STANDING ON THE SHOULDERS OF GIANTS:

The Key Photochemical Experiments and Observations Conducted Prior to 1826

CONSERVATION OF PHOTOGRAPHS AND PHOTOGRAPH COLLECTIONS FOR COUNTRIES OF CENTRAL, SOUTHERN AND EASTERN EUROPE

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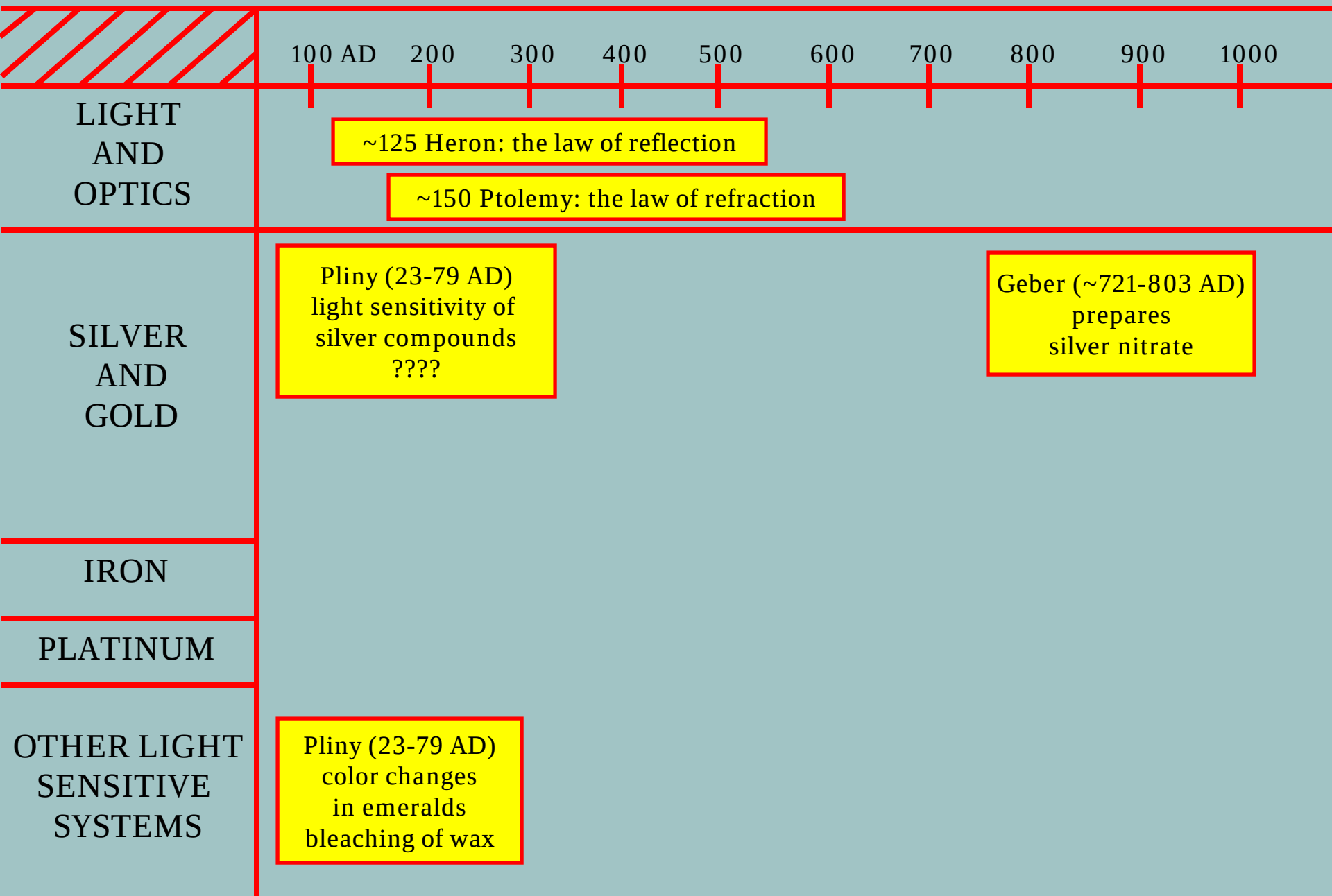
ANCIENT TIMES – 100 BC

	ANCIENT KNOWLEDGE	400	300	200	100 BC
LIGHT AND OPTICS	Light produces shadows	~ 2500 BC glass made in Middle East	Mo Tsu (470-391 BC) light travels in straight line		~ 100 BC clear glass produced in Rome
SILVER AND GOLD	Ag, Au, Fe				
IRON	Elements known to ancients				
PLATINUM		Tyrien purple used to color textiles			
OTHER LIGHT SENSITIVE SYSTEMS	Skin and plants change color when exposed to light		Aristotle (384-322 BC) publishes "On Colors"		Vitruvius publishes "De Architectura"

100 – 1000 AD


100 AD
200
300
400
500
600
700
800
900
1000
LIGHT AND OPTICS
~125 Heron: the law of reflection
~150 Ptolemy: the law of refraction
SILVER AND GOLD
Pliny (23-79 AD) light sensitivity of silver compounds ????
Geber (~721-803 AD) prepares silver nitrate
IRON
PLATINUM
OTHER LIGHT SENSITIVE SYSTEMS
Pliny (23-79 AD) color changes in emeralds bleaching of wax

1000 – 1600 AD

1200 1300 1400 1500 1600

LIGHT AND OPTICS

1276: Roger Bacon (1214-1294) experimentation with lenses

Da Vinci "Codex atlanticus"

1553 della Porta C.O.

1420 de Fontana C.O.

1583 Barbaro lens For C.O.

SILVER AND GOLD

Albertus Magnus (~1200-1280) discoloration of skin by silver nitrate

Basilius Valentinus precipitation of silver chloride ????

1556 Fabritius silver chloride "luna cornea"

IRON

PLATINUM

OTHER LIGHT SENSITIVE SYSTEMS

Cennino Cennini publishes "Libero dell'Arte"

1600 – 1700 AD

1600 | 1650 | 1700

LIGHT AND OPTICS

1604 Kepler explains the optics of the eye

1671 Kircher describes laterna magica

1684 Zahn develops focusing and portable C.O.

SILVER AND GOLD

1614 Scala describes darkening of silver nitrate powder when exposed to light

1663 Boyle describes darkening of silver chloride (air effect)

1694 Homberg uses light and silver nitrate to blacken bone objects

IRON

PLATINUM

OTHER LIGHT SENSITIVE SYSTEMS

1677 Hachenburg describes change of color in oil paintings when exposed to light

1700 – 1750 AD

1700 1710 1720 1730 1740 1750

LIGHT AND OPTICS

1730 Hall invents the achromatic lens

1737 Hellot experiments with sympathetic inks

SILVER AND GOLD

IRON

1704 Diesbach discovers the Prussian blue pigment

1725 Bestuscheff describes the light sensitivity of iron compounds

PLATINUM

1735 Ulloa discovers platinum

OTHER LIGHT SENSITIVE SYSTEMS

1737 Dufay describes the effect of light on some dyes and pigments

1750 – 1800 AD

1760 1770 1780 1790 1800

LIGHT AND OPTICS

1759 Dolland produces achromatic lens

1769 Brander develops a telescopic C.O.

SILVER AND GOLD

1771 Charles produces photogenic silhouettes ????

1776 Bergman light sensitivity of silver and Hg salts

1792 Vasalli exposes silver chloride to candle and moonlight

1777 Scheele discovers dissolution of silver chloride in ammonia

1783 Scapoli studies the light-induced production of Prussian blue

IRON

PLATINUM

OTHER LIGHT SENSITIVE SYSTEMS

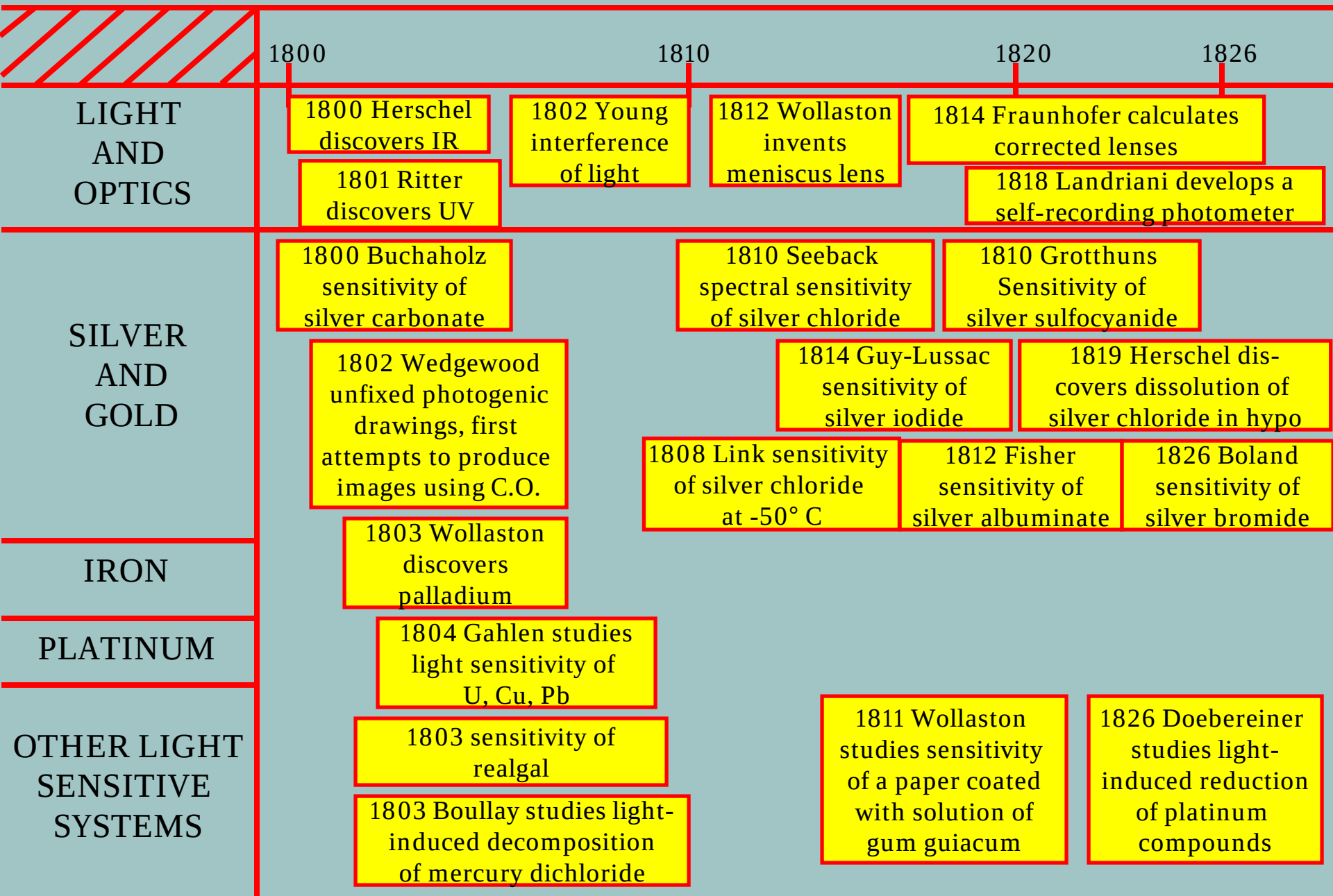
1782 Hagermann studies gum guiacum

1789 Klaproth discovers uranium

1782 Senebier studies light sensitivity of natural resins

1797 Vanquelin discovers chromium

1800 – 1826 AD


1800
1810
1820
1826
LIGHT AND OPTICS
1800 Herschel discovers IR
1801 Ritter discovers UV
1802 Young interference of light
1812 Wollaston invents meniscus lens
1814 Fraunhofer calculates corrected lenses
1818 Landriani develops a self-recording photometer
SILVER AND GOLD
1800 Buchaholz sensitivity of silver carbonate
1802 Wedgewood unfixed photogenic drawings, first attempts to produce images using C.O.
1803 Wollaston discovers palladium
1804 Gahlen studies light sensitivity of U, Cu, Pb
1803 sensitivity of realgal
1803 Boullay studies light-induced decomposition of mercury dichloride
1810 Seeback spectral sensitivity of silver chloride
1810 Grotthuns Sensitivity of silver sulfocyanide
1814 Guy-Lussac sensitivity of silver iodide
1819 Herschel dis-covers dissolution of silver chloride in hypo
1808 Link sensitivity of silver chloride at -50° C
1812 Fisher sensitivity of silver albuminate
1826 Boland sensitivity of silver bromide
IRON
PLATINUM
OTHER LIGHT SENSITIVE SYSTEMS
1811 Wollaston studies sensitivity of a paper coated with solution of gum guiacum
1826 Doebereiner studies light-induced reduction of platinum compounds