically, we may now consider the effect on conservation of popularization taken in the sense of proper presentation and interpretation. An effort to promote understanding of a site is a two-way street. On the one hand, a site that is well understood encourages people to preserve it. On the other hand, eliciting meaning for others, even the occasional others, raises the archaeologist's awareness for meaning *tout court*.

As for the first point, pride in one's heritage is the best guarantee against looting, or even casual damage. But such pride can only derive from an understanding of the intrinsic value of a site. Archaeological ruins are not always immediately evocative of grandeur, hence education is as critical a component as conservation and reconstruction. The second point is the reverse. As scholars, we are not engaged in empty advertising. We don't make up meaning; we find it. And any effort to convey it to others—from peasants to politicians—helps us to see it in a different light. Culture is a continuum not only because it can be explained, but because the explanation rebounds on the explainer.

At Mozan, we have pursued these goals in a commonsense sort of way, that is, not so much out of a predetermined program that we had set out to implement but rather responding to needs as they were perceived little by little. This is not to say that we stumbled into action casually and haphazardly. There was from the beginning a strong commitment to the basic principles that I have been outlining, and what developed slowly were only the specific forms that our concrete implementation of these principles took over time.

For instance, we found that the best way to integrate the "stakeholders" (we did not then have a name for them), and at the same time the best way to avoid any form of paternalism (or neocolonialism, if you wish), was to develop our own sense of commitment to values. In this manner, the effect of our actions was to co-opt and be co-opted at the same time. To co-opt—because we assume that the values we believe in have an independent pull on the "others." And to be co-opted—because we are eager to appropriate the values they in turn believe in. It is then clear that we want to share something that we consider valuable in its own

terms. In this way we have communicated the need to conserve the nonspectacu-lar as well as the spectacular—and this is no small feat in archaeology. We have nurtured an atmosphere of great care for the maintenance of the past by showing how even small details are essential to understand the larger picture. As a result, there is a sense of pride not just in the fruition of the finished product as presented but also in its maintenance. And conversely, the stakeholders nurtured in us an appreciation for responses that we did not expect—poetic addresses, for instance, on the part of what turned out to be innumerable poets among our neighbors, or drawings, or even musical compositions inspired by "our" shared archaeological site that looms so large on all our various horizons.

Importantly, along these lines, our early start on conservation showed how we are professionally involved in conservation. Walls were preserved when first exposed, not after they were known to be the walls of a palace. This communicated our commitment to the exposed relic as such, regardless of its potential public relations value. It communicated, in other words, a degree of professional integrity and coherence that was not lost on the audience (again, our "stakeholders"). In return, we were strengthened in our resolve, because their embracing our effort underscored for us the intrinsic worth of the effort, almost as much as receiving an additional grant!

The presentation we provide as a finished product (reconstructed walls, post-ers, handouts, even an audiotape that accompanies a visitor when we are not pres-ent at the site) is the major avenue for our message. But another very important channel of communication has been the talks we give in more or less formal set-tings. We begin with our own workmen, who number up to two hundred in some seasons: we give general overviews with slides and now computers, but we also give, to the crews of the individual excavation units, periodic assessments of the goals, the progress, the strategy. We provide them with handouts that spell out dates and names. Our workmen and other local collaborators, who are all from neighboring villages and towns, come back with their families and friends and begin to explain not just about walls and buildings but about events and history. We also give more formal presentations in the local towns, whether in cultural centers or schools, and of course receive groups and individuals who come for an occasional visit. The newly found understanding of their own territorial past is a source of great energy, and it obviously provides a firm lever on which rests the long-term protection of the site.

Some episodes attest to the far-reaching benefits of this approach. Our site was used as a burial ground for neighboring villages. That this can no longer be the case was accepted with good grace, but beyond that we have also started working on the removal of existing burials, with the full cooperation of the families. In the case of the village of Mozan itself, we established a common cemetery where the human remains that we have studied are reburied along with the bodies of newly deceased members of the village. Also, in the lower portion of the tell, which corre-

sponds to the ancient outer city (for a total of almost 150 hectares), there are fields that are owned by local farmers who cultivate them on a regular basis. A change from wheat to cotton culture has stimulated the construction of industrial-type wells. When one is planned, the owner waits for the expedition to return, at which time we do a sounding and submit a recommendation to the Directorate General of Antiquities and Museums as to whether a permit may or may not be granted. And even when our recommendation is negative, it is accepted without grudge. Finally, the urban growth of neighboring towns has been chartered by the various local governments in ways that respond to the requirements of archaeology as we have been presenting them. The positive result is that the ensuing regulatory plans take into full account the landscape in which the site is located and seek to protect it by steering the development away from it.

Conclusion: "Localization" as Semiotics

As in the case of conservation, presentation and broad interpretation for the public, or archaeological "localization," must not be viewed as an outside intervention that takes place apart from, independently of, and long after the archaeological work proper. "Localization" must be inserted in the archaeological work itself, avoiding the tendency to see it as something which is both *a posteriori* and *ab exteriori*. The main reason, I have argued, is that archaeology as such benefits from the effort, that is, that we learn about our side of archaeology by seeking to present it and explain it to the local and the wider public. Unquestionably, better archaeology results from proper localization.

In our experience, this means that pertinent concerns must be inscribed in the excavation process itself and not left for a distant, later, and extrinsic intervention. It is, to some extent, a matter of sensitivity more than of procedures or staffing. In a broad sense, this touches on the question of meaning. For the archaeologist, meaning can easily be reduced to technical control, more or less defined by metrical data, and reinforced by statistical correlations among seemingly infinite masses of data. And it is indeed important that we master this aspect of our trade. For in the absence of full control, there can only be fantasy. But it is important that we seek the meaning beyond, or rather behind, the patterns, that is, the meaning that ultimately gave rise to the patterns when the "data" were embedded in the stream of life. It is in this sense that I have referred to localization as "semiotics." Properly, we seek to identify the value that signs had for the ancients. But an invaluable support to this effort is the parallel endeavor to identify the value that the same signs ought to have for our contemporaries. In this way, we all—archaeologists working at the site, modern inhabitants of the area, and outside visitors—become stakeholders of our common past.

CHRISTOPHER TILLEY

Excavation as Theatre (1989)

Is there too much excavation without concomitant development of theory? Is there a need to free up excavation and reporting systems so that they are more responsive to the idea of the public finding its own past? Archaeological sites are increasingly valued less for their informational value and more for their social and heritage value. Tilley contends that the accumulation of data through excavation, often unpublished, is increasingly meaningless. By contrast, he asserts that selected large-scale excavation can be justified as experiments in interpretive activity rather than as an exercise in information collection. There should be a change in emphasis from archaeological excavation as ineffectual research to archaeological excavation as an exercise in a very different kind of production—the manner in which interpretive experiences are produced, recorded, and transmitted.

This chapter provides a theoretical and conceptual justification for large-scale rescue excavations but in a rather unusual manner. To many actively involved in rescue archaeology and so-called 'cultural resource management' there may appear to be little real need to justify the practice of excavation: are not the traces of the past diminishing and being destroyed at an alarming rate? Is it not a moral duty to rescue traces of the past for future generations if their preservation in the face of development proves to be impossible? This rhetoric is common among archaeologists. It is perhaps salutary to remember that such a concern is not likely to be shared by many other interest groups.

The advent of the 'new' archaeology helped to accentuate an old and unhelpful distinction, between research excavations, supposedly problem-orientated

towards the solution of specific intellectual goals, and rescue excavation—which became spurned as mere data collection. The division is still upheld by many today. However, it has made very little real difference to the practice of excavation in either case and its relationship to the production of archaeological knowledge. Today, in terms of the discipline of archaeology as a whole, I believe that it may be no longer entirely self-evident on theoretical, cultural, political or economic grounds why excavation (either rescue or research) should take place, if at all, then certainly at its current rate and pace.

Nietzsche wrote in *Untimely meditations* that the historical sense is a disease of history. It might be said that digging is a pathology of archaeology. A major problem which has always dogged archaeology is the notion that it is primarily about excavation. Introductory textbooks usually place great emphasis on excavation strategies and technologies, while the literature is dominated by descriptions of sites. The effect is that the technical instrumentation of the discipline and the production of descriptive observational statements tend to become identified with its goal and purpose. It is as if the primary concern of the physicist were not to understand the physical world, but merely to perform experiments, to collect the experimental data, and then lodge them away in some archive.

By a more immediate analogy, the current state of archaeology can be compared to baking a cake. The end-product—the cake itself—rarely, if ever, gets baked. Furthermore, whether anyone will want (or be able) to eat or consume the cake is not material, so its appeal or relevancy to their own tastes and interests is hardly considered. More and more cooks obtain more and more ingredients for the cake, the flour of artefacts, the eggs of structures, the spices of bone residues. The ingredients may be lavishly described (the primary issue of publication has always been simply: how much? and in what form?) but usually little happens beyond this. There remains a striking lack of recipes as to how we should bake the cake. Those that do exist tend to produce rather dry and unappetizing products even to those responsible for their production, let alone to the public passing by the confectioner's window. Rather than placing greater emphasis on the development of conceptual structures to understand how to bake the cake—how to interpret the past—what we have today is a greater and greater emphasis on the accumulation of information, information with which very little is, or can be, done. In this sense to go on excavating as has been the case up to now is irresponsible. Much of the work appears to be a frantic attempt to accumulate more and more information 'because it is there', in the erroneous belief that some day the cake will bake itself.

What actually happens to the data accumulated has been a secondary issue. The secondary issue needs to become primary. The nature and effects of the current state of archaeology need to be spelled out clearly:

1. A discipline desperately in need of theory and the development of alternative conceptual structures appears by and large to think that it can get on quite

nicely without them. If we have to decide on priorities, then it is always excavation that must take precedence. The result is that there exists a massive and disabling disparity between the amount of financial and human resources spent on excavation and post-excavation work and research going beyond the individual site.

2. Since the turn of the century, and on a European scale, the number of partially published or unpublished excavations is probably greater than those published.

3. Museums and store-rooms are already over-flowing with artefacts, often uncatalogued, sometimes lost, and in most cases remaining unanalysed.

4. The effects of many museum displays and archaeological practices appear to be the opposite to those intended. They either bore the public, turned into passive spectators of a supplied image, and/or trivialize the past and the practice of archaeology by making it desperately familiar.

5. In some cases, finds once excavated become virtually the private property of the excavator, unavailable, sometimes for decades, even to other researchers, let alone to the public for whom the past is supposedly to be rescued. It will suffice to state that none of this justifies more excavation.

Towards an Integrative Approach

In an ideal world all threatened sites could be excavated, all excavations could be fully published and adequate resources could also be made available for other research. Lacking such an archaeological utopia, there is a real need for rescue work to be reintegrated into the concerns of the discipline of archaeology as a whole. The gulf between rescue archaeology (not to mention museums) and university departments physically, financially and theoretically, needs to be bridged. There is a desperate need for priorities to be made both as to what to excavate and the relative cost of these excavations *vis à vis* more general research into the relationship between social structures, social strategies and material-culture production and use which may he claimed to define the most abstract goal of archaeology as an academic discipline.

In Scandinavian and British archaeology, at least, certain priorities are fairly easy to choose, and decisions are already being made. For example, the archaeology of the Neolithic and Bronze Age has been primarily the archaeology of graves, and there are good reasons for believing that in many areas we already have a representative sample of grave sites. By contrast we know very little about settlements.

A striking characteristic of archaeological data is its patterned regularity within a region. In many respects one Bronze Age grave or Roman villa reproduces many features of another. There are very few unique sites. If all sites anyway were totally distinctive we would have little success in trying to interpret or understand the archaeological record. This very repetitiveness at a regional level means

that much excavation, conceived solely in terms of data collection, may not be necessary.

Following the principle (draft 1988 International Committee of Archaeological Heritage Management charter) that the exploiter or developer should pay for the costs of excavation, it need not necessarily be the case that this money goes to the excavation of the individual threatened site; it might instead be channelled into more general archaeological research not specifically concerned with excavation or further excavation at other sites beyond the limits of the areas to be destroyed. It is pointless to rescue the traces of the past at any particular site *in isolation*, since a far more integrative approach needs to be taken at regional and national levels. A developer who wants to destroy a site must be expected to pay for this 'privilege' in all cases. Practically, this might be done by estimating average excavation costs on a square metre basis. It needs to be made clear, however, that such payment is a matter of *principle*—all traces of the past are important—but the principle at stake is not a myopic concern with the individual threatened site, but our understanding of the past as a whole. To repeat: rescue excavation, conceived as the collection of more and more information about the past, is not a position which can be easily supported, at least in the West (the situation is obviously very different in countries in which little archaeological research has been carried out). *The number of pieces of information we collect about the past may increase incrementally—our understanding does not*.

The rapid post-war professionalization of archaeology and the growth of rescue work has encouraged the formation of an organizational excavation structure in countries such as Sweden and Britain, based on digging units moving around from one site to another; it might be to a megalithic grave one month, a Mesolithic site the next. This approach implies that the practicalities of excavation and interpretation (on the excavation site) can be effectively divorced from wider research in the particular time period under consideration, or in more general archaeological theory.

The idea is that all possible evidence should be efficiently recorded, perhaps to await interpretation by an academic specialist (usually in a university department) at a future date. This division of labour is counter-productive, since someone actively engaging in research in a particular period, or set of problems, will almost inevitably find that the kind of evidence they are interested in has been recorded in insufficient detail, or not at all. The only way round such a problem is to integrate *all* excavations with larger-scale research projects. Perhaps a belief preventing this from becoming a *necessity* is a myth of pure objectivity, considered below.

Archaeology seriously needs to reconsider its priorities and the radical division, made all too often, between excavation and what goes beyond the 'recovery' and publication of sites. Now is a time for rethinking which might result in less excavation of any kind for the meantime; a pause will at least give us time and resources to set the larger archaeological house in order (e.g. publishing sites

already excavated, analysing data in museum collections, developing explanatory frameworks, and constructing new sets of questions with which to approach the past).

A Justification for Large-Scale Excavations

Following these rather lengthy *caveats* I now want to provide a theoretical and a social justification for limited numbers of large-scale excavation projects. My remarks may only apply to those countries in which archaeological research is already well established. All archaeology is an interpretative activity. This hermeneutic dimension to archaeological research is absolutely fundamental. Yet we still know very little about the manner and conditions in which archaeological discourse is framed and produced, about why and how we produce certain interpretations and specific types of statements about the past rather than others. At present archaeological discourses are strikingly abbreviated, so much so that it is possible to claim that an unacknowledged principle of *rarity* operates. The question is: why, given that there is an almost unlimited set of possible statements to be made about the past, are only a limited number of formulations and interpretations continuously made, disseminated and repeated? We can regard archaeology itself as the largely unconscious but nevertheless rule-governed production of statements about the past. The nature of the archaeological record does not simply constrain what might be said about it, the constraints exist more importantly within the interior spaces of the discourses which purport to deal with it. To begin to analyse and understand the discourses that archaeologists produce is not mere navelgazing; it is to open out the possibility of the production of fresh discourses, new means of understanding the past and inscribing it into our present.

Continued excavations, conceived as experiments in interpretative activity rather than exercises in information collection (the division is of course only a relative one), may play a central role in the development of a more reflexive and mature archaeological practice. The change that I propose shifts the emphasis from archaeological excavation as a process whereby the material traces of the past are recovered and 'rescued' to being an exercise in a very different kind of production: the manner in which interpretative experience is produced, recorded and transmitted. This requires reconsidering two relationships; between the excavation and the site report; and between excavations, site reports, the archaeological community and the public at large.

The Excavation and the Site Report

What is the relationship between an excavation and a site report? Excavation is an active *production* of material remains. As such it entails a set of producers, a series of materials, techniques and instruments for production resulting, it is hoped, in

the product itself, the site report, which may then be disseminated, consumed and exchanged in various ways. Few archaeologists openly believe in the myth that archaeological excavation is a purely rigorous and technical procedure capable of standardization, the results of which are simply translated and enshrined in the site report. However, this notion does in fact seem to underlie much of the organization of excavation and the manner in which site reports are written and presented.

Third-person narrative, measured drawings (often to the level of individual cobble stones in a road or stones forming a cairn), tables, scaled photographs and detailed lists of finds are all hallmarks of the standard excavation report implying neutrality and a striving towards total objectivity untainted by human purpose: this is the empiricist dream.

Valuable or not, these procedures require deconstruction because their combined effect is to deny the importance of the fundamental basis of all excavation: that it is an autobiographic, subjective, socially determined and often fundamentally ambiguous and/or contradictory set of interpretative activities.

The excavation and its relation to the site report is an interpretative production for which the analogy of the dramatic performance and its relation to a script seems peculiarly appropriate. A play does not and cannot directly reflect, express or reproduce the dramatic text from which it is derived. The play is always a production, an interpretation which transforms or translates the text into another medium, from marks on paper to actions on a stage. Furthermore, the dramatic production is not to be judged simply in terms of its fidelity to a text as if a mirror reflecting an object. The script and the production are not commensurable entities but distinctive realms occupying different theoretical and physical spaces.

Similarly (but in reverse) the excavation performance does not transparently produce, in a relation of pure identity, the site report.

Any report which is produced remains one of any possible number of potential site reports. There exist a series of real and incommensurable transformations between the practices of digging in a trench and the drawing, recording and interpretation of a section, a disjunction between two very different material realities. Any notion of a simple homology is illusory. The relation between the processes of excavation and the text of the site report are not at all to be conceived as those existing between a shadowy essence (soil colour shades) [and] a concrete existence (mapped post holes in the excavation plan). The site report is not the soul or essential essence of the excavation's corpse.

An excavation report is produced as the result of interpretative labours intimately bound up with the changing conditions of the excavation process itself. There is no clear passage from the activity of excavation to that of the activity of writing. So the site report does not mime the results of the excavation. The relation between excavation and report is one of theoretical and conceptual labour founded in the theatre of excavation itself. Activities of selection, recording, organization, pattern recognition, inclusion and exclusion take place from differing perspectives

of individuals and groups, and from discussions and relationships taking place on the site. These enable a determinate but non-determined product to emerge from the soil and be translated into the site report: the product of a production and inevitably a reduction of difference and a stabilization of complexity. The excavation is a complex space of different meanings, perceptions and responses to be ultimately related to individual and social circumstances. The excavation is only partly to do with the *effective* (obtaining information) but owes much more to the *affective*—socially mediated responses to the traces of the past.

The standard informational report enjoys a total hegemony today, in which with its rhetoric of neutrality, scientificity and objectivity all this is swept to one side or forgotten. In an ironic inversion that which is of vital significance becomes systematically devalued. Plurality becomes radically curtailed in a mythology founded on a dream of exact representation.

The importance of excavation as a never ending interpretative activity means it is *thought in action*. Rather than reifying the theatre of excavation into a single unchanging scene, we need site reports of a radically different nature which attempt to capture at least some of the ambiguities, disjunctions and contradictions inherent in various modes of interpretative understanding. The relationship between excavation and what gets written resembles that between an individual speech utterance and an underlying set of grammars. The excavation provides a set of grammars, often incoherent or contradictory, both constraining and enabling the production of a text. It is the nature of the production of these grammars and their relation to the act of writing that need to become a focus of attention. It is only by considering these relations that we may begin to understand how we might write differently and begin to question just why reports tend to be written in one way rather than another. The true significance of the site report must be not an attempt to redouble the supposed self-understanding of the excavation, but to reflect back on it and critically interrogate all the 'whats', 'whys', 'hows' and 'therefores'. In short what is required and can uniquely be provided by large-scale complex excavations and their reports are experiments in discovery, and more importantly, self-discovery.

Excavation: History, Social Relations and the Politics of Interpretation

Archaeology is a discipline fortunate enough to have its data base protected by law, at least in certain countries. This inevitably brings with it special responsibilities going far beyond the narrow confines of archaeology as a disciplinary practice. What is the relationship of excavation to 'real' history and contemporary society? All excavation, and indeed the very practice of excavation is value-loaded. Value-systems and ideologies do not neatly circumvent the practice of excavation and its relation to the present. Excavation has everything to do with the sociopolitical interests of the present both within the discipline of archaeology and without.

These govern where excavations take place, why they take place, how they take place (excavations have their own internal micro-politics), what statements are considered acceptable to make and what are not.

In considering the relation of excavation to contemporary society we need to ask some basic questions: who is permitted to excavate and write and who is not? For exactly whom or what is this excavation and writing being done? In what social and political circumstances does it take place? The currently emerging cult of strident professionalism especially manifested in cultural resource management has by and large operated so as to effect a drastic reduction of a scope of social vision. Those who accredit themselves by their own internal rules as professionals decide on a past which the public supposedly *should* consume. Power over the past moreover, as often as not, forms part of a process of social control and constraint in the present. This control of the past turns the public into helpless spectators, to be shown selected goodies in a museum or suffered on (rather than being welcomed to) the excavation site.

Nowhere is this more evident than in the growth of the heritage industry which the culture of the New Right has actively fostered. The heritage is every-where, all around 'us', nothing less than a kind of collective memory of an entire people or nation. Such a notion of heritage does not involve a recognition of the *difference* of the past (thus enabling it to put the present into a comparative per-spective) but an assertion of sameness and identity, the creation of the fictional unity of a national collective consciousness. Instead we may ask: which people? whose heritage? whose memory? whose significance? whose values and interests? The heritage industry is not supportive of archaeology: instead it makes a direct challenge to it as an active interpretative practice taking place today. Archaeology, rather than conforming to the heritage industry, *ought to be challenging it*. In the heritage perspective archaeology tends to become increasingly abstracted as the 'historical', a diverse palimpsest of monuments frozen into a spurious unity: an imaginary nation peopled by imaginary Britons. Archaeology and history, as active interventions creating various and often incompatible pasts, the heritage industry itself as a specific production of a past, is deliberately forgotten. The specificity of the individual excavation, and the interpretative problems raised in the practice of excavation, naturally challenge, if used in the right way, any simplistic notion of heritage, that the past may provide some kind of guarantee for a conservative present.

No archaeologist interprets for him or herself. Interpretation is a social activ-ity for an individual, a group or an audience. Such an audience for whom both excavation and site reports are produced *matter*. There is something inherently unsatisfactory and elitist about the notion that excavations should be undertaken only to satisfy the specific research goals of archaeologists. It is also equally impor-tant that archaeology reflects more deeply on precisely what it does produce on site, in museum displays and in texts so that it does not become as cultural resource

management and its rhetoric seem to be directing it towards, a form of production and marketing of the past in a manner directly equivalent to any other commodity. To appreciate the past and thus value it, what archaeology must seek to create is a public consisting of cultural producers, not cultural consumers, people who discuss and interpret rather than people who are talked to and are told.

Excavation has a unique role to play as a theatre where people may be able to produce their own pasts, pasts which are meaningful to them, not as expressions of a mythical heritage. Especially in rural areas excavation provides, much more readily than museum displays or books, possibilities for enthusing an interest in and awareness of the past among non-archaeologists. Excavations need to become, much more so than they are today, nexuses of decoding and encoding processes by which people may create meaning from the past. This is to advocate a socially engaged rather than a scientifically detached practice of excavation.

PIERRE DIAZ PEDREGAL AND
ANYA DIEKMANN

Is It Possible to Reconcile Protecting Archeological Sites with Opening Them to the Public? (2004)

One of the great conundrums of modern archaeological site management is the twin obligation of archaeologists and managers: they must conserve the site but must also open and explain it to the public while mitigating the impact of human presence. Pedregal and Diekmann canvass these issues and discuss the damage caused by visitors and methods of remediation.

1. Introduction

Archeological sites are physical witnesses to the past. Restoring and understanding the past is a source of life and identity. Archeologists are professionals who have the ability to translate the message and information from a heritage site for the general public. In that sense, they personally bring together supply and demand, whence the importance of their role to the public.

If we consider heritage sites as sources of information, bearers of messages from the past, and substantial factors for coming to grips with contemporary life, access to sites of an historical nature is a fundamental right. In particular, archeological sites should be open to the public in order to facilitate its understanding of the past. Another important justification for opening them to the public is the possibility this affords to explain the work done by archeologists and increase awareness of the challenges of conservation and preservation.

While opening an archeological site to the public should be an objective in and of itself, it is not, however, always simple to make certain particular sites accessible. There may be various reasons for this; most often the archeologists are fear-

ful for the integrity and preservation of the sites. In general, they point to sites on the World Heritage List, such as the Acropolis of Athens or Pompeii, deteriorated due to excessive visitation, to plead in favor of limiting public access. However, overall, such sites are a minority.

Furthermore, heritage sites, and archeological sites in particular, are not only threatened by physical deterioration due to visitors. They are also threatened by natural deterioration caused by weather and pollution. It is obvious that a site that was buried for hundreds or thousands of years is extremely vulnerable to contact with air, wind, rain, sun, and pollution.

The fact remains that deterioration due to visitors is a reality. An interaction occurs between the physical presence of the visitors and the materials that comprise the site, and it is the responsibility of the site administrators to monitor this in order to neutralize the repercussions. This article suggests that controlling visitor access can prevent deterioration, at least to a great extent.

The direct and indirect, short- and long-term impact of visitors must be analyzed based on the various levels of deterioration and even destruction that may result. Measures should be taken to allow the public to view the site, based on the recognition and assessment of all deterioration hazards. Only after such protective measures have actually been implemented should the site be opened to the public.

The aim of these protective measures should be above and beyond preventing purely physical deterioration, and should comprise an array of protective tools, from provisions for proper presentation and interpretation to managing the visitors flow, as well as preventive education and involvement of visitors in the conservation process.

2. Typology of Deterioration Factors Induced by Visitors

The deterioration factors induced by visitors are many. They may be classified into three broad families, based on the nature of the deterioration: mechanical, physico-chemical, and biological. We have added a fourth class, intentional deterioration, which can take very diverse forms.

Other than in cases of intentional deterioration, visitors as individuals cause very little damage, but it is *cumulative*. The risks to the site correlate directly with a fundamental factor: number of visitors. So the particular study of a site must focus above all on assessing the annual flow of people likely to visit the site in question, since the preventive measures to be implemented will depend directly on that factor.

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2.1. Mechanical Deterioration

Visitors moving around the site during their visit cause damage that may be qualified as "mechanical."

- Wear due to abrasion

This is a process of wear caused by the friction of shoes on pathways, associated with an abrasion phenomenon due to the presence of particles of varying hardnesses that come between the ground and the sole. More rarely, friction may be caused by visitors' clothing on the walls of a monument. For example, damage of this type may be seen in tight spaces such as the tombs in the Valley of the Kings in Egypt.

- Vibrations

Walking is a dynamic mechanism that causes brief but intense stress on supporting structures. In general, the forces generated by a group of visitors walking are random in nature. It is known that a group of people walking in step can induce a phenomenon of destructive resonance.

2.2. Physicochemical Deterioration

The flows that an individual generates as by-products of his metabolic activity include heat, water vapor (H_2O), and carbon dioxide (CO_2), in proportions that, in a fairly complex way, depend on his physical activity, the nature of his clothing, and the climatic conditions of his environment. To assign this an order of magnitude, a man walking slowly (2 mph) in a 60°F environment, outputs about 200 W of thermal power and releases 100 g of water and 100 g of CO_2.

Obviously, these by-products of human occupation interfere with other parameters of the environment, and exacerbate the conditions endured by the site to varying degrees. For example, carbon dioxide partially combines with water vapor to form carbonic acid, which is capable of deteriorating materials, and calcareous materials in particular.

Human presence also introduces an indirect physicochemical risk to closed archeological sites. In fact, it is necessary to introduce fresh (outside) air into the site to meet the oxygen needs of the visitors. The necessary air change rate is on the order of 15 to 30 m³/hour per person. However, introducing fresh air can contribute to destabilizing the internal environment thermally, hydrically, and chemically. In fact, outside air rarely meets the climatic conditions required for the conservation of remains. Furthermore, it may contain pollutants from urban activity (particularly automotive traffic) and industrial activity. Thus, the presence of visitors requires that a complex system be installed to prevent the fresh air supply from causing thermal and hygrometric stress or chemical pollution to the site.

2.3. Biological Deterioration

The visitor is a source of thermal, hydric, and chemical, but also biological pollution. In fact, he constantly discharges various particles into the air: droplets of saliva, dust, dead skin, bacteria, and viruses. For example, it is estimated that a single individual releases and propels several hundred thousand particles per min-

ute into the atmosphere, including 1,000 to 10,000 germs. As might be expected, there are great individual variations. This "production" of biological materials participates in a food chain that enables the growth of a specific biotope that combines microorganisms with more evolved species, whose presence at an archeological site can result in various types of deterioration.

2.4. Intentional Deterioration

The deterioration processes mentioned in the preceding paragraphs are all "unintentional." They exist solely due to the presence of visitors. In some cases, deterioration is caused by deliberate actions of visitors, even though they may not be acting with a conscious intent to do harm. When a visitor writes his name on a monument, he is not always aware of damaging it. Moreover, graffiti are apparently as old as human art itself. Other intentional actions may be classified in the same category, such as the tourist who wants to take a souvenir home from a site. It may be a simple pebble picked up on the tour. More rarely, it may be a fragment lifted from a bas-relief. Finally, deterioration may be much more manifest when it is a result of a desire to harm the monument or the site. The action may then take a violent form and have a religious, philosophical, or political connotation. In some cases, it takes a clandestine form. But does this still fall within the category of visitation?

Regardless of the family to which it belongs, deterioration has a fairly constant characteristic: it is almost always irreversible. Material damage, fracture, chemical transformation, all of these changes cannot really be repaired Consolidation and even restoration work may be undertaken, but the loss to the site is irreparable. That is why everything possible must be done to see to it that visitor access to a site is not eventually synonymous with its destruction.

3. Risk Assessment and Preventive Measures

The types of deterioration indicated above may, to a large extent, be avoided by taking preventive measures. One major success factor is integration of the visitor as a responsible participant. Prevention may occur at different stages, starting with providing suitable information and explanations, aided by visitor flow management. However, an appropriate prevention strategy cannot be set up until an in-depth study of the site and its characteristics has been done.

3.1. Need for Preliminary Study

The first step in a prevention and protection policy for any heritage site, before it is opened to the public, consists of a detailed study assessing the potential dangers of opening it. The goal of such a study is to analyze all of the properties of a site, such as the spaces, materials, objects, etc., and to determine its resistance to human visitation. In addition, a global approach should shed light on the values and sig-

nificance of a site [. . . by] asking questions such as "What was the original function of the site?" "Was it a public place capable of accommodating many persons or a private place intended for a small number?" " What are the most vulnerable parts of the site?" "Does opening it to the public constitute a threat to its preservation?" "What is the best way to present the site?" and "What is the 'message' of the site?"

That study will lead to selecting what information to give the visitor and to determining his itinerary within the site. It will also determine the objects and materials that require physical protection by means of cordons, covers, and even replicas.

It has been clearly established that a thorough study avoids restoration and repair costs and even the loss of items from the site that would result from inadequate management.

3.2. *Information and Explanations for Visitors*

Theoretically, the visitors to a heritage site have a responsibility to respect it. However, not being professionals, they are not aware of the dangerous impact their presence has on conservation of the site. Therefore, it is the role of the site director not only to inform visitors of the existence of such dangers, but also to give them explanations and tell them how to avoid such a negative impact. Visitors can be sensitized and integrated into the protection process by showing them examples [of] deterioration problems or by calling their attention to them. Good explanations also make it possible to save money on physical protection devices, such as plastic shields and cordons. Such sensitization and accountability not only help preserve the site, but also contribute to enriching the visitation experience by emphasizing the authenticity of the site and enhancing its understanding.

3.3. *Qualification of Personnel*

Preliminary studies, welcome information, and visitor flow management cannot be effective if the personnel themselves are not well aware of the risks of deterioration of the site. The presence of caretakers who are capable of explaining the history of the site and the problems related to its preservation are an important condition for good conservation. The personnel can acquire the proper qualifications through regular training programs.

3.4. *Visitor Flow Management*

Good communication with visitors is a vital factor for site conservation. However, the strictly physical impact on the microclimate and deterioration and wear cannot be prevented by explanations. Above and beyond integrating the visitor into the site conservation process, specific flow management measures are necessary for effective site protection. Such measures are vital to any conservation policy.

Within a site, different spaces or places require specific protective measures. Three approaches should be taken into consideration:

1. Vulnerability of the materials, structures, and objects

The materials in one area may be more vulnerable than in another and determining such vulnerabilities is the first step in establishing a visit itinerary. All aspects of deterioration must be taken into account. The result may be that certain objects need to be placed at a greater distance from the visitors, while others that are less vulnerable may be placed closer. Certain types of flooring must be protected or spared from too much traffic.

2. Method of visitation: individual or guided tour

Flow management determines how the site may be visited individually, in groups, or both. This depends not only on the itinerary to be followed at the site, but also on the presentation equipment. Any presentation equipment may deal with preservation challenges and remind visitors of their site protection responsibilities.

3. Load capacity

This approach consists of determining the load capacity of the site, in other words, the number of visitors allowed. How many visitors can a vulnerable area handle without being damaged? Often, there needs to be a limit on the number of visitors to certain pathways. How can a mean load capacity be determined? A balance needs to be struck between visitor demand and the need to protect the site. This assumes good knowledge of the visitor profile and, in general, their method of visiting the site. If the site especially attracts groups, flows will need to be organized differently. Depending on the physical load capacity, large groups may have to be split up, for example, by following different itineraries, or an alternative program offered. Once again, this is an opportunity to sensitize the public to the imperatives of preserving heritage sites.

3.5. *Constant Monitoring*

The preventive measures described above are productive only if they are accompanied by constant monitoring of all data related to the effects of opening the site to the public. Monitoring is an effective tool for determining when the time has come to modify the itinerary within the site or if specific areas should be closed to the public so they may recover (natural areas in particular). In that sense, constant monitoring rounds out the preventive measures.

4. Conclusion

As witnesses to our past, archeological sites are part of our heritage, whether it be international or local. They must be both protected and presented to the public. The conflict of interests between preservation and opening to the public can be surmounted by a good visitor flow management policy. One fundamental condition for the preservation of a site is an analysis of all potential damage and deterioration and ongoing monitoring. This should be combined with an effective presentation

that involves the visitor in preventive action through sensitization. In addition, customized visitor flow control measures that take into account the vulnerability of the materials of the site, the methods of visitation, and the load capacity, are fundamental elements ensuring the safeguard of archeological sites for future generations.

5. Selective Bibliography

ARSENAULT D. & GAGNON L., 2002. Les représentations rupestres autochtones: du lieu in situ au lieu muséal: pefie au enrichissement? *Ethnologies Musées/ Museums* 24, 2, p. 139–160.

ASHWORTH G. & HOWARD P. (eds.), 1999. *European Heritage, Planning and Management*. Exeter, Intellect.

BRUNET J. & VOUVÉ J., 1996. *La conservation des grottes orneés*. Paris, CNRS Editions.

CAMUFFO D., 1998. *Microclimate for Cultural Heritage*. Amsterdam, Elsevier.

CONSEIL DE L'EUROPE, 1992. *Accès du public et gestion des sites culturels*. Strasbourg.

CROFT T., 1995. What Price Access? Visitor Impact on Heritage in Trust. *In*: FLADMARK J. M., *Cultural Tourism*. Wimbledon, Donhead, p. 169–178.

DECROLY J.-M., DEMUYTIENAR B. & al., 2002. *Les modes de gestions de sites culturels en Belgique*, Brussels, ULB-IGEAT.

DE GUICHEN G., 2000. Les causes de la détérioration du patrimoine. *In*: PARDO G., *Presse et Sauvegarde du Patrimoine*. Rome, ICCROM, p. 28–37.

DIEKMANN A., 2004. *Bridging the gap: An inductive approach to a relationship between cultural heritage preservation and tourism consumption*, Brussels, PhD thesis, unpublished, ULB-IGEAT.

EVANS K., 1996. *Tourism and Conservation at the Pyramids, resolving management issues at a World Heritage Site*. Tourism and Culture — Towards the 21st century, Newcastle, Centre for Travel and Tourism in association with Business Education Publishers Ltd.

GARROD B., FYALL A. & al., 2000. *Managing Visitor Impacts at Scottish Visitor Attractions*.

GREFFE X., 1999. La gestion du patrimoine culturel, *Anthropos*, Paris. *In*: HERBERT D. T., PRENTICE R. & al. (eds.), 1989. *Heritage Sites: Strategies for Marketing and Development*. Aldershot, Avebury. ICOMOS, 1990. *Charte internationale pour la gestion du patrimoine Archéologique*.

ICOMOS-UK, 1990. *Heritage and Attractions*, Canterbury, University of Kent.

LEASK A. & YEOMAN I. (eds.), 1999. *Heritage Visitor Attractions*.

LE ROUX CH.-T., FERRAND G., COUET E., 2000. Les mégalithes de Carnac (Morbihan - France): degradation réelle, présentation virtuelle et réhabilitation potentielle. *Compte rendu de la table ronde "Vestiges archólogiques et milieu extréme"*. Clermont-Ferrand, Monum, Editions du Patrimoine, p. 180–191.

LLOYD H., 2000. Strategies for visitor management at National Trust properties. *4th European Commission Conference on Research for protection, conservation and enhancement of cultural heritage: opportunities for European enterprises*. Strasbourg, European Commission.

LLOYD H., LITHGOW K. & al., 2002. The Effects of visitor activity on dust in Historic Houses. *The Conservator* 26.

LLOYD H. & MULLANY T., 1994. The Impact of Overvisiting: Methods of Assessing the sustainable Capacity of Historic Houses. *Preventive Conservation Practice, Theory and Research*, Ottawa, International Institute for Conservation of Historic and Artistic Works.

McDONNALD J. K., 1996. *The Tomb of Nefertari*. The J Paul Getty Museum.

MONNIER B., 1998. Une approche moderne du patrimoine, *Espaces*, 154, p. 15–17.

MOSCARDO G., 1996. Mindful Visitors — Heritage and Tourism. *Annals of Tourism Research*, 23, 2, p. 376–397.

MOUTON B. D., 1999. Accueil, aménagement et gestion dans les grands sites. *Accueil, aménagement et gestion dans les grands sites*, Arles, ICOMOS.

NATIONAL TRUST, 2003. Handbook for Members and Visitors.

POT N., 1997. *Nouvelles missions de la Caisse nationale des monuments historiques et des Sites*. Paris, Caisse nationale des monuments historiques et des sites.

SHACKELEY M. (ed.), 1998. Visitor Management — Case studies from world heritage sites. Oxford, Butterworth Heinemann. *In*: SHACKLEY M., 2001. *Managing Sacred Sites*. London, Continuum.

STEVENS T., 1989. The Visitor — Who cares? Interpretation and Consumer Relations. *In*: SWARBROOKE J., 1995. *The Development and Management of Visitor Attractions*. Oxford, Butterworth-Heinemann.

UZZELL D. L., *Heritage Interpretation: The Visitor Experience*. London, Belhaven, 2, p. 103–107.

WALSH-HERON J. & STEVENS T., 1990. *The management of visitor attractions and events*. Englewood Cliffs, Prentice Hall.

JOHANNES LOUBSER

Management Planning for Conservation (2001)

The archaeological site type discussed by Loubser is rock art, but the level of research, the range of relevant citations, the cogent and detailed discussion of conservation and management issues, and the examples and conclusions have general application to modern archaeological site conservation, especially for the practitioner. The extract that constitutes this reading deals specifically with tourist management. It includes a description of seminal research into visitor behavior (crucial but often neglected in site management) and consequent proposed solutions at rock art sites. Much of the discussion is relevant to the majority of archaeological sites, which have little or no management presence. Such sites may not suffer from mass tourism, but they do suffer significant attrition from unmanaged low-level visitation.

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Tourist Significance and Implications. Visitors from across the world have been interested in the more publicized prehistoric painting traditions, particularly the Franco-Cantabrian cave paintings dating to the Upper Paleolithic. [. . .] The famous painted caves of southern France in particular have become an integral part of French cultural heritage and are marketed accordingly. In France a substantial amount of money has been spent to conserve and manage caves, frequently with tourism in mind (Brunet et al. 1995), which has included constructing a partial replica of Lascaux Cave. Money spent by tourists visiting the caves is undoubtedly welcomed, but does not entirely explain the pride that the French have in "their" cave paintings. The national pride expressed by the French is in stark contrast to the general apathy expressed toward equally spectacular paintings of pre-conquest

peoples in countries such as the United States and South Africa. Australian agencies only started promoting Aboriginal rock art as part of a broader outback experience in the 1970s (Gale and Jacobs 1987; Walsh 1984). United States government agencies have only just begun to do so.

Systematic surveys of visitor attitudes and behavior at Aboriginal places with rock imagery by various Australian investigators indicate that people visit painted and engraved places as part of a wider wilderness experience (Dragovich 1995; Gale and Jacobs 1987). A similar survey done by Deacon (1993) in the rugged southwestern mountains of South Africa indicated that hardly any people visited the area with the sole purpose of seeing its colorful rock paintings. Together, the Australian and South African surveys indicate that tourists are primarily interested in the surrounding landscape, instead of the imagery itself. Tourist marketing campaigns emphasize the natural setting of painted and engraved places at the expense of other significance values, and so reinforce the one-sided view of such places as natural instead of cultural. This in turn helps perpetuate widely-held Eurocentric views of indigenous people as nature's children (Blundell 1996). Interestingly, this presentation is in contrast to the presentation of French cave paintings as "our cultural heritage" (Brunet et al. 1995:1).

Although developers of nature areas in various countries outside of Europe have used rock paintings and engravings to attract tourists, they have hardly spent any money on developing such places to cope with increased visitation. It is only once developers realize that nonrenewable rock imagery is literally disappearing in front of their eyes that they start to call for help, often too late. Proactive management plans in close liaison with all stakeholders is vital before opening places with rock imagery for tourist visitation.

If management plans are to be effective, they cannot rely on intuitive assessments of visitor pressure. Systematic and long-term observations of visitor pressure are essential to devise effective management strategies, since the visitor population and the pressure placed on the imagery is far from uniform. Studies in Australia (Gale and Jacobs 1986) and the United States of America (Pilles 1993) have shown that certain sections of the visitor population place the rock imagery at greater risk than others. Gale and Jacobs have shown that children most frequently place at risk the imagery at Uluru in central Australia, while Pilles has identified groups of teenage boys as the main culprits for vandalism at the Red Cliff rock paintings in northern Arizona. These high-risk visitor groups were found to respond well to the introduction of simple and direct signs asking them not to touch the rock imagery.

Since perceptions of the imagery to a large extent guide the behavior of visitors, it is also important to assess and address these perceptions before places are managed with public visitation in mind. Unmanaged places often appear dirty and uncared for, with no signs to identify the images or to inform visitors about the different significance values the place may have. Due to generally bad presentation

and lack of interpretation, uninformed visitors can hardly take all the blame for their improper conduct.

In both Australia and South Africa tourists damage painted shelters in similar ways. Most of the damage appears to be inadvertent, such as when large groups of visitors crowd into painted shelters. Crowding in shelters causes people to brush against painted surfaces and kick up fine abrading dust. But researchers have suggested that when people are in smaller groups they may cause even more damage. When visitors are in a small group or by themselves, for example, they are far more likely to touch the painted surfaces or make fires in painted shelters (Gale and Jacobs 1987; Mazel 1982). This is most likely due to the fact that visitors within bigger groups regulate each other constantly (Sullivan 1995). Generally speaking, an increase in uncontrolled visitation increases the chances of vandalism, irrespective of group size or composition.

There are various ways to protect painted and engraved places from an increase in visitor pressure. These include drastic measures such as closing places with rock imagery to visitors. The caging of caves and shelters is often the only way to stop visitors from entering them (Mark and Newman 1989). Caging usually occurs as a desperate attempt to prevent rapidly increasing numbers of visitors from damaging painted or engraved surfaces. However, in the long run caging is not a preferred management technique. Cages not only impinge on the integrity of painted shelters, but may draw unnecessary attention and challenge passing tourists to break in. Frustrated visitors who are unable to take proper photographs through badly planned grilles often go to great lengths to bend or cut the bars for better viewing. Over and above these problems, the installation of cages damages the associated archaeological deposit and often leaves damaging cement residues and ugly rust stains or holes on the rock face. The use of incompatible materials and nonrepeatable techniques in the construction of barriers requires specialist conservators to remove and rectify (Mark and Newman 1989). If absolutely necessary, cages should be designed not only to physically and aesthetically fit the shape of the particular place with rock imagery, but also to be removed with minimal damage to the rock and associated deposit. Alternative protective measures may also be considered, such as planting shrubs with thorns in front of places with imagery. Revegetation of known access routes and camouflage of actual places with rock imagery are in accordance with accepted conservation principles, as long as deposits or structures are not disturbed. Proper inspection, recording, assessment of the entire area, and consideration of viable alternatives should be conducted prior to closing sites to tourist visitation.

Effective closure of all places with rock imagery to visitors is counterproductive, to say the least. It is far more desirable to manage, conserve, and present select places in their original settings. Indeed, it is not visitation alone that causes damage, but uncontrolled and unmanaged visitation by uninformed tourists. Little

Petroglyph Canyon, in the Coso Range, California, is probably the single most heavily-visited rock imagery place in the United States. Yet, even with thousands of visitors per year, it is nearly pristine, largely because visitation is limited to tours preceded by brief educational introductions.

Most damage caused by visitors, then, can probably be attributed to a lack of knowledge about the range of significance values represented by such places and acceptable behavior necessary to retain these values. Accordingly, to modify inappropriate behavior, it is important to present selected sites to visitors with interpretation and education in mind. Australian managers decided to open and manage selected sites for intensive visitation during the late 1970s (Walsh 1984). This not only allowed for the effective concentration of money and effort, but also drew public attention away from the majority of places that should be protected from visitors.

The selection of places for intensive management depends on various criteria. These include history of visitation and accessibility, condition of rock surface and imagery, significance values of imagery, uniqueness, and costs.

Perhaps a good rule of thumb in developing visitation is to work within the existing visitor pattern (Sullivan 1995). Places already known to tourists and the general public are very difficult to close indefinitely, and every effort should be made to see if such places can be managed and protected with visitation in mind. However, well-known places that are very fragile and damaged, such as Samuel's Cave in Wisconsin, are best closed to any unauthorized visitation (Loubser 1994). In order to determine which places to open for public visitation, a regional perspective is necessary so that visitors are offered representative examples. Also, decisions should be based on wider plans concerning infrastructure development for tourists and developmental costs.

There are various ways to instruct and control tourists. An ideal way of doing this without impinging on the integrity of places is to train and employ guides on a permanent basis. Great care should be taken to ensure that training is thorough, however, as bad guides are often worse than no guides at all (Gale and Jacobs 1987). It is advisable to train the guides not only about proper conservation conduct and ecological principles, but also about the range of significance values of a place, and their interpretation. Much-needed job opportunities can be created for guides in underdeveloped parts of the world. Unfortunately, the training and employment of guides is costly and therefore not always viable.

Removable structures can be installed in lieu of guides, or to supplement guided tours. High visitor levels inevitably cause damage, such as trampling the underlying deposit, stirring of dust particles, and scratching the rock surfaces. Timber or galvanized steel boardwalks and viewing platforms have been erected to keep visitors away from the rock imagery and fragile archaeological surfaces at various locations in Australia (Brown 1995; Brown, Hughes, and Stanton 1995). Such structures are usually constructed to rest on the deposit and not to touch the

rock surface or any other significant features that may occur at a place with rock imagery. In consultation with interested parties, certain natural vegetation and rock features are left intact, and the walkways and platforms are designed around these. In compliance with minimum alteration to places with imagery, no holes are drilled in the rock surface to attach hand rails. Prior to and during the construction of raised walking surfaces, a trained conservator should be present to ensure minimal impact to the place and the surrounding landscape.

The psychological barrier created by a boardwalk between the viewer and the imagery should not only look good but also contain informative material. Interpretive information, preferably graphic copies of the images with brief explanatory texts, are normally placed as lecterns on the handrails of boardwalks to enhance understanding of the images and the culture responsible for their creation. To avoid congestion, boardwalks should have no dead-ends, and an exit should be separate from the entrance.

The installation of raised wooden boardwalks at selected places with imagery also involves the upgrading of facilities around those places, such as stabilization of footpaths, and the discouragement of access to neighboring places, including the revegetation of access paths. Although heavily visited places with boardwalks are sometimes viewed as sacrificial in terms of conventional conservation wisdom, such well-built and maintained places seem to have survived increased visitation remarkably intact (Walsh 1984).

A well-constructed and maintained boardwalk is a physical testimony of managerial investment and care at an intensively-visited place. Even places not frequently visited by tourists, including those rendered ostensibly invisible to outside visitors by conservation managers, should have some physical sign of managerial concern and presence. Isolated places that are not actively managed for visitors often look uncared for, and are usually littered with branches and other debris. If a nature walker accidentally finds such a place, it may help to have it in a fairly tidy condition and with a low-cost stand to help create the impression of importance. The installation of a sturdy stand supporting a container with a visitor register at remote places is an effective managerial tool in this regard. Visitor registers have several managerial functions, the most obvious one being to provide people with a place to write down their names and comments. Properly designed, a visitor register can include interpretive copies of the rock imagery and brief explanatory texts. By prompting visitors to record any praise or complaints, they may reduce the incidence of graffiti and vandalism while simultaneously providing information about visitor needs and attitudes (Dragovich 1995; Sullivan 1984).

The recreational opportunities of areas in which rock imagery occurs usually include more popular activities such as hiking, rock climbing, and bird watching. The history of tourism at a place should help formulate management options. Visitation to most remote places is of the soft variety; relatively small groups of people come with friends or families. Such visitors are usually self-inspired and willing to

take some strain in experiencing and photographing what they deem to be of interest. Unlike "hard" tourism, the soft variety is not geared toward comfort, aggressive marketing or an elaborate infrastructure. At such places, every effort should be made to retain the integrity of the place and to educate the visitor about the various attractions and how to conserve them. Once the limits of acceptable change to the area have been established, it will become possible to estimate person-impact hours. Regular monitoring of the area may be necessary to establish or adjust the limits of acceptable change.

Hard tourism is experienced at the more frequently visited shelters in Australia and the famous caves of France. The deposit in some of the French caves has been totally destroyed, so that they have no archaeological research significance left, apart from the rock imagery. Given this situation, the development of an elaborate infrastructure is justified. In the Sarre Grotto, for example, a computer-controlled sound and light system both guides the visitor and provides commentary (Achiary et al. 1995). Landscaping in the environs of the cave adds to its impact and appeal.

Money generated by tourists who are willing to pay to visit places with rock imagery can go a long way to finance preservation. Dramatically presented places, such as the Sarre Grotto, both entertain and inform. Education of tourists begins even before they leave their houses, and popularization of rock imagery in the media, particularly the internet, television, and colorful publications, helps to sensitize people about the more popular rock imagery.

Even remote places in their natural setting can inform visitors by means of nicely-designed graphical representations and texts presented on a lectern or in a visitor book. Contrary to popular belief, places with rock imagery are not self-explanatory; information based on careful anthropological and physical research should be used to educate visitors about the range of significance values and conservation concerns. Apart from the fact that many images are not immediately apparent to the untrained eye, few people are aware of their spiritual significance, for example. The goal of interpretation should be to surprise visitors with new information and so positively change their attitudes and behavior.

Interpretation is inevitable and should be guided by the results of thorough research, both scientific and humanistic. The effective presentation of interpretation is central to the preservation of rock imagery and ought to be considered as the most important aspect in any management planning. Tourists leaving a place without having been confronted with explicit interpretation will be none the wiser. Indeed, the perpetuation of uninformed interpretation can be bad for conservation. Those people who are convinced that rock images are maps to buried treasures, for example, will inevitably indulge in destructive activities, often to the direct detriment of the imagery (Henson 1996). Moreover, many uninformed park managers assume that prehistoric imagery is a non-version of graffiti, and are accordingly

reluctant to spend any money on the upkeep and presentation of places with pre-historic rock images. One-sided interpretations in general can be damaging to the imagery, since by overemphasizing one significance value, others may be destroyed in the process. For instance, overzealous attempts to enhance the aesthetic impact of a place by cleaning crusts from painted surfaces may impede physical analyses and longevity. On the other hand, any runaway obsession to sample and date the imagery can severely compromise the aesthetic value and condition of a place. Balanced interpretation, presented to the public in the form of signs and pamphlets, is accordingly vital for the preservation of places with rock paintings or engravings.

It certainly helps not to swamp rock imagery places with interpretive signs and visitor centers. Managers should be cognizant of the fact that most tourists visit places with rock imagery only as part of a wider interest in the landscape. It is accordingly helpful to introduce interpretation by playing up to the preconceived notions and preferences of visitors. Cleverly designed interpretations introduce the visitor gradually from what is commonly known to the more esoteric, and often unexpected, knowledge gained from meticulous research.

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References

Achiary, P., J. Brunet, B. Laurent, and P. Vidal
1995   A New Management Strategy for Cave Sites: The Sare Grotto. In *Management of Rock Imagery*, edited by G. K. Ward and L. A. Ward, pp. 13–19. Occasional AURA Publication 9, Melbourne.

Blundell, G.
1996   The Politics of Public Rock Art: A Comparative Critique of Rock Art Sites Open to the Public in South Africa and the United States of America. Unpublished M.A. thesis, University of the Witwatersrand, Johannesburg.

Brown, R.
1995   A Conservation Approach to the Construction of a Viewing Platform at Split Rock, Laura, Cape York Peninsula. In *Management of Rock Imagery*, edited by G. K. Ward and L. A. Ward, pp. 97–102. Occasional AURA Publication 9, Melbourne.

Brown, R., C. J. Hughes, and S. C. Stanton
1995   Management and Conservation Initiatives at Wargata Mina: An Ice Age Aboriginal Hand Stencil Site in Tasmania. In *Management of Rock Imagery*, edited by G. K. Ward and L. A. Ward, pp. 107–11. Occasional AURA Publication 9, Melbourne.

Brunet, J., J. Vouve, P. Vidal, P. Malaurent and G. Lacazedieu
1995   Theories and Practice of the Conservation of Our Heritage of Rock Art: Concrete Examples of Interventions in Natural Climatic Environment. In *Preservation of Rock Art*, edited by A. Thorn and J. Brunet, pp. 1–11. Occasional AURA Publication 9, Melbourne.

Deacon, J.
1993   *Management Guidelines for Rock Art Sites in Nature Conservation Areas and Forestry Reserves in the Western Cape*. Unpublished report submitted to the Department of Environment Affairs, Stellenbosch.

Dragovich, D.

1995   Site Management and the Visitor Book, Mootwingee. In *Management of Rock Imagery*, edited by G. K. Ward and L. A. Ward, pp. 103–6. Occasional AURA Publication 9, Melbourne.

Gale, E., and J. Jacobs

1986   Identifying High-Risk Visitors at Aboriginal Art Sites in Australia. *Rock Art Research* (3)1:3–19.

1987   *Tourists and the National Estate*. Australian Government Publishing Service, Canberra.

Henson, B.

1996   Influence of Myth and Folklore on Rock Art Damage. Unpublished paper delivered at the Fifty-Third Southeastern Archaeological Conference, Birmingham, Alabama.

Loubser, J. H. N.

1994   *The Recordation and Status of Petroglyphs and Pictographs at Samuel's Cave (47LC5) La Crosse County, Wisconsin*. Unpublished report submitted to the Mississippi Valley Archaeology Center.

Mark, R. K., and E. B. Newman

1989   Some Observations on Rock Art Conservation in Spain. In *Preserving Our Rock Art Heritage*, edited by H. K. Crotty, pp. 65–70. American Rock Art Research Association, San Miguel, CA.

Mazel, A. D.

1982   Principles for Conserving the Archaeological Resources of the Natal Drakensberg. *South African Archaeological Bulletin* 37:7–15.

Pilles, P. J.

1993   Depredacao de Sitios Arqueologicos: A Resposta do Arizona. In *II Workshop de Metodos Arqueologicos e Gerenciamento de Bens Culturais*, edited by Edna J. Morley, pp. 35–55. Instituto Brasileiro do Patrimonio Cultural, Florianopolis, Santa Catarina, Brazil.

Sullivan, H.

1995   Visitor Management at Painting Sites in Kakadu National Park. In *Management of Rock Imagery*, edited by G. K. Ward and L. A. Ward, pp. 82–87. Occasional AURA Publication 9, Melbourne.

Sullivan, K. M.

1984   Monitoring Visitor Use and Site Management at Three Art Sites—An Experiment with Visitor's Books. In *Visitors to Aboriginal Sites: Access, Control, and Management*, edited by H. Sullivan, pp. 43–53. Australian National Parks and Wildlife Service, Canberra.

Walsh, G.

1984   Archaeological Site Management in Carnarvon National Park: A Case History in the Dilemma of Presentation or Preservation. In *Visitors to Aboriginal Sites: Access, Control, and Management*, edited by H. Sullivan, pp. 1–14. Australian National Parks and Wildlife Service, Canberra.

Further Reading

What follows is a selection of papers and books, many of which would have been included in this volume had space allowed. They do not represent the editors' view of the "best"; rather, they further illustrate and pursue some developments and issues in the conservation and management of archaeological sites. Included in this list are the full citations for the "perspectives" in each part of the volume.

Part I. History: Concepts, Methods, and Issues

Bickford, A. "Romantic Ruins." In *A Heritage Handbook*, edited by G. Davison and C. McConville, 77–90. St Leonards: Allen and Unwin, 1991.

Byrne, D. "Western Hegemony in Archaeological Heritage Management." *History and Anthropology* 5 (1991): 269–76.

Cleere, H., ed. *Approaches to the Archaeological Heritage: A Comparative Study of World Cultural Resource Management Systems*. Cambridge: Cambridge University Press, 1984.

———. "Introduction: The Rationale of Archaeological Heritage Management." In *Archaeological Heritage Management in the Modern World*, edited by Henry Cleere, 1–19. New York: Unwin Hyman, 1989.

Davison, G., and C. McConville. *A Heritage Handbook*. St Leonards: Allen and Unwin, 1991.

Didron, A.-N. "Sur les Travaux du Comité pendant la session de 1839." *Bulletin Archaéologique: Publié par le Comité Historique des Arts et Monuments* 1 (1840–41).

Elia, R. J. "United States Cultural Resource Management and the ICAHM Charter." *Antiquity* 67, no. 255 (1993): 426–38.

Flaubert, G. *Correspondance* (1847). Paris, 1926.

Guolong Lai, M. Demas, and N. Agnew. "Valuing the Past in China: The Seminal Influence of Liang Sicheng on Heritage Conservation in China." *Orientations* 35, no. 2 (2004): 82–89.

Holtorf, C., and T. Schadla-Hall. "Age as Artefact: On Archaeological Authenticity." *European Journal of Archaeology* 2 (1999): 229–47.

Johnston, C. *What Is Social Value? A Discussion Paper*. Canberra: Australian Government Printing Service, 1992.

Jokilehto, J. "Authenticity in Restoration Principles and Practices." *Bulletin of the Association for Preservation Technology* 17, no. 3–4 (1985): 5–11.

Jokilehto, J., and J. King. "L'Authenticité et l'intégrité" = "Authenticity and Conservation: Reflections on the Current State of Understanding." In *L'Authenticité et l'intégrité dans*

un contexte africain: réunion d'experts, Grand Zimbabwe, Zimbabwe, 26–29 mai 2000 = Authenticity and Integrity in an African Context: Expert Meeting, Great Zimbabwe, 26–29 May 2000, ed. G. Saouma-Forero, 30–39. [Paris] [Eybens]: UNESCO / CRAterre: Centre international de recherche et d'application pour la construction en terre, 2001.

King, T. F. "Resolving a Conflict of Values in American Archaeology." In *Conservation Archaeology: A Guide for Cultural Resource Management Studies*, edited by M. B. Schiffer and G. J. Gumerman, 87–105. New York: Academic Press, 1977.

Krishna Menon, A. G. "Rethinking the Venice Charter: The Indian Experience." *South Asian Studies* 10 (1994): 37–44.

Lipe, W. D. "Value and Meaning in Cultural Resources." In *Approaches to the Archaeological Heritage: A Comparative Study of World Cultural Resource Management Systems*, edited by H. Cleere, 1–11. Cambridge: Cambridge University Press, 1984.

Marshall, Y. "What Is Community Archaeology?" *World Archaeology* 34, no. 2 (2002): 211–19.

Matero, F. Editorial. Special issue on site reburial. *Conservation and Management of Archaeological Sites* 6, no. 3–4 (2004): 131.

McBryde, I. "Past and Present Indivisible? Archaeology in Society." In *Prehistory to Politics: John Mulvaney, the Humanities and the Public Intellectual*, edited by T. Bonyhady and T. Griffiths. Carlton South, Vic., Melbourne University Press, 1996.

Pearson, M., and S. Sullivan. *Looking after Heritage Places: The Basics of Heritage Planning for Managers, Landowners and Administrators*. Carlton South, Vic.: Melbourne University Press, 2003.

Quatremere de Quincy, A.-C. *Lettres sur le prejudice qu'occasioneroient aux au arts et a la science, le deplacement demonumens de l'art de l'Italie*. Paris: Desanne, 1796.

Rizzi, G., and L. Barbieri. *Herculaneum: Understanding a Monument in Ruins*. [Naples]: Electa Napoli, 2000.

Ruskin, J. *The Seven Lamps of Architecture* (1849). Reprint, London: Century Hutchinson, 1988.

Stanley Price, N. P., and J. Jokilehto. "The Decision to Shelter Archaeological Sites: Three Case Studies from Sicily." *Conservation and Management of Archaeological Sites* 5, no. 1–2 (2001): 19–34.

Stanley Price, N., M. K. Talley, and A. Melucco Vaccaro, eds. *Historical and Philosophical Issues in the Conservation of Cultural Heritage*. Readings in Conservation. Los Angeles: Getty Conservation Institute, 1996.

Stovel, H. "Review of the Riga Charter on Authenticity and Historical Reconstruction in Relationship to Cultural Heritage (Riga, Latvia, October 2000)." *Conservation and Management of Archaeological Sites* 4, no. 4 (2001): 241–44.

The Theodosian Code and Novels and the Sirmondian Constitutions. Translated by C. Pharr. Princeton: Princeton University Press, 1952.

Thompson, M. W. *Ruins: Their Preservation and Display*. London: British Museum, 1981.

Truscott, M. "Introductory Words: Role of Contributors and Clients." In *Archaeological Remains, in situ Preservation: Proceedings of the Second International Symposium on the ICAHM, Montreal, Quebec, Canada, 11–15 October 1994*, edited by ICAHM, 25–35. Ottawa: ICAHM Publication, 1996; rev. ed. 1998.

UNESCO. *Angkor: A Manual for the Past, Present and Future*. UNESCO, with United Nations Development Programme and Swedish International Development Agency. APSARA, Royal Government of Cambodia, March 1996; rev. ed. 1998.

Vaccaro, A. M. "Philosophies Favouring *in situ* Conservation." In *Mosaics Make a Site: The Conservation in situ of Mosaics on Archaeological Sites: Proceedings of the VIth Conference of the International Committee for the Conservation of Mosaics, Nicosia, Cyprus, 1996*, edited by D. Michaelides, 17–29. Rome: ICCM, 2003.

Wijesuriya, G. "Pious Vandals: Restoration or Destruction in Sri Lanka?" In *Destruction and Conservation of Cultural Property*, edited by R. Layton, J. Thomas, and P. G. Stone, 256–63. London: Routledge, 2001.

Woodward, C. *In Ruins*. London: Vintage, 2002.

Worsaae, J. A. *Primeval Antiquities of Denmark* (1843).

Zidda, G. "Archaeological Excavations and Conservation." *APPEAR Position Paper* 3 (2005).

Part II: Conserving the Archaeological Resource

Arvelo, L., and E. Gil. "An Experience with Rescue, Research and Communication in Venezuela." In *Archaeological Research and Heritage Preservation in the Americas*, edited by R. D. Drennan and S. Mora Camargo. Washington, DC: Society for American Archaeology, 2001.

Bowdler, S. "Unconsidered Trifles? Cultural Resource Management, Environmental Impact Statements, and Archaeological Research in New South Wales." *Australian Archaeology* 12 (1981): 123–33.

———. "Archaeological Significance as a Mutable Quality." In *Site Surveys and Significance Assessment in Australian Archaeology: Proceedings of the 1981 Springwood Conference on Australian Prehistory*, edited by S. Sullivan and S. Bowdler, 1–9. Canberra: Australian National University, 1984.

Byrne, D. "The Nation, the Élite and the Southeast Asian Antiquities Trade: With Special Reference to Thailand." In *Conservation and Management of Archaeological Sites* 3: 145–53. London: James & James, 1999.

Carman, J. "Putting Remains Back into History: Creating a Sustainable Historic Environment." In *Preserving Archaeological Remains in situ? Proceedings of the 2nd Conference, 12–14 September 2001*, edited by T. Nixon, 254–60. London: Museum of London Archaeology Service, 2004.

Chippindale, C., and D. Gill. "Cycladic Figures: Art versus Archaeology?" In *Antiquities: Trade or Betrayed: Legal, Ethical and Conservation Issues*, edited by K. W. Tubb, 131–42. London: Archetype, in conjunction with UKIC Archaeology Section, 1995.

Dunnell, R. C. "The Ethics of Archaeological Significance Decisions." In *Ethics and Values in Archaeology*, edited by E. Green, 62–74. New York: Free Press, 1984.

Elia, R. J. "United States Cultural Resource Management and the ICAHM Charter." *Antiquity* 67 (1993): 426–38.

Flannery, K. V. "The Golden Marshalltown: A Parable for the Archeology of the 1980s." *American Anthropologist*, n.s., 84, no. 2 (1982): 265–78.

Holtorf, C. J. "Is the Past a Non-renewable Resource?" In *The Heritage Reader*, edited by G. Fairclough, R. Harrison, J. H. Jameson Jr., and J. Schofield, 125–33. New York: Routledge, 2008.

Lipe, W. D. "In Defence of Digging: Archaeological Preservation as a Means, Not an End." *CRM* 19, no. 7 (1996): 23–27.

Mackay, R. "Political, Pictorial, Physical and Philosophical Plans: Realising Archaeological Research Potential in Urban Sydney." In *Sites: Nailing the Debate—Archaeology and Interpretation in Museums*, 123–38. Sydney: Historic Houses Trust of New South Wales, 1996.

Maekawa, K. "Current Problems of Archaeological Heritage Management in Japan." In *Far Eastern Studies in Archaeological Heritage Management*, edited by J. Grenfell, 3–12. York: University of York, Department of Anthropology, 1996.

McHargue, G., and M. Roberts. *A Field Guide to Conservation Archaeology in North America*. Philadelphia: J. P. Lippincott, 1977.

Michel, M. "The Archaeological Conservancy and Site Protection." In *Protecting the Past*, edited by G. S. Smith and J. E. Ehrenhard, 283–87. Boca Raton: CRC Press, 1991.

Naccache, A. "Beirut's Memorycide." In *Archaeology under Fire: Nationalism, Politics, and Heritage in the Eastern Mediterranean and Middle East*, edited by L. Meskell, 140–58. London: Routledge, 1998.

Raab, L. M. "Toward an Understanding of the Ethics and Values of Research Design in Archaeology." In *Ethics and Values in Archaeology*, edited by E. L. Green, 75–88. New York: Free Press, 1984.

Reybrouck, V., and D. Jacobs. "The Mutual? Constitution of Natural and Social Identities during Archaeological Fieldwork." In *Ethnographies of Archaeological Practice: Cultural Encounters, Material Transformations*, edited by M. Edgeworth, 137–46. Lanham, MD: Alta Mira Press, 2006.

Rotroff, S. I. "Archaeologists on Conservation: How Codes of Archaeological Ethics and Professional Standards Treat Conservation." *Journal of the American Institute for Conservation* 40, no. 2 (2001): 137–46.

Schaafsma, C. F. "Significant until Proven Otherwise: Problems versus Representative Samples." In *Archaeological Heritage Management in the Modern World*, edited by H. Cleere, 38–51. New York: Unwin Hyman, 1989.

Schiffer, M. B., and J. H. House. "Assessing Impacts: Examples from the Cache Project." In *Conservation Archaeology: A Guide for Cultural Resource Management Studies*, edited by M. B. Schiffer and G. J. Gumerman, 249–57. New York: Academic Press, 1977.

Schmidt, P. R., and R. J. McIntosh. "The African Past Endangered." In *Plundering Africa's Past*, edited by P. R. Schmidt and R. J. McIntosh, 1–17. Bloomington: Indiana University Press, 1996.

Segual, R. "Diagnosis for the Conservation of Archaeological Sites." In *Archaeological Remains, in situ Preservation: Proceedings of the Second International Symposium on the ICAHM, Montreal, Quebec, Canada, 11–15 October 1994*, edited by ICAHM, 137–46. Ottawa: ICAHM, 1996.

Skeats, R. *Debating the Archaeological Heritage*. London: Duckworth, 2000.

Thompson, R. H. "Institutional Responsibilities in Conservation Archaeology." In *Proceedings of the 1974 Cultural Resource Management Conference, Federal Center, Denver, Colorado*, edited by W. D. Lipe and A. J. Lindsay. Technical Series No. 14. Flagstaff: Museum of Northern Arizona, 1974.

Part III. Physical Conservation of Archaeological Sites

Agnew, N., and M. Demas. "Monitoring through Replication: Design and Evaluation of the Monitoring Reburial at the Laetoli Trackway Site." *Conservation and Management of Archaeological Sites* 6, no. 3–4 (2004): 295–304.

Bahn, P. G., R. G. Bednarik, and J. Steinbring. "The Peterborough Petroglyph Site: Reflections on Massive Intervention in Rock Art." *Rock Art Research* 12, no. 1 (1995): 29–41.

Blockley, M. "Preservation, Restoration and Presentation of the Industrial Heritage: A Case Study of the Ironbridge Gorge." In *Managing Historic Sites and Buildings*, edited by D. Baker and G. Chitty, 141–56. London: Routledge, 1999.

Brown, M. R. I., and E. A. Chappell. "Archaeological Authenticity and Reconstruction at Colonial Williamsburg." In *The Reconstructed Past: Reconstructions in the Public Interpretation of Archaeology and History*, edited by J. H. Jameson, 47–64. Walnut Creek, CA: Alta Mira Press, 2004.

Cabrera Castro, R. "Architectural Restoration at Teotihuacan: A Historical Analysis." In *In situ Archaeological Conservation: Proceedings of Meetings, April 6–13, 1986, Mexico*, edited by H. W. M. Hodges and M. A. Corzo, 176–85. Mexico City: Instituto Nacional de Antropología e Historia, 1987.

Caple, C. "Towards a Benign Reburial Context: The Chemistry of the Burial Environment." *Conservation and Management of Archaeological Sites* 6, no. 3–4 (2004): 155–66.

Chambers, J. H. *Cyclical Maintenance for Historic Buildings*. Washington, DC: Interagency Historic Architectural Services Program, Office of Archaeology and Historic Preservation, National Park Service, U.S. Department of the Interior, 1976.

Chitty, G., and D. Baker, eds. *Managing Historic Sites and Buildings: Reconciling Presentation and Preservation*. London: Routledge, 1999.

Demas, M., N. Agnew, S. Waane, J. Podany, A. Bass, and D. Kamamba. "Preservation of the Laetoli Hominid Trackway in Tanzania." *Preprints of the Contributions to the Copenhagen Congress, 26–30 August 1996: Archaeological Conservation and Its Consequences*, edited by A. Roy and P. Smith, 38–42. London: International Institute for Conservation of Historic and Artistic Works, 1996.

Dimacopoulos, J. "Anastylosis and Anasteloseis." *ICOMOS Information*, no. 1 (1985): 18.

Dorn, R. I., D. S. Whitley, et al. "The Rock Art Stability Index: A New Strategy for Maximizing the Sustainability of Rock Art." *Heritage Management* 1, no. 1 (2008): 37–70.

Feilden, B. M. "The Principles of Conservation." In *Conservation of Historic Stone Buildings and Monuments: Report of*

the Committee on Conservation of Historic Stone Buildings and Monuments, National Materials Advisory Board, Commission on Engineering and Technical Systems, National Research Council*, 22–30. Washington, DC: National Academy Press, 1982.

Fry, B. W. "Restoration and Archaeology." *Historical Archaeology* 3 (1969): 49–65.

Gill-Robinson, H. "Managing Wetland Archaeology: Environmental Degradation at Wetland Archaeological Sites." In *Managing Archaeological Resources*, edited by F. P. McManamon, A. Stout, and J. A. Barnes, 233–40. One World Archaeology 58. Walnut Creek, CA: Left Coast Press, 2008.

Keith, D. H. "Preservation." In *International Handbook of Underwater Archaeology*, edited by C. Ruppé and J. Barstad, 737–50. New York: Kluwer Academic/Plenum, 2001.

Kienzle, P. Review of *Archaeologische Denkmaler in Deutschland. Rekonstruiert und Wiederaufgebaut*, by H. Schmidt (Theiss, Stuttgart, 2000). *Conservation and Management of Archaeological Sites* 4, no. 4 (2001): 256.

Krier, L. "The Love of Ruins, or the Ruins of Love." *Modulus* 16 (1983).

Leblanc, F. "The Second International ICAHM Conference, Montréal, 1994." In *Archaeological Remains, in situ Preservation: Proceedings of the Second International Symposium on the ICAHM, Montreal, Quebec, Canada, 11–15 October 1994*, edited by ICAHM. Ottawa: ICAHM, 1996.

Mastroroberto, M. "The House of C. Julius Polibius in Pompei: Reasons for Restoration." In *Archaeological Remains, in situ Preservation: Proceedings of the Second International Symposium on the ICAHM, Montreal, Quebec, Canada, 11–15 October 1994*, edited by ICAHM, 227–34. Ottawa: ICAHM Publication, 1996.

Matero, F. "Managing Change: The Role of Documentation and Conditions Survey at Mesa Verde National Park." *Journal of the American Institute for Conservation* 42, no. 1 (2003): 39–67.

Matero, F., K. L. Fong, E. Del Bono, M. Goodman, E. Kopelson, L. McVey, J. Sloop, and C. Turton. "Archaeological Site Conservation and Management: An Appraisal of Recent Trends." *Conservation and Management of Archaeological Sites* 2 (1998): 129–42.

McBryde, I., ed. *Who Owns the Past?* Melbourne: Oxford University Press, 1985.

Mertens, D. "Planning and Executing Anastylosis of Stone Buildings." In *Conservation on Archaeological Excavations: With Particular Reference to the Mediterranean Area*, edited by N. P. Stanley Price, 121–31. Rome: ICCROM, 1984.

Okamura, K., and R. Condon. "Reconstruction Sites and Education in Japan: A Case Study from the Kansai Region." In *The Constructed Past: Experimental Archaeology, Education, and the Public*, edited by P. G. Stone and P. Planel, 63–75. One World Archaeology. London: Routledge, 1999.

Onjala, Isaya O., and Ephraim K. Kamaru. "Thimlick Ohinga: Traditional Conservation Practices." In *Traditional Conservation Practices in Africa*, edited by Thierry Joffroy, 97–104. Rome: ICCROM, 2005.

Oxley, I., and D. Gregory. "Site Management." In *International Handbook of Underwater Archaeology*, edited by C. Ruppé and J. Barstad, 715–25. New York: Kluwer Academic/Plenum, 2001.

Padgett, A., and K. Barthuli. "Paso por aqui: A History of Site Management at El Morro National Monument, New Mexico, U.S.A." In *Management of Rock Imagery: Proceedings of Symposium H, Second International Congress of the Australian Rock Art Research Association, Cairns, 1992*, edited by G. K. Ward and L. A. Ward, 26–33. Melbourne: Archaeological Publications [for] Australian Rock Art Research Association, 1996.

Rickerby, S. "The Role of Documentation in Defining Conservation Strategies at Grotto Sites." In *Conservation of Ancient Sites on the Silk Road: International Conference on the Conservation of Grotto Sites, Mogao Grottoes, Dunhuang, People's Republic of China, October 3–8, 1993*, edited by Neville Agnew, 62–66. Los Angeles: Getty Conservation Institute, 1997.

Schmidt, H. "Reconstruction of Ancient Buildings." In *The Conservation of Archaeological Sites in the Mediterranean Region: Report on an International Conference, 6–12 May 1995*, edited by M. de la Torre, 41–50. Los Angeles: Getty Conservation Institute, 1997.

Sease, C. "Planning for Conservation of an *in Situ* Mosaic before, during, and after an Excavation." In *Mosaics Make a Site: The Conservation in Situ of Mosaics on Archaeological Sites: Proceedings of the VIth Conference of the International Committee for the Conservation of Mosaics, Nicosia, Cyprus, 1996,* edited by D. Michaelides, 67–82. Rome: ICCM, 2003.

Torraca, G. "The Scientist's Role in Historic Preservation with Particular Reference to Stone Conservation." In *Conservation of Historic Stone Buildings and Monuments: Report of the Commission on Conservation of Historic Stone Buildings and Monuments,* 13–18. Washington, D.C.: National Academy Press, 1982.

Vaccaro, A. Melucco. "Philosophies Favouring *in Situ* Conservation." *In Mosaics Make a Site: The Conservation in Situ of Mosaics on Archaeological Sites: Proceedings of the VIth Conference of Mosaics, Nicosia, Cyprus, 1996,* edited by Demetrios Michaelides, 17–20. Rome: ICCM (2003).

Walsh, G. L. "Archaeological Site Management in Carnarvon National Park: A Case Study in the Dilemma of Presentation or Preservation." In *Visitors to Aboriginal Sites: Access, Control and Management,* edited by H. Sullivan, 1–14. Canberra: Australian National Parks and Wildlife Service, 1984.

Xiaohong Wu. "Conservation during Excavation: The Current Situation in China." In *Of the Past, for the Future: Integrating Archaeology and Conservation, Proceedings of the Conservation Theme at the 5th World Archaeological Congress, Washington, D.C., 22–26 June 2003,* edited by N. Agnew and J. Bridgland, 291–93. Los Angeles: Getty Conservation Institute, 2006.

Part IV: The Cultural Values of Archaeological Sites: Conflict and Resolution

Battle-Baptiste, W. "The Other from Within: A Commentary." In *Past Meets Present: Archaeologists Partnering with Museum Curators, Teachers and Community Groups,* edited by J. H. Jameson and S. Baugher-Perlin, 101–6. New York: Springer, 2007.

Bienkowski, P. "Persons, Things and Archaeology: Contrasting World-Views of Minds, Bodies and Death." Paper delivered at the conference, "Respect for Ancient British Human Remains: Philosophy and Practice," Manchester Museum,

17 November 2006. www.museum.manchester.ac.uk /aboutus/ourpractice/respect/.

———. "Authority over Human Remains: Genealogy, Relationship, Attachment." *Archaeological Review from Cambridge* 22, no. 2 (2007): 113–30.

Bowdler, S. "Unquiet Slumbers: the Return of the Kow Swamp Burials." *Antiquity* 66, no. 250 (1992): 103–6.

Byrne, D. "Archaeology and the Fortress of Rationality." In *Cosmopolitan Archaeologies,* edited by L. Meskell, 68–87. Durham: University of North Carolina Press, 2009.

Carman, J. "Paradox in Places: 20th-Century Battle Sites in Long-Term Perspective." In *Matériel Culture: The Archaeology of Twentieth-Century Conflict,* edited by A. J. Schofield, C. M. Beck, and W. G. Johnson, 9–21. London: Routledge, 2002.

Carter, Howard, and A. C. Mace. *The Tomb of Tut-ankh-amen.* 1923; repr., New York: Cooper Square, 1963.

Chen Wei and A. Aass. "Heritage Conservation East and West." *ICOMOS Information* 3 (1989): 3–8.

Eaglehawk and Crow. Open Letter Concerning the Australian Institute of Aboriginal Studies, 29 March 1974. Central Filing System, Australian Institute of Aboriginal and Torres Strait Islander Studies, File no. 73/119.

Endere, M. L. "Talking about Others: Archaeologists, Indigenous Peoples and Heritage in Argentina." In *Conservation, Identity and Ownership in Indigenous Archaeology,* edited by B. Sillar and C. Forde, 155–62. London: Earthscan/James & James, 2005.

Ireland, T. "Excavating Globalisation from the Ruins of Colonialism: Archaeological Heritage Management Responses to Cultural Change." In *ICOMOS Scientific Symposium, Dublin, 2010: Changing World, Changing Views of Heritage: The Impact of Global Change on Cultural Heritage.* Rome: ICOMOS, forthcoming.

Kendall, A. "Applied Archaeology: Revitalising Indigenous Agricultural Technology within an Andean Community." In *Conservation, Identity and Ownership in Indigenous Archaeology,* edited by B. Sillar and C. Forde, 205–21. London: Earthscan/James & James, 2005.

Lydon, J. "Contested Landscapes—Rights to History, Rights to Place: Who Controls Archaeological Places." In

Handbook of Landscape Archaeology, edited by B. David and J. Thomas, 654–60. World Archaeological Congress Research Handbooks in Archaeology. Walnut Creek, CA: Left Coast Press, 2008.

Mackay, R. "Whose Archaeology? Social Considerations in Archaeological Research Design."In *Of the Past, for the Future: Integrating Archaeology and Conservation: Proceedings of the Conservation Theme at the 5th World Archaeological Congress, Washington, D.C., 22–26 June 2003*, edited by N. Agnew and J. Bridgland, 131–35. Los Angeles: Getty Conservation Institute, 2006.

Mason, R. "Theoretical and Practical Arguments for Values-Centred Preservation." *CRM: Journal of Heritage Stewardship* 3, no. 2 (Summer 2006): 21–48.

Matero, F. "Exploring Conservation Strategies for Ancestral Puebloan Sites: Tsankawi, Bandelier National Monument, New Mexico." *Conservation and Management of Archaeological Sites* 6, no. 2 (2003): 68–69.

McBryde, I. "To Know the Place for the First Time: Consideration of Diverse Values for an Australian World Heritage Site." *Articles of Members = Articles des membres*. I.I.C.o.M.a. Sites, 34–44. Paris: International Council on Monuments and Sites, 1994.

Mulvaney, D. J. "Past Regained, Future Lost: The Kow Swamp Pleistocene Burials." *Antiquity* 65, no. 246 (1991): 12–21.

Ndoro, N. "The Preservation of Great Zimbabwe: Your Monument, Our Shrine." *ICCROM Conservation Studies*. Rome: ICCROM, 2005.

Ross, A. "Quandamooka Perspectives on Cultural Heritage." In *Place: A Cultural Heritage Bulletin* 2, no. 1 (1996): 1, 5–6.

Seneviratne, S. "Situating World Heritage Sites in a Multicultural Society: The Ideology of Presentation at the Sacred City of Anuradhapura, Sri Lanka." In *Archaeology and the Postcolonial Critique*, edited by M. Liebmann and U. Z. Rizvi, 177–95. Lanham, MD: Alta Mira Press, 2008.

Smith, L. "Archaeological Significance and the Governance of Identity in Cultural Heritage Management." In *Heritage of Value, Archaeology of Renown: Reshaping Archaeological Assessment and Significance*, edited by B. J. Little,

C. Mathers, and T. Darvill, 77–88. Cultural Heritage Studies. Gainesville: University Press of Florida, 2005.

Stanley Price, N., and S. Sullivan. "Conservation of Archaeological Sites in the Mediterranean Region: A Conference Organized by the J. Paul Getty Trust." *Conservation and Management of Archaeological Sites* 1, no. 2 (1996): 127–31.

Taruvinga, P., and W. Ndoro. "The Vandalism of the Domboshava Rock Painting Site, Zimbabwe: Some Reflections on Approaches to Heritage Management." *Conservation and Management of Archaeological Sites* 6, no. 1 (2003): 3–10.

Teeman, D. L. "Cultural Resource Management and the Protection of Valued Tribal Space: A View from the Western United States." In *Handbook of Landscape Archaeology*, edited by B. David and J. Thomas. World Archaeological Congress Research Handbooks in Archaeology. Walnut Creek, CA: Left Coast Press, 2008.

Zimmerman, L. J. "Made Radical by My Own: An Archaeologist Learns to Accept Reburial." In *Conflict in the Archaeology of Living Traditions*, edited by R. Layton, 60–67. London: Unwin Hyman, 1989.

Part V: Archaeological Site Management

Ashworth, G. J. "Conservation as Preservation or as Heritage: Two Paradigms and Two Answers." *Built Environment* 23, no. 2 (1997): 92–192.

Callebaut, D., and M. C. Van der Donckt. "Heritage Preservation and Presentation in a Living Environment: The Ename 974 Project as a Case Study." In *Interpreting the Past: Presenting Archaeological Sites to the Public*, edited by D. Callebaut, A. E. Killebrew, and N. A. Silberman, 85–96. Brussels: Vlaams Instituut voor het Onroerend Erfgoed, 2004.

Carrera Ramirez, F., and R. Favregas Valcarce. "The Protection and Management of the Art of Galicia, Spain." *Conservation and Management of Archaeological Sites* 6, no. 1 (2003): 23–37.

Castellanos, C. "Sustainable Management for Archaeological Sites: The Case of Chan Chan, Peru." In *Managing Change: Sustainable Approaches to the Conservation of the*

Built Environment, 4th Annual US/ICOMOS International Symposium Organized by US/ICOMOS, Program in Historic Preservation of the University of Pennsylvania, and the Getty Conservation Institute, Philadelphia, Pennsylvania, April 2001, edited by J. M. Teutonico and F. G. Matero, 107–16. Los Angeles: Getty Conservation Institute, 2003.

Cody, J. W. "Site Management Lessons from Canyon de Chelly, Lascaux, Sigiriya and Bamian." In Conservation of Ancient Sites on the Silk Road: The Second International Conference on the Conservation of Grotto Sites, Mogao Grottoes, Dunhuang, People's Republic of China, June 28–July 3, 2004, edited by N. Agnew, 56–60. Los Angeles: Getty Conservation Institute, 2010.

Deacon, J. "Promotion of a Neglected Heritage Stone Age Site in the Western Cape, South Africa." Conservation and Management of Archaeological Sites 1, no. 2 (1995): 75–86.

Egloff, B. "Practising Archaeology and the Conservation of Tam Ting, Lao People's Democratic Republic." Conservation and Management of Archaeological Sites 2, no. 3 (1998): 163–75.

Gale, F. "The Protection of Aboriginal Rock Art from Tourists at Ubirr, Kakadu National Park." In Visitors to Aboriginal Sites: Access, Control and Management: Proceedings of the 1983 Kakadu Workshop, edited by H. Sullivan, 32–40. Canberra: Australian Capital Territory, Australian National Parks and Wildlife Service, 1984.

Gutierrez, M. de la Luz, E. Hambleton, J. Hyland, and N. Stanley Price. "The Management of World Heritage Sites in Remote Areas: The Sierra de San Francisco, Baja California, Mexico." Conservation and Management of Archaeological Sites 1, no. 4 (1996): 209–25.

Hall, C. M., and S. McArthur. Heritage Management in Australia and New Zealand: The Human Dimension. 2nd ed. Melbourne: Oxford University Press, 1996.

Jones, S. "Experiencing Authenticity at Heritage Sites: Some Implications for Heritage Management and Conservation." Conservation and Management of Archaeological Sites 11, no. 2 (2009): 133–47.

Karlsson, H., and A. Gustafsson. "Among Totem Poles and Clan Power in Tanum, Sweden: An Ethnographic Perspective on Communicative Artefacts of Heritage Management." In Ethnographies of Archaeological Practice: Cultural Encounters, Material Transformations, edited by M. Edgeworth, 137–47. Lanham, MD: Alta Mira Press, 2006.

Lertrit, S. "Who Owns the Past? A Perspective from Chiang Saen, Thailand." Conservation and Management of Archaeological Sites 2, no. 2 (1997): 81–92.

Sivan, R. "The Presentation of Archaeological Sites." In The Conservation of Archaeological Sites in the Mediterranean Region: Report on an International Conference, 6–12 May 1995, edited by M. de la Torre, 51–59. Los Angeles: Getty Conservation Institute, 1997.

Smith, L. "Doing Archaeology: Cultural Heritage Management and Its Role in Identifying the Link between Archaeological Practice and Theory." International Journal of Heritage Studies 6, no. 4 (2000): 309–16.

Sullivan, S. "Managing Cultural Heritage Sites: Some Parameters for Success." In Conservation of Ancient Sites on the Silk Road: Proceedings of the Second International Conference on the Conservation of Grotto Sites, Mogao Grottoes, Dunhuang, People's Republic of China, June 28–July 3, 2004, edited by N. Agnew, 8–18. Los Angeles: Getty Conservation Institute, 2010.

Walker, J. "Community Archaeology and the Archaeological Community: A Normative Sociological Approach?" In Extracting Meaning from the Past, edited by J. L. Bintliff, 50–64. Oxford: Oxbow Books, 1988.

Wilson, M., J. Sanhambath, P. Senembe, B. David, N. Hall, and M. Abong. "'Tufala kev blong devil': People and Spirits in North West Malakula, Vanuatu: Implications for Management." Conservation and Management of Archaeological Sites 4, no. 3 (2000): 151–56.

Winter, T. Post-conflict Heritage, Postcolonial Tourism: Tourism, Politics and Development at Angkor. London: Routledge, 2007.

Young, C. "Hadrian's Wall." In Managing Historic Sites and Buildings: Reconciling Presentation and Preservation, edited by G. Chitty and D. Baker, 35–48. London: Routledge, 1999.

Zilhao, J. "The Rock Art of the Côa Valley, Portugal." Conservation and Management of Archaeological Sites 2, no. 4 (1998): 193–206.

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