

Contents

4	Director's Foreword	
7	Introduction by <i>Bill Nye</i>	10 Notes to the Reader
11	Acknowledgments	14 Contributors
15	List of Illustrations	

Introduction

You are holding thousands of years of scientific discoveries rendered in book form, what I like to call plant-based information storage. All things considered, when it comes to storing information, a book is hard—virtually impossible—to beat. It's compact. It's instantly accessible, with *no* digital equipment required. With *Worlds Unfolding*, you can take curated selections from the millions of pages and thousands of artifacts in The Huntington's collection without leaving your chair. These volumes carry visual and verbal descriptions of humankind's biggest ideas and an astounding number of the remarkable objects we've created. They are extraordinary.

After all, humans hold on to things. It's in our nature. It's a big reason we've made it this far, becoming the dominant species on Earth. We keep all sorts of things, especially objects that carry information, important information. We keep personal scrapbooks. We preserve family photos. We have shelves full of books: picture books, storybooks, reference books, and, of course, cookbooks. We squirrel things away like pack rats (a mixed metaphor, to be sure, but one based on our mammalian habits). At The Huntington, curators have harnessed this tendency and raised it to a high art with science as the theme. Since our ancestors' earliest days on the savannah, hunting, scavenging, and especially gathering, we've relied on scientific thinking. For me, science is how we know nature and natural laws. Science is also the body of knowledge—what we've learned in biology, astronomy, chemistry, physics, and geology. It's exciting, and it's right here, on these pages.

Ever since flat sheets of animal skins or intestines (vellum) and plant-based paper were developed along with paint, inks, quills, and brushes, naturalists have made drawings of plants and animals. People have drawn maps. People have published ideas, equations, and checklists. Since mechanical printing was invented, the storage and sharing of ideas has become commonplace and wonderful. Along with moveable, ink-worthy type, intricate lithographs enabled artisans to print and duplicate detailed images.

A problem for anyone trying to find any bit of information—a phone number, an address, physical or electronic, a recipe, or a list of groceries—is how to organize that information. It is the art and science of managing a library. The curators at The Huntington looked their science collections over, ever so carefully, and came

up with five categories, five places to start. In these five volumes, the reader finds neatly packed layers of information unfolding with each turn of the page.



We begin with *Worlds Alive*. It's largely the work of naturalists, people who studied and cataloged the natural world. This collection is a product of The Huntington's books, its gardens—and its art. When I think of how knowledge was accumulated and stored in the centuries before I was born, I think of exquisite images and descriptions like these. They're visual poetry. The naturalists who created these illustrations were and are capable of careful observation coupled with uncanny attention to detail and amazing artistic ability. If you've ever taken an hour, or even a few moments, to contemplate the mechanism of a flower, a fly's wing, or a bird's feathers, it can stop you in your tracks. How did all these structures come to be? How did they come to be so beautiful and to function so beautifully? The science is on these pages.



Speaking (or reading) of humans is *Worlds Within*. Biology begets biology. Here you'll find descriptions of anatomy and our early ideas about the functions of organs. Imagine medicine without knowing what goes on inside us. Imagine a time when people might live by hunting and butchering animals without even a rudimentary understanding of the function of the majority of their, or our, organs. From our 21st-century vantage, it's a little hard to believe, but here's the evidence. There are images of oddball paper-board devices, also carefully preserved and presented, that were believed to help us understand the nature of thought by working from the outside in. You can follow the path of medical progress. With this history in mind, you may find yourself spinning a story of your own about the future of health and medicine.



Having wandered Earth while wondering what's inside ourselves, next we look down. *Worlds Below* takes us beneath our feet. Take in the earnest early speculations as to what makes volcanoes spew molten rock to create veins of minerals. Follow along as miners and explorers become geologists. What were once mysteries on Earth's surface become discoveries deep below ground and beneath the waves of the trackless ocean. It was not very long ago that ancient wetlands were discovered and exploited to become our fossil fuels. It was not *that* long ago that we figured out just *how* long ago our world came to be. And it was not until very recently that we discovered that the surface of our world is composed of enormous bumping, grinding, jostling slabs or plates of cooled crust. It all unfolds here.

Having shown ourselves that our world is a round one, a planet among countless others in the Cosmos, we turn the page and look up to *Worlds Above*. These are the breathtaking images of our world from outer space. So much of what we learned about our place among the stars was discovered just down the street and up the mountain from The Huntington at the Mount Wilson Observatory and at NASA's Jet Propulsion Lab. As this section unfolds, you'll find images that changed the world, or leastways the way we understand it. These pictures and writings have inspired generations of scientists, artists, and engineers.

By the way, if you know where to look in The Huntington's archives, you'll find plenty about The Planetary Society. It's the world's largest independent space organization. It was founded by the astronomer Carl Sagan; Bruce Murray, the head of Pasadena's Jet Propulsion Lab; and Lou Friedman, Doctor of Astronautics. They felt that government support of space exploration should be as robust as the public interest in it, a mission as valuable as ever. (Disclosure: I led The Planetary Society from my office in Pasadena for 15 years.)

At last, we look at views of the future: *Worlds Beyond*. Here, the curators have included images and ideas about what a future world would be like from vantage points in the past. It seems that with the progress of science, people presumed the future would be better for all humankind. As these pages unfold, we glimpse what 16th-century Europeans believed Africa was like, and what Disco Era futurists believed utopian space settlements could be. Wild or errant as some of these science fictional musings may seem, they were or are based on real science. In this science fiction, the future is bright—it always has been.

Speaking (or reading) of the future, the immediate kind, before you turn the page and begin your tour of *Worlds Unfolding*, keep in mind, no one before you could do this. No one before you (us) could have accumulated or curated this much knowledge, this much information, a record of scientific progress as complete as you have on these pages. We are living at the most exciting time ever. Read on.

Bill Nye

The Science Guy

Notes to the Reader

BOOKS

Why five books? Our curatorial team wanted to break free of the chronological or linear approach that a single book devoted to a discipline can (and often does) imply. There is no prescribed path for human curiosity or discovery, as the materials herein make clear. Enter any world at random and according to whim. The hope is that you will find a world as complex, fallible, and revelatory as the history of science itself.

SYMBOLS

Each of the volumes in this publication is represented by a symbol or unicode glyph:

» Above ⌘ Below ☉ Within ⚡ Alive ✂ Beyond

A symbol appearing in the margin of a text indicates a cross reference in one of the five books.

HANDS

The Huntington is an active research library where millions of objects are available to be touched and examined. More than 2,000 scholars (called “readers”) consult the collections each year; there is an entire Reader Services department devoted to helping researchers find the materials they need. The hands of these dedicated professionals appear in the contemporary photographs threading throughout this publication’s pages.

And contrary to popular myth, *clean hands*—not white gloves—are the safest, most effective method for handling rare books and other fragile paper materials. Nitrile gloves are donned for wood, glass, ivory, brass, or other materials at risk of damage from the hand’s natural oils. Spread the word.

Acknowledgments

How does one approach, in a single project, the history of science by way of a library that contains millions of objects? This is a daunting remit. After three years of object reviews, conversations with experts, extensive research, and vigorous debate, the answer to the question finally became clear. You approach something like this one day at a time and with *a lot* of help. Our small but mighty curatorial team relied upon a crowd of generous scholars, colleagues, and passionate professionals to bring this publication into the world.

An outside advisory committee helped launch our efforts and remained available to answer questions along the way. We thank Felecia Davis, Yulia Frumer, Isabel Hawkins, Vera Keller, Joe Parker, Nydia Pineda de Ávila, Banu Subramaniam, and Steve Usselman for their early and incisive support. We further relied on the translation and interpretation skills of Thomas Gimbel, Elena G. Mailander, Lorenzo Voltolina, and Leslie Dávila.

The Huntington attracts subject specialists, collectors, curators, and creative thinkers from near and far, and we gratefully drew on the expertise of Dale T. Anderson, Brian Barbier, Paola Bertucci, James Bier, Carla Bittel, Bill Burns, William Deverell, Diane Ehrenpreis, Martín Nicolás Fernández-Ordóñez, Louis Friedman, W. Bruce Fye, Fabiola García Rubio, Ann-Katrin Gill, Kevin Gilmartin, William K. Hartmann, John Johnson, Scott Jordan, Wendy Kaplan, Nina Katchadourian, Diana L. Kormos-Buchwald, Gabriela Soto Laveaga, Peter Mancall, Stephen Markel, Carla Mazzio, Rebecca McGrew, Nick Menzies, Mario Molina, Robert Peck, Lois Rosson, Jennifer Saracino, Foy D. Scalf, Arlene Shaner, Christine Sposari, Chris Stanton, Celeste M. Thomson, Jennifer Tucker, Jennifer Vaughn, Harold Wallace, Benjamin Weiss, Peter J. Westwick, Juliet Wiersema, and Heather L. Williams.

This institution is also filled with experts at all ranks who are fiercely committed to the work that they do. Our gracious, intelligent colleagues accompanied us on this book journey every step of the way. In the Botanical division, we asked endless questions, which were answered with speed and aplomb by Michelle Bailey, Phillip Bloom, Erik De Leon, Brian Dorsey, Raquel Folgado, Robert Hori, Sean Lahmeyer, Sandy Masuo, Melissa Pankuch-Hernandez, Danielle Rudeen, Brandon Tam, and John Trager. We likewise received essential assistance from Lindsey Hansen and Alexis Recto in the Art division; Brett Rushforth in Research; and Yvonne Lee and Leslie Parry in Digital and Technology. Sarah Basile and her Advancement cohort made the project fiscally possible.

Our Library division coworkers tracked down objects, offered research advice, untangled catalog knots, purchased and repaired books, all while offering moral support and abundant good cheer. Each and every one of them deserves fulsome praise, including current and former Curatorial Department peers Kristen Anthony, Peter Blodgett, Erin Chase, Alanna Davey, Sarah Francis, Josh Garrett-Davis, Diego Godoy, Linde Lehtinen, Alan Jutzi, Dave Mihaly, Karla Nielsen, Kate Ramsey, Cameron Robertson, Krystle Satrum, Clay Stalls, Steve Tabor, Olga Tsapina, Vanessa Wilkie, and Li Wei Yang; Preservation Department conservators and technicians Amanda Burr, Austin Plann Curley, Jessamy Gloor, Mitchel Gundrum, Veronica Mercado Oliveras, Holly Moore, Kristi Westberg, and Jacob Yanes; and our ever-helpful Technical Services friends Dorothy Auyong, Livia Hirsch-Shell, Suzanne Oatey, and Angie Ponce. Mona Shulman, Assistant to the Avery Director of the Library, can (and does) make every rocky road smooth.

Without the heroic assistance of Reader Services (RS) and Digital Collections and Imaging Services (DCIS), this book project would have ground to a halt. Anne Blecksmith and her entire staff provided a lively home to Jenny Watts despite an office shortage, treating her as one of their own. Kevin Miller, Mark Fleming, and James Kitahara walked hundreds of miles to retrieve items quickly and without complaint. When we put out a call to assist with a photo shoot, RS staff eagerly volunteered. The hands (and occasional faces) of Adrian Aviles, Ariana Celis, Barbara Alvarado Gyorgyovich, Lo Holm, Kevin Miller, Madeline Northcote-Smith, Jazmin Rew-Pinchem, Mariella Seltzer, and Addy Stupin appear in these pages. The outstanding quality of the archival images in this publication is owed to Mario Einaudi and the DCIS staff who managed, tracked, organized, tagged, and scanned *thousands* of images from which we made an agonizing, final selection. Mad thanks to Mario and his team, including Veronica Aguirre, Dana Barsuhn, Manuel Flores, Anna Kim, Holly Mendenhall, Ibarionex Perello, and Travis Flack.

Senior staff leadership at The Huntington championed this project at every turn, providing the confidence and funds that allowed us to spread our curatorial wings. Abundant thanks to Karen Lawrence, President; Sandra Brooke Gordon, Avery Director of the Library; Randy Shulman, Senior Vice President for Advancement and External Relations; Janet Alberti, Anne and Jim Rothenberg Senior Vice President and Chief Financial Officer; Susan Juster, W. M. Keck Foundation Director of Research; Christina Nielsen, Hannah and Russel Kully Director of the Art Museum; Nicole Cavender, Marge and Sherm Telleen/Marion and Earle Jorgensen Director of the Botanical Gardens; and Heather Hart, Vice President for Digital and Technology.

The 2006 gift of the Burndy Library was transformative, providing new fellowships and staffing, and moving The Huntington to the front ranks of the world's history of science and technology collections. Heartfelt thanks to previous Huntington leaders—President Steven S. Koblik and Library Director David Zeidberg—who orchestrated the complexities of acquiring the library, and to Brent Dibner and his family, who were always forthcoming, gracious, and helpful.

The look and feel of *Worlds Unfolding* is due to the technical, creative, and design abilities of some exceptionally talented folks. Ava Porter provided film stills from our historic motion picture collections. The contemporary photography of Anna Beeke and Heather Rasmussen made the project come alive. Tony Manzella, Michael Lane, and Marie Astrid Gonzalez of Echelon made the 600-plus images in this publication sing. Abundant thanks to all of them for their enthusiastic labors on The Huntington's behalf. As for the brilliant design team of Content Object Design Studio (C/O), Kimberly Varella and Gabrielle Pulgar, what can we say? It is a rare privilege to work with people at the very top of their game. It's even rarer to find trusted collaborators who make the process both generative and fun. And where would we be without the skill, care, and guidance—not to mention equanimity—of Jean Patterson and Mindy Chen? This superb duo, the Huntington's publications team, kept us on track with style and calm, senses of humor intact.

It's been a dream to partner with Princeton University Press on this publication. Michelle Komie and colleagues Ruthie Rosenstock, Annie Miller, Jodi Price, Charlotte Coyne, Ceylan Akturk, and Taylor Sumereau provided welcome guidance and support.

All hail Bill Nye, "The Science Guy," who wrote such an eloquent introduction to this book. As a beloved educator who has instilled a love of science to generations of viewers, he intuitively understands the importance of The Huntington's collections and the planet's urgent need for rigorous, research-based thinking and writing.

Most importantly, *Worlds Unfolding: Science on the Page* exists thanks to the generous support provided by Mario and Therese Molina, Wendy Munger and Leonard L. Gumport, the Rothenberg Family, the Tianqiao and Chrissy Chen Science Initiative, Charles and Valerie Elachi, The Francis Bacon Foundation, the John Brockway Huntington Foundation, and Melvin R. Seiden and Janine Luke.

Last and never least, the authors wish to thank our families, who supported us behind the scenes.

Contributors

JENNIFER A. WATTS is Senior Curator for Library Special Projects at The Huntington. She previously oversaw The Huntington's extensive photography collection and has curated numerous exhibitions and related award-winning publications. Her recent books include *Nineteen Nineteen* and *A Strange and Fearful Interest: Death, Mourning, and Memory in the American Civil War*.

DANIEL LEWIS is Dibner Senior Curator for the History of Science and Technology at The Huntington. An environmental historian, Lewis's recent books are *Twelve Trees: The Deep Roots of Our Future* and *Belonging on an Island: Birds, Extinction, and Evolution in Hawai'i*. Lewis maintains a faculty appointment at the California Institute of Technology and has held postdoctoral fellowships at Oxford University, the Smithsonian, and the Rachel Carson Center for Environment and Society in Munich.

DR. JOEL A. KLEIN is Molina Curator for the History of Medicine and Allied Sciences at The Huntington. His research concerns the history of early modern medicine and "chymistry" with a focus on 17th-century Germany. Dr. Klein has held fellowships at the Science History Institute in Philadelphia and the Center for Science and Society at Columbia University, where he worked on the Making and Knowing Project.

NATALIE LAWLER is Assistant Curator for Library Special Projects, focused on The Huntington's history of science collections. She is also a visual artist and independent scholar. Her research and studio practice explores the history of painting materials and the languages of color—its visual, verbal, and tactile translations across media. She has worked in cultural institutions in Los Angeles, Glasgow, Rome, Aracena, and Vigo.

BILL NYE is an American science educator, engineer, television presenter, inventor, and *New York Times* bestselling author. As the co-creator and host of the Emmy Award-winning 1990s television series *Bill Nye the Science Guy*, Nye helped introduce generations of viewers to science and engineering in an entertaining and accessible manner, fostering an understanding and appreciation for the science that makes our world work. Today, he is a respected champion of scientific literacy who has challenged opponents of evidence-based education and policy on climate change, evolution, and critical thinking. In 2025, Nye was honored with the Presidential Medal of Freedom, the highest civilian honor, by President Biden in recognition of his dedication to science education, included in the TIME 100 Health list for his advocacy on behalf of ataxia, a rare genetic disease affecting his family, and received a star on the iconic Hollywood Walk of Fame as a testament to his legacy and lasting impact on the entertainment industry. Nye served as CEO of The Planetary Society, the world's largest and most influential non-governmental space organization co-founded by Carl Sagan, for 15 years, and is now the Vice Chair of the Board of Directors and Chief Ambassador for the organization. He earned his Bachelor of Science degree in mechanical engineering from Cornell University and currently resides in Washington, DC, and Los Angeles with his wife.

List of Illustrations

All items are in the collections of the Huntington Library, except where noted.
Creators and life dates are indicated if known.

✧ **Alive** (15–17) ☉ **Within** (17–20) » **Above** (20–23) ↗ **Beyond** (23–25) ≡ **Below** (25–28)

✧ **Alive****FRONT COVER**

Woman holding large-seeded Rey avocado variety, Guatemala, ca. 1900s. Jack Shepherd papers. Botanical Library

INSIDE FRONT COVER

Experimental Station, Palo Alto, California, 1878, in *The Attitudes of Animals in Motion*, 1881. Eadweard Muybridge (1830–1904). Gift of Friends of the Huntington Library, 1965. 380143

FRONT FLAP

Animal Locomotion, 1887. Eadweard Muybridge (1830–1904). 337398

BACK COVER

The Cactaceae, 1919–23. Nathaniel Lord Britton (1859–1934) and J. N. Rose (1862–1928), authors; Mary Emily Eaton (1873–1961), artist. 481063

INSIDE BACK COVER

Apollo 11 view of Earth rise, 1969. NASA. The Planetary Society records. mssPlanetary

BACK FLAP

Application of the Blue Blot to a Group of Blue Flowers in An Essay on Light and Shade, 1808. Mary Gartside (1755–1819). 401071

1 *Lemon packing house, Leffingwell Rancho, Whittier, California*, 1936. “Dick” Whittington Studio (1924–87). “Dick” Whittington Studio collection of negatives and photographs. photCL Whitt 1610

2 *Nursery of Toshio Yamabe, Los Angeles*, 1936. G. Haven Bishop (1879–1972). Southern California Edison collection of negatives and photographs. photCL SCE

4 *Chemical Atlas; or, The Chemistry of Familiar Objects*, 1857. Edward L. Youmans (1821–1887). Burndy Library collection. 752174

7 *Picking grapes at Fair Oaks Ranch, Pasadena, California*, ca. 1885. Fair Oaks Ranch photographs. Gift of Mildred Crank, 1935–1938. photCL 6

8 *Wepper Nursery, Inglewood, California*, 1936. G. Haven Bishop (1879–1972). Southern California Edison collection of negatives and photographs. photCL SCE

Above

9 *Metamorphosis insectorum Surinamensium* (Metamorphosis of the insects of Suriname), 1730. Maria Sibylla Merian (1647–1717). 145365

10 Film stills from *Laurel Sabino y Jagüilla*, 2019. Beatriz Santiago Muñoz (born 1972). Courtesy of the artist

11 *Musurgia universalis* (Universal musical arts), 1650. Athanasius Kircher (1602–1680). 137945

12–13 *Songs of the Humpback Whale*, 1970. Roger S. Payne (1935–2023). Burndy Library collection. 762376

14 *Hortus floridus* (Garden of flowers), 1615. Crispin van de Passe (died 1670). Gift of the Friends of the Huntington Library. 358000

15 *Twelve Months of Flowers*, 1730–32. Robert Furber (ca. 1674–1756), author; Pieter Casteels III (1684–1749), artist. 498709

16–17 Planisphere with Zodiac signs and figures representing the four seasons, in portolan atlas,

ca. 1550–99. Francesco Ghisolfi (active 16th century). mssHM 28

18 *Metamorphosis naturalis* (Natural metamorphosis), 1662–69. Johannes Goedaert (1617–1668). 480608

Microscopic Anatomy of the Human Body, 1849. Arthur Hill Hassall (1817–1894). Los Angeles County Medical Association collection. 603644

18–19 *Histoire générale des insectes* (General history of insects), 1682. Jan Swammerdam (1637–1680). 478636

20–21 *Honzō zufu* (Illustrated materia medica), 1916–22. Iwasaki Kan'en (1786–1842). Burndy Library collection. 712672

22 *Der monatlich-herausgegebenen Insecten-Belustigung* (The monthly published insect entertainment), 1746–61. August Johann Rösel von Rosenhof (1705–1759). 378943

23 *How to Work with the Microscope*, 1868. Lionel S. Beale (1828–1906). Burndy Library collection. 712468

24 *Cuffs solar microscope in camera obscura room in Mikroskopische Gemüths- und Augen-Ergötzung* (Microscopic delights for the mind and the eye), 1760. Martin Ledermüller (1719–1769). 482156

Discern

25 Thistle stalk in *The Anatomy of Plants*, 1682. Nehemiah Grew (1641–1712). 14186

26 *Drops of Water*, 1851. Agnes Catlow (ca. 1807–1889). Gift of Mr. Thomas V. Lange. 498984

27 Nettles and other venomous plants in *Micrographia*, 1665. Robert Hooke (1635–1703). The Carnegie Institution of Washington collection at the Huntington Library. 487000:0930

How to Use the Microscope, 1925. Charles A. Hall (1872–1965). A & C Black book collection. Gift of Harold L. and Dorothy Galitz, 1997. 499150:270

28 Details from *Mikroskopische Gemüths- und Augen-Ergötzung* (Microscopic delights for the mind and the eye), 1760. Martin Ledermüller (1719–1769). 482156

29 Pocket compound microscope with slides, ca. 1850. Great Britain. Burndy Library collection. 10276A–B

30 *An Exposition of English Insects*, 1782. Moses Harris (1730–ca. 1788). 493540

An Introduction to Botany, 1811. Priscilla Wakefield (1751–1832). 406541

31 *Hakubutsu shinpen yakkai* (New translation and explanation of natural history), 1869–70. Benjamin Hobson (1816–1873), author; Ōmori Ichū (1844–1908), translator. Burndy Library collection. 720158

32 *Icones avium omnium* (Images of all birds), 1555. Conrad Gessner (1516–1565). Burndy Library collection. 762371

33 *The Cabinet of Natural History and American Rural Sports*, 1830. J. & T. Doughty (born 1830), publisher; James G. Clonney (1812–1867), artist. 335635

34 Album of botanical paintings, 1756–67. Mary Parker, Countess of Macclesfield (1726–1812). Purchased by the Library Collectors' Council, 2022. mssHM 84100

35 *Répertoire de couleurs pour aider à la détermination des couleurs des fleurs, des feuillages et des fruits* (Directory of colors to aid the determination of the colors of flowers, leaves, and fruits), 1905. Henri Dauthenay and René Oberthür (1852–1944). Burndy Library collection. 712801

36 *An Essay on Light and Shade*, 1808. Mary Gartside (1755–1819). 401071

37 *Werner's Nomenclature of Colours*, 1814. Abraham Werner (1749–1817) and Patrick Syme (1774–1845). Jay T. Last collection of graphic arts and social history. 656883

38 Proof copy of *The Genus Masdevallia*, 1896. Florence Woolward (1854–1936). Botanical Library. QK495.O64 W6

39 *A Monograph of the Ramphastidae, or Family of Toucans*, 1834. John Gould (1804–1881), author; Elizabeth Gould (1804–1841), artist. 128921

40 *Historiae sive synopsis methodicae conchyliorum* (History, or a methodical synopsis, of shells), 1685–92. Martin Lister (1639–1712), author; Susanna Lister (1670–after 1708) and Anna Lister (1671–after 1695), artists. 478606

Illustrate

41 Mounted samples in *Algae and Corallines, of the Bay and Harbor of New York*, 1850. C. F. Durant (1805–1873). 23855

42 *As Nature Shows Them*, 1900. Sherman F. Denton (1856–1937). Burndy Library collection. 722194

43 *The Ferns of Great Britain and Ireland*, 1855. Thomas Moore (1821–1887), author; Henry Bradbury (1829–1860), artist. 350317

Ink print of *Iwana* (Char), Asuwa River Tributary, Shirakuradani. Length: 33cm. Weight 340g.,

March 17, 1966. Kamiya Shûichi, fisher. Burndy Library collection

44 *The American Woods*, 1893–1913. Romeyn Hough (1857–1924). 314726

45 Album of British seaweeds, ca. 1860. Burndy Library collection. mssHM 84127

46 *Historiae sive synopsis methodicae conchyliorum* (History, or a methodical synopsis, of shells), 1685–92. Martin Lister (1639–1712), author; Susanna Lister (1670–after 1708) and Anna Lister (1671–after 1695), artists. 478606

47 *A Monograph of the Ramphastidae, or Family of Toucans*, 1834. John Gould (1804–1881), author; Elizabeth Gould (1804–1841), artist. 128921

48 *The Cactaceae*, 1919–23. Nathaniel Lord Britton (1859–1934) and J. N. Rose (1862–1928), authors; Mary Emily Eaton (1873–1961), artist. 481063

49 *Bookbinder Louise Averill Cole at her workbench*, 1904. Louis Jacobs. L. Averill Cole Collection. mssCole

50 *Portrait of Albertus Seba in Locupletissimi rerum naturalium thesauri* (A most rich treasury of natural things), 1734–65. Albertus Seba (1665–1736) et al. 145364

Collect

51 *Locupletissimi rerum naturalium thesauri* (A most rich treasury of natural things), 1734–65. Albertus Seba (1665–1736) et al. 145364

52 *Venenates ferarum, avium, piscium* (Hunts of wild animals, birds, fish), ca. 1596. Jan van der Straet (1523–1605). Burndy Library collection. 761928

53 *Hunting big game in Africa*, 1911. Stewart E. White (1873–1946). Stewart Edward White photograph collection. Gift of Harwood A. White, 1947. photCL 426

Gründliche Anweisung alle Arten Vögel zu fangen (Thorough instructions for catching all kinds

of birds), 1754. Ferdinand Adam von Pernauer (1660–1731) et al. 143895

54 *Agave albicans* (*Agave mitis*), Mexico. Item number one in The Huntington's Accession Register for Living Collections, ca. 1930s. William Hertrich photograph collection. photCL 728

Accession Register for Living Collections, The Huntington, 1932–present. Edward Eric Walther (1892–1959) et al. Botanical Library

55 *Plant expedition to Mexico for Huntington estate*, 1911. Henry E. Huntington Estate photograph collection. photCL 107

56 Lantern slide of *Cereus milesimus* (*Cereus peruvianus*), ca. 1920s. William Hertrich (1878–1966). William Hertrich photograph collection. photCL 728

Lantern slide of *Lemaireocereus euphorbioides* (*Cephalocereus euphorbioides*), ca. 1920s. William Hertrich (1878–1966). William Hertrich photograph collection. photCL 728

57 *William Hertrich, Henry Huntington's ranch manager, with Agave attenuata*, ca. 1915. Henry E. Huntington Estate photograph collection. photCL 107

58 *Young girl named Susana with a wild varietal of avocado*, ca. 1900s. Jack Shepherd papers. Botanical Library

Cultivate

59 *Vues des Cordillères, et monumens des peuples indigènes de l'Amérique* (Views of the American Cordillera, and monuments of the Indigenous peoples of the Americas), 1813. Alexander von Humboldt (1769–1859), author; Pierre Antoine Marchais (1763–1859), artist. 88919

60 *Man at the base of a large avocado tree, Chimaltenango, Guatemala*, ca. 1900s. Jack Shepherd papers. Botanical Library

Promotional brochure, after 1980. CALAVO Growers of California. Jack Shepherd papers. Botanical Library. Courtesy of CALAVO

61 *Avocado #18, Antigua, with ruler*, ca. 1910s. Jack Shepherd papers. Botanical Library

Women packing CALAVO avocados, 1947. Jack Shepherd papers. Botanical Library. Courtesy of CALAVO

62–63 *Research botanist Dr. Raquel Folgado and the Huntington Cryobiotechnology Laboratory*, 2024. Anna Beeke (born 1984)

64 *Fowles of Heaven manuscript*, ca. 1613. Edward Topsell (1572–ca. 1625). Egerton family papers. mssEL 1142

65 *Lyon Spotlight Egg Tester*, ca. 1938. Doug White (active 1930s–1950s). Southern California Edison collection of negatives and photographs. photCL SCE

Laura Scudder Ranch, Puente, California, ca. 1938. Doug White (active 1930s–1950s). Southern California Edison collection of negatives and photographs. photCL SCE

Poultry house lighting, Young Ranch, Downey, California, ca. 1938. Doug White (active 1930s–1950s). Southern California Edison collection of negatives and photographs. photCL SCE

66 “The Association of Comb and Crest Characters in Domestic Fowl,” in *Journal of Heredity*, January 1930. Morley A. Jull (1885–1959). Botanical Library. S494.A2 J7

67 *Dr. Jones examining a chicken, Poultry Pathological Laboratory, Los Angeles*, ca. 1938. Doug White (active 1930s–1950s). Southern California Edison collection of negatives and photographs. photCL SCE

68 *Man wearing a gas mask*, 1931. Los Angeles County Department of Health Services collection. photCL 396

Control

69 *Methodik der physiologischen Experimente und Vivisectionen* (Methodology of physiological experiments and vivisections), 1876.

Elie de Cyon (1843–1912). W. Bruce Fye collection of cardiovascular medicine, surgery, science, and technology. 655780

70 *Experimenta nova anatomica* (New anatomical experiments), 1645. Jean Pecquet (1622–1674). Los Angeles County Medical Association collection. 622545

71 *Leçons de physiologie opératoire* (Lectures on experimental physiology), 1879. Claude Bernard (1813–1878). W. Bruce Fye collection of cardiovascular medicine, surgery, science, and technology. 655556

The British Vivisectioners' Directory, 1890. Benjamin Bryan (born 1840). 634895

72–73 Book jacket of *The Island of Dr. Moreau*, 1896 (2021 edition). H. G. Wells (1866–1946), author; Benz & Chang, artist. Burndy Library collection. 722245. © Benz and Chang, 2021

74 *Portrait of Joseph Meister after surviving rabies*, 1885. Paul Rochas & Bannel. Burndy Library collection. mssPasteurcollection

Business card for Hôpital de Chiens (dog hospital), Paris, with Louis Pasteur's handwritten notes on "Rage" (rabies), ca. 1880s. Burndy Library collection. mssPasteurcollection

75 Reports on plague in Los Angeles, 1924–25. California State Board of Health. Los Angeles County Medical Association collection. mssHM 72874

76 *Careers in Agribusiness* newsletter, 1969. The Packer. Jack Shepherd papers. Botanical Library

Color Handbook of Citrus Diseases, 1948. Leo Joseph Klotz (1895–1984). Botanical Library. SB608.C5 K69

77 *Fumigation tent marking height of citrus tree, F. A. Little Ranch, Riverside, California*, ca. 1915. Lemon Men's Club collection. photCL 290

Fumigation crew, Covina Citrus Association, 1915. Lemon Men's Club collection. photOV 10756

78 Brochures advertising natural resources of Brazil, 1939. Golden Gate International Exposition. Foreign ephemera collection. PriEph

79 *Answers to Questions Frequently Asked about Bananas* brochure, 1955. United Fruit Company. Gift of Gary D. Wallace, 2016. 645987

Statistical Chart of the State in Espirito Santo, Brazil, 1932. Companhia Central Brasileira de Força Elétrica. Foreign ephemera collection. PriEph

80 *Pacific Coast Scenery*, 1872. Thomas Houseworth & Co. (active 19th century). 296133

81 *Redwood and Lumbering in California Forests*, 1884. Edgar Cherry & Company (active 19th century). 31726

82–83 *Redwoods, Bull Creek Flat, Northern California*, 1960, in *Portfolio IV: What Majestic Word*, 1963. Ansel Adams (1902–1984) photographer; Sierra Club, publisher. Gift of George Melvin Byrne and Barbara S. Barrett-Byrne, 2014. photCL 547. © The Ansel Adams Publishing Rights Trust

84 Crankcase smog device pamphlet, ca. 1960s. California Motor Vehicle Pollution Control Board. California ephemera collection. PriEph

85 Telegram to automakers, 1955. Kenneth Hahn (1920–1997). Gift of Kenneth Hahn, 1998. mssHahn

Smog, 1970. Kenneth Hahn (1920–1997). Gift of Kenneth Hahn, 1998. mssHahn

Smog pamphlet, ca. 1960s. California Motor Vehicle Pollution Control Board. California ephemera collection. PriEph

86 *Silent Spring*, 1962. Rachel Carson (1907–1964). 437302

87 *Kunstformen der Natur* (Art forms of nature), 1904. Ernst Haeckel (1834–1919). Burndy Library collection. 753146

88 Detail from *Wayō jikon burui* (Japanese–English vocabulary

guide), 1872. Miki Kōsai (Utagawa Yoshimori) (1830–1885). Burndy Library collection. 720159

Share

89 Album quilt, ca. 1850, New York. Jonathan and Karin Fielding Collection. L2015.41.220

90 *Roger Tory Peterson Bird Guide*, 1934. Roger Tory Peterson (1908–1996). 491570

91 *Wallis's Elegant and Instructive Game Exhibiting the Wonders of Nature*, 1818. Edward Wallis (active 1813–1847). Burndy Library collection. 721801

92 *Wayō jikon burui* (Japanese–English vocabulary guide), 1872. Miki Kōsai (Utagawa Yoshimori) (1830–1885). Burndy Library collection. 720159

93 *Braiding Sweetgrass*, 2020. Robin Wall Kimmerer (born 1953). Burndy Library collection. E98.P5 K56 2020. From *Braiding Sweetgrass* by Robin Wall Kimmerer published by Milkweed Editions (USA) and Penguin (UK). Copyright © Robin Wall Kimmerer, 2013. Reprinted by permission of Penguin Books Limited.

95 *Spreading lime in citrus grove at F. A. Little Ranch, Riverside, California*, ca. 1915. Lemon Men's Club collection. photCL 290

96 *Unidentified farmworker in Southern California*, ca. 1915. Lemon Men's Club collection. photCL 290

⊙ Within

FRONT COVER

Myologie complete en couleur et grandeur naturelle (A complete life-size and color study of the muscles), 1746–48. Gautier D'Agoty (1716–1785). Los Angeles County Medical Association collection. 621845

BACK COVER

Gold wire explosion pattern in *Beschryving eener ongemeen groote electrizeer-machine* (Description of an unusually large electrifying machine), 1786. Martinus van

Marum (1750–1837), author; Jan Christiaan Sepp (1739–1811), artist. 480583

FRONT FLAP

Sanron yoku (Commentary on the theory of childbirth), 1775. Kagawa Genteki (1739–1779). Burndy Library collection. 721916

INSIDE COVER

Beschryving eener ongemeen groote electrizeer-machine (Description of an unusually large electrifying machine), 1786. Martinus van Marum (1750–1837), author; Jan Christiaan Sepp (1739–1811), artist. 480583

BACK FLAP

The Demonstrations of a Pregnant Uterus of a Woman at Her Full Time, 1757. Charles Nicholas Jenty (active ca. 1720–70), author; Jan Van Rymdyk (active 1750–88), artist. Lawrence D. Longo and Betty Jeanne Longo collection in reproductive biology. 648017

1 *Advertisement for Southern California Edison*, 1939. G. Haven Bishop (1879–1972). Southern California Edison collection of negatives and photographs. photCL SCE

2 *Effects obtained with Indian clubs mounted with electric lamps, in Scientific American*, September 9, 1899. 249982

4 *Woman with a Psychograph phrenology machine on her head*, ca. 1931. George W. Haley (1879–1963). Ernest Marquez photograph collection. photCL 555

7 *Compendiosa totius anatomie delineatio* (Compendious delineation of the whole of anatomy), 1545. Thomas Geminus (died 1562). 282300

8 *Andreas Vesalius, Opera omnia anatomica et chirurgica* (Andreas Vesalius, complete anatomical and surgical works), 1725. Hermann Boerhaave (1668–1738) and Bernhard Siegfried Albinus (1697–1770). 334850

Layer

9 *Anatomy of the Bones, Muscles, and Joints*, 1794. John Bell (1763–1820). 408938

10 *Myologie complete en couleur et grandeur naturelle* (A complete life-size and color study of the muscles), 1746–48. Gautier D'Agoty (1716–1785). Los Angeles County Medical Association collection. 621845

11 Pen-and-ink drawing of the title page to Andreas Vesalius's *De humani corporis fabrica* (On the fabric of the human body), date unknown. Jan Stephan van Calcar (ca. 1499–ca. 1546). Edward W. Bodman and Julia B. Bodman collection. 72.62.91

12–13 *Ophthalmodouleia das ist, Augendienst* (Ophthalmodouleia, or the service of the eyes), 1583. Georg Bartisch (1535–ca. 1607). Los Angeles County Medical Association collection. 631161

14 *The Demonstrations of a Pregnant Uterus of a Woman at Her Full Time*, 1757. Charles Nicholas Jenty (active ca. 1720–70), author; Jan Van Rymsdyk (active 1750–88), artist. Lawrence D. Longo and Betty Jeanne Longo collection in reproductive biology. 648017

15–16 *Dr. Minder's Anatomical Manikin of the Female Human Body*, 1905. William Samuel Furneaux (1855–1940) and Dr. Ethel Mayer (active 1900s). Lawrence D. Longo and Betty Jeanne Longo collection in reproductive biology. 648033

17 *Planches anatomiques du corps humain exécutées d'après les dimensions naturelles* (Anatomic plates of the human body made to life scale), 1823–26. François Antonmarchi (1789–1838). Gift of Dr. Cindy and John Carson, 2021. 633351

18 *Myologie complete en couleur et grandeur naturelle* (A complete life-size and color study of the muscles), 1746–48. Gautier D'Agoty (1716–1785). Los Angeles County Medical Association collection. 621845

19 *Ophthalmodouleia das ist, Augendienst* (Ophthalmodouleia, or the service of the eyes), 1583. Georg Bartisch (1535–ca. 1607). Los Angeles County Medical Association collection. 631161

20 *The Demonstrations of a Pregnant Uterus of a Woman at Her Full Time*, 1757. Charles Nicholas Jenty (active ca. 1720–70), author; Jan Van Rymsdyk (active 1750–88), artist. Lawrence D. Longo and Betty Jeanne Longo collection in reproductive biology. 648017

Labor

21 *The Birth of Mankind*, 1634. Thomas Raynalde (active 1540–51). 21795

22 *Sanron yoku* (Commentary on the theory of childbirth), 1775. Kagawa Genteki (1739–1779). Burndy Library collection. 721916

23 *Kamisei Shūchin Sanka Mokei* (Obstetrical pocket-phantom), ca. 1900–1910. Shibata Kōichi (born 1860). Burndy Library collection. mssHM 83833

24 Ivory anatomical mannequin, late 17th or early 18th century. Attributed to Stephan Zick (1639–1715). Gift of the Edward J. Bodman and Julia Bodman estate, 1972. 653419

25 Midwife's account book from Towcester, England, 1803–13. Lawrence D. Longo and Betty Jeanne Longo collection in reproductive biology. mssHM 83509

26–27 *Die Chur-Brandenburgische Hoff-Webe-Mutter* (The electoral Brandenburg court midwife), 1690. Justina Siegemund (1636–1705). Lawrence D. Longo and Betty Jeanne Longo collection in reproductive biology. 648540

28 *Libro para la madre mexicana* (Book for the Mexican mother), 1933. Manuel Martinez Baez (1894–1987), editor; Aída Sullivan de Rodríguez, (1904–1975), publisher. Burndy Library collection. 721908

29 Great Beginnings for Black Babies brochure, ca. 1990s. California Department of Health Services. Gloria Molina papers. Gift of Gloria Molina, 2014 and 2017. mssMolina

Prenatal care leaflet, ca. 1998. Coalition for Humane Immigrants' Rights of Los Angeles (CHIRLA).

Gloria Molina papers. Gift of Gloria Molina, 2014 and 2017. mssMolina

30–31 *Hey Beatnik! This is the Farm Book*, 1974. Stephen Gaskin (1935–2014) and The Farm. 492138. Courtesy Book Publishing Company

32 *Augenärztliche Instrumente* (Ophthalmologist instruments), 1929. Carl Zeiss company. Los Angeles County Medical Association collection. 605819

Detect

33 Author's copy of *Atlas de microbiologie* (Atlas of microbiology), 1898. Eugène Macé (1856–1938), author; M. Christ Doctoroff, artist. Burndy Library collection. 712957

34 *Pathologie iconographique du fond de l'oeil* (Iconographic pathology of the fundus of the eye), 1870. Arthur de Montméja (born 1841). Gift of Jeremy M. Norman, 2008. 623001

Pathological anatomy, 1838. Robert Carswell (1793–1857). Los Angeles County Medical Association collection. 631669

35 *The Microscopic Anatomy of the Human Body, in Health and Disease*, 1849. Arthur Hill Hassall (1817–1894). Los Angeles County Medical Association Collection. 603644

36 Notes and pencil sketches regarding fermentation and yeast, ca. 1860–70s. Louis Pasteur (1822–1895). Burndy Library collection. mssPasteurcollection

37 *All About Milk*, 1923. Milton Joseph Rosenau (1869–1946). Gift of Roy P. Muehlberger, 2005. 613223

38 Standard Scale of Urinary Colors, 1919, in *Health Knowledge*, 1927. John Leader Corish (1865–1945). Burndy Library collection. 722249

39 *Urinarium probationes* (Tests of urines), 1582. Jodocus Willich (1501–1552). Los Angeles County Medical Association collection. 622882

Chemical Urinalysis, 1898. Hubert C. Carel (born 1872). Burndy Library collection. 712872

40 *Color Problems*, 1902. Emily Noyes Vanderpoel (1842–1939). Burndy Library collection. 710255

41 *Tests for Color Blindness*, 1953. Shinobu Ishihara (1879–1963). Burndy Library collection. 721811

42 *Staged photograph of an 1896 gunshot X-ray*, ca. 1930, published in *Wilhelm Conrad Röntgen and the Early History of the Roentgen Rays*. Otto Glasser (1895–1964), author; Julius Boldtman (active 1920s–1930s), photographer. Otto Glasser and Wilhelm Röntgen papers. Burndy Library collection. mssGRP

43 *The X-ray, or Photography of the Invisible and Its Value in Surgery*, 1896. William J. Morton (1846–1920). Burndy Library collection. 710198

Newborn Rabbit in Versuche über Photographie mittelst der röntgen'schen Strahlen (Experiments in photography by means of X-rays), 1896. Josef Maria Eder (1855–1944) and Eduard Valenta (1857–1937). Burndy Library collection. 762316

44 *X Ray Waltzes* sheet music, 1896. Harry L. Tyler. Jay T. Last collection of graphic arts and social history. prjJLC SMUS

45 *Woman and X-ray equipment in doctor's office*, 1959. Joseph Fadler (1924–2013). Southern California Edison collection of negatives and photographs. photCL SCE

46 *Nurses at Barlow Respiratory Hospital, Los Angeles*, 1993. Gift of Barlow Respiratory Hospital, 2025. mssBarlow

Heal

47–48 *Food and Cookery for the Sick and Convalescent*, 1904. Fannie Merritt Farmer (1857–1915). 489362

48 Booke of receipts, November 1695. Magdalen Coward. mssHM 88

49–50 *What Mrs. Fisher Knows about Old Southern Cooking*, 1881. Abby Fisher (born ca. 1831). 276428

51 Hospital notebook, ca. 1863. Walt Whitman (1819–1892). mssHM 1197

52 *A Curious Herbal*, 1739. Elizabeth Blackwell (1699–1758). Gift of the Friends of the Huntington Library. 270004

Rerum medicarum novae Hispaniae thesaurus (Treasury of medical things of New Spain), 1651. Francisco Hernández (1517–1587). 34588

53 *Kōsei “Honzo kōmoku”* (Revised “Compendium of materia medica”), 1672 or after. Li Shizhen (1518–1593). Botanical Library

Datos para la materia médica mexicana (Data for the Mexican materia medica), 1894–1908. Instituto Médico Nacional de México. Los Angeles County Medical Association collection. 622004

54 Mancenillier à feuilles de houx (*Hippomane spinosa*) in *Flore pittoresque et médicale des Antilles* (Picturesque and medicinal flora of the Antilles), 1827–33. Michel Étienne Descourtilz (1775–ca. 1835), author; Jean-Théodore Descourtilz (ca. 1797–1855), artist. 472782

55 Letter from Florence Nightingale to Jessie Lennox, April 10, 1887. Florence Nightingale (1820–1910). Purchased by the Library Collectors’ Council, 2024. mssNight

Nurses at Barlow Respiratory Hospital, Los Angeles, 1993. Gift of Barlow Respiratory Hospital, 2025. mssBarlow

56–57 *Dr. G. Zander’s Medico-Mechanical Gymnastics*, 1893. Alfred Levertin (1843–1919). Burndy Library collection. 722237

58 *The Attitudes of Animals in Motion*, 1881. Eadweard Muybridge (1830–1904). Gift of the Friends of the Huntington Library, 1965. 380143

59 *Health and fitness entrepreneur Paul Bragg with hikers in the Hollywood Hills*, ca. 1930. “Dick” Whittington Studio (1924–87). “Dick” Whittington Studio collection of negatives and photographs. photCL Whitt

60 *Mécanisme de la physionomie humaine* (Mechanism of human physiognomy), 1876. Guillaume-Benjamin Duchenne (1806–1875) and Adrien Alban Tournachon (1825–1903). Burndy Library collection. 705154

Judge

61–62 “Physogs”: *The Novel Card Game*, ca. 1940–49. Waddy Productions. 646244

63 *Phrenology Made Practical and Popularly Explained*, 1860. Frederick Bridges (died 1883). 634893

The Pocket Lavater, or The Science of Physiognomy, 1829. Johann Caspar Lavater (1741–1801). 426800

64 *Peaux rouges* (Red skins), 1884. Roland Bonaparte (1858–1924). photCL 440

66–67 “Feeble-mindedness Today,” in *The Journal of Heredity*, October, 1930. Paul Popenoe (1888–1979). Botanical Library. S494.A2 J7

68 *The Expression of the Emotions in Man and Animals*, 1872. Charles Darwin (1809–1882). 609498

69 *Mécanisme de la physionomie humaine* (Mechanism of human physiognomy), 1876. Guillaume-Benjamin Duchenne (1806–1875) and Adrian Alban Tournachon (1825–1903). Burndy Library collection. 705154

70 Postmortem anatomical sketch of Leon Czolgosz’s brain, October 29, 1901. Edward Anthony Spitzka (1876–1922). Edward Anthony Spitzka and Edward Charles Spitzka papers. mssSpitzka

Mug shot of Leon Czolgosz, 1901. Detective Bureau, Buffalo New York Police Department. Los Angeles County Medical Association photograph collection. photCL 495

71 Newspaper clipping illustrating Leon Czolgosz in his final moments, ca. 1901. Edward Anthony Spitzka and Edward Charles Spitzka papers. mssSpitzka

72 *Oranda shisei erekiteru kyūrigen* (Principles of electricity developed in Holland), 1857 (later edition). Hashimoto Donsai (Sōkichi) (1763–1836). Burndy Library collection. 710586

JoIt

73 *Electric Movement in Air and Water with Theoretical Inferences*, 1899. William G. Armstrong (1810–1900). Burndy Library collection. 761971

74 Tin wire explosion pattern in *Beschryving eener ongemeen groote electrizeer-machine* (Description of an unusually large electrifying machine), 1786. Martinus van Marum (1750–1837), author; Jan Christiaan Sepp (1739–1811), artist. 480583

75 Letter from Giuseppe Re to Marquis Giovanni Francesco Bellone of Casale Monferrato, Italy, March 1786. Giuseppe Re (died 1820). Burndy Library collection. mssHM 83092

76–77 Cylinder electrical machine, ca. 1740. European, possibly Italy. Burndy Library collection. 10214

Leyden jars, ca. 19th century. Burndy Library collection. 10156

Backdrop: Tin wire explosion pattern in *Beschryving eener ongemeen groote electrizeer-machine* (Description of an unusually large electrifying machine), 1786. Martinus van Marum (1750–1837), author; Jan Christiaan Sepp (1739–1811), artist. 480583

78 Victor Frankenstein observing the first stirrings of his Creature in *Frankenstein, or The Modern Prometheus*, 1831. Mary Wollstonecraft Shelley (1797–1851), author; W. Chevalier after Theodor Von Holst (1810–1844), artist. 438087

Essai théorique et expérimental sur le galvanisme (Theoretical and experimental essay on galvanism), 1802. Giovanni Aldini (1762–1834), author; Benoît Pecheux (1779–1881), artist. Burndy Library collection. 753102

79 Broadside advertising galvanism demonstration by Ferguson Hardie, May 1804. Philip Norbury (ca. 1740–1830). Burndy Library collection

80–81 *Oranda shisei erekiteru kyūrigen* (Principles of electricity developed in Holland), 1857 (later edition). Hashimoto Donsai (Sōkichi) (1763–1836). Burndy Library collection. 710586

82–83 Radiographs and experiment notes, 1901–3. William J. Hammer (1858–1934). Burndy Library collection. mssHammer

84 *Composite photograph of the right hand of William J. Hammer and a dead man’s hand*, 1906. William J. Hammer (1858–1934). Burndy Library collection. mssHammer

85 Film still of Thomas A. Edison touring General Electric Research Laboratory, Schenectady, New York, 1923. Southern California Edison motion picture film. mssSCE MP 515

86 *Mr. Patterson changing bulb in floodlight*, date unknown. Doug White (active 1930s–1950s). Southern California Edison collection of negatives and photographs. photCL SCE

Illuminate

87 *Electric Movement in Air and Water with Theoretical Inferences*, 1899. William G. Armstrong (1810–1900). Burndy Library collection. 761971

88 *Double-exposure photograph of Nikola Tesla and an active Tesla coil, Colorado Springs Experimental Station*, 1899. Dickenson V. Alley. Burndy Library collection

89 *Historic Edison lamps from collection of William J. Hammer*, ca. 1910s. William J. Hammer (1858–1934). Burndy Library collection. mssHammer

90 *Simons Drive-In, El Monte, California*, ca. 1940s. Doug White (active 1930s–1950s). Southern California Edison collection of negatives and photographs. photCL SCE

90 *Neon study for You Chung Hong building, Chinatown, Los Angeles*, 1936–37. Erle Webster (1898–1971) and Adrian Wilson (1898–1988). Roger S. Hong collection. Gift of Roger S. Hong, 2006. archHong

91 *Los Angeles basin at night from the neighboring mountains*, 1958. Joseph Fadler (1924–2013). Southern California Edison collection of negatives and photographs. photCL SCE

92 *Southern California Edison line workers at Point Conception, Santa Barbara County*, date unknown. Doug White (active 1930s–1950s). Southern California Edison collection of negatives and photographs. photCL SCE

93 *Streetlights in storage, Alhambra, California*, 1967. Art Adams. Southern California Edison collection of negatives and photographs. photCL SCE

Southern California Edison line truck and crew with tools, 1957. Southern California Edison collection of negatives and photographs. photCL SCE

95 *Maintenance crew member working night shift at Southern California Edison building, Los Angeles*, date unknown. Joseph Fadler (1924–2013). Southern California Edison collection of negatives and photographs. photCL SCE

96 *Double-exposure photograph of Nikola Tesla and an active Tesla coil, Colorado Springs Experimental Station*, 1899. Dickenson V. Alley. Burndy Library collection

» Above

FRONT COVER

Astronaut Mark C. Lee tests the new simplified Aid for Extravehicular Activity Rescue system, 1994. NASA. The Planetary Society records. mssPlanetary

BACK COVER

President Gamal Abdel Nasser of Egypt watching first public launching of an Egyptian-made rocket, July 21, 1962. UPI Telephoto.

Albert R. Hibbs papers. Gift of Victoria Hibbs, 2010. mssHibbs

INSIDE FRONT COVER

Roy Knabenshue's passenger dirigible taking off over Pasadena, California, ca. 1913. Roy Knabenshue scrapbook. photCL 45

FRONT FLAP

M. S. Blanchard, celebre aeronauta (Madame Sophie Blanchard, celebrated pilot), ca. 1810s. Luigi Rados (1773–1840). Huntington Library Aeronautica collection: prints and ephemera. 10015

INSIDE BACK COVER

Amelia Earhart takes a break on the factory floor at Lockheed Aircraft Corporation, Burbank, California, ca. 1930s. Harvey C. Christen papers. Gift of Mr. and Mrs. Burt Basney. mssChristenpapers

BACK FLAP
Filmstrip footage of Knabenshue dirigible, ca. 1913. Roy Knabenshue scrapbook. photCL 45

1 *The Surveyor Project brochure*, 1968. NASA Jet Propulsion Laboratory, California Institute of Technology. Albert R. Hibbs papers. Gift of Victoria Hibbs, 2010. mssHibbs

2 *Francis Pease at the Cassegrain focus of the 100inch telescope, Mount Wilson Observatory, Pasadena, California*, 1925. Mount Wilson Observatory photographs and audiovisual materials. The Carnegie Institution of Washington collection at the Huntington Library. photCL COPC 3033

4 *Astronomicum caesareum* (Caesar's astronomy), 1540. Peter Apian (1495–1552). 32891

7 *Wiley Post, Bill Parker, and Capt. Balderston conferring with an unidentified pilot wearing the sub-stratosphere suit*, 1935. Willis M. Hawkins papers. Gift of Nancy G. Bostick, 2008. mssHawkins papers

8 *An Original Theory or New Hypothesis of the Universe*, 1750. Thomas Wright (1711–1786). The Carnegie Institution of Washington collection at the Huntington Library. 487000:1049

Behold

9 *Zodiac Man*, in *Astrological and medical compilation*, ca. 1485–99. mssHM 64

10 *Almagest* (The greatest), 1279. Ptolemy (active 2nd century). mssHM 65

11 *Qinding shoushi tongkao* (Imperially ordered comprehensive examination of the agricultural calendar), 1744. Ortai (1677–1745) and Zhang Tingyu (1672–1755). Burndy Library collection. 752366

12 *Descripción histórica y cronológica de las dos piedras* (Historical and chronological description of the two stones), 1832 edition. Antonio de León y Gama (1735–1802), author; Francisco de Agüera (active 1779–1820), artist. 6864

13 *A Pocket Almanack for the Year 1748, 1747*. R. Saunders (Benjamin Franklin) (1706–1790). 296863

14 *Color drawing of Krishna's Dance of Delight, Rasa Lila*, ca. 1775–1850. Huntington Library aeronautica collection: prints and ephemera. pri475

15 *Color drawing of Annunciation to the Shepherds in Book of Hours*, 1440–60. Master of Sir John Fastolf. mssHM 1099

16 *Rekijitsu genkai* (Commentaries on calendars and astronomy), 1870–1900. Yanagi Seishi. Burndy Library collection. 720175

16–17 *Papyrus of Paanfai*, 990–976 BCE. Alice and George Millard collection illustrating the evolution of the book. Acquired from the Alice Millard estate, 1939. mssHM 46671

18 *Uranometria*, 1603. Johannes Bayer (1572–1625), author; Alexander Mair (1559–1617), artist. 482143

19 *Coelum stellatum Christianum* (Christian starry heaven), 1627. Julius Schiller (ca. 1581–1627), author; Johann Matthias Kager (ca. 1575–1634), artist. 488154

20–21 *Urania's Mirror, or a View of the Heavens*, ca. 1825. Richard Rouse Bloxam (1765–1840). Jay T. Last

collection of graphic arts and social history. 656400

22–23 *An Original Theory or New Hypothesis of the Universe*, 1750. Thomas Wright (1711–1786). The Carnegie Institution of Washington collection at the Huntington Library. 487000:1049

24 *Banreki zassho taisei* (Collection of various writings on myriad records), 1867. Akatsuki Kanenaru (ca. 1793–1861), author; Matsukawa Hanzan (1818–1882), artist. Burndy Library collection. 720144

25 *Great Melbourne Telescope, Melbourne Observatory, South Yarra, Victoria, Australia*, ca. 1875. Lady Annie Brassey photograph collection. photCL 331

26 *Workers cleaning the 100-inch mirror for the Hooker 100-inch reflecting telescope, Mount Wilson Observatory, Pasadena, California*, ca. 1925. Mount Wilson Observatory photographs and audiovisual materials. The Carnegie Institution of Washington collection at the Huntington Library. photCL COPC 605

Scope

27 *Workers cleaning the 200-inch mirror at Mount Palomar*, 1965. Mount Wilson Observatory photographs and audiovisual materials. The Carnegie Institution of Washington Collection at the Huntington Library. photCL COPC 2515

28–29 *Film stills of Seth B. Nicholson aligning mirrors for the 100-inch solar telescope at Mount Wilson*, 1930. Sinclair Smith (1899–1938), director; Carnegie Institution of Washington, producer. Mount Wilson director's papers. The Carnegie Institution of Washington Collection at the Huntington Library. mssMount Wilson director reel 02

29 *Mount Wilson Optical Shop notebook*, 1921. Francis Gladheim Pease (1881–1938). Francis Gladheim Pease papers. The Carnegie Institution of Washington collection at the Huntington Library. mssPease

30–31 *Sidereus nuncius* (Starry messenger), 1610. Galileo Galilei (1564–1642). The Carnegie Institution of Washington collection at the Huntington Library. 487000:0071

32 Annotated photograph of *Milky Way Field 185*, ca. 1929–37. Henrietta H. Swope (1902–1980). Henrietta Hill Swope papers. The Carnegie Institution of Washington collection at the Huntington Library. mssSwope papers

34 *Sidereal Chromatics*, 1864. W. H. Smyth (1788–1865). Burndy Library collection. 708797

35 Annotated photograph of *Milky Way Field 187*, ca. 1929–37. Henrietta H. Swope (1902–1980). Henrietta Hill Swope papers. The Carnegie Institution of Washington collection at the Huntington Library. mssSwope papers

36 *Eclipse, Hawai'i*, 1992. The Planetary Society records. mssPlanetary

Blaze

37–38 *Astronomie populaire* (Popular astronomy), 1911. Camille Flammarion (1842–1925), author; E. L. Trouvelot (1827–1895), artist. Burndy Library collection. 708453

39 Film stills from *The Development of Eruptive Prominences*, 1936–38. Robert R. McMath (1891–1962) and Edison Pettit (1889–1962), authors; McMath-Hulbert Observatory, producer. Edison Pettit films. Gift of James and Anne Breckenridge, 2020. mssPettitE film 11

40 *Libra astronómica* (Astronomical book). Carlos de Sigüenza y Góngora (1645–1700). 77410

41 *Theatrum cometicum* (Theater of comets), 1666. Stanisław Lubieniecki (1623–1675). Burndy Library collection. 751892

42–43 *Exposición astronómica* (Astronomical exposition), 1681. Eusebio Francisco Kino (1644–1711). 76219

44 *False color image of Halley's Comet*, January 20, 1986. Lunar and

Planetary Laboratory, University of Arizona. The Planetary Society records. mssPlanetary. © 1986 Arizona Board of Regents on behalf of the University of Arizona

Comet Ikeya-Seki, October 1965. JPL Table Mountain Observatory, Big Pines, California. The Planetary Society records. mssPlanetary

Comet Ikeya-Seki, October 29, 1965. Kitt Peak National Observatory, Tucson, Arizona. The Planetary Society records. mssPlanetary

45 *Wide-field image of Halley's Comet*, March 13, 1986. European Southern Observatory, La Silla, Chile. The Planetary Society records. mssPlanetary

Suisei Bendan (Conclusions on comets), ca. 1858. Suzuki Hyakunen (1825–1891). Burndy Library collection. 720176

46 *Hale-Bopp Comet viewed from Arizona desert*, 1997. Ken Matesich. The Planetary Society records. mssPlanetary

47 *Halley's Comet during disconnection of its ion tail*, March 21, 1986. Palomar Observatory, California Institute of Technology / NASA. The Planetary Society records. mssPlanetary

48 *Students visiting Spaceweek '91 exhibition, Bangladesh*, 1991. The Planetary Society records. mssPlanetary

Witness

49 *Astronaut Mae Jemison at Challengers Boys and Girls Club, Los Angeles*, 1992. The Planetary Society records. mssPlanetary

50 *Albert Hibbs with puppets on Exploring*, an NBC television program, 1962. Albert R. Hibbs papers. Gift of Victoria Hibbs, 2010. mssHibbs

51 *The Telescope*, 1879. Mary (Mrs. M.) Ward (1827–1869). Burndy Library collection. 722213

Astronomie populaire (Popular astronomy), 1911. Camille Flammarion (1842–1925). Burndy Library collection. 708453

The Children's Book of Stars, 1907. G. E. Mitton (1868–1955). A & C Black book collection. Gift of Harold L. and Dorothy Galitz, 1997. 499150

Looking at the Stars, 1958. Michael W. Ovenden (1926–1987). Burndy Library collection. 708485

52 Letter and photographs of Jerzy Giergielewicz and Hale-Bopp Comet sent to The Planetary Society, 1997. Jerzy Giergielewicz (1925–2012). The Planetary Society records. mssPlanetary

53 *Khagol Mandal Annual General Meeting, Mumbai, India*, 1989. The Planetary Society records. mssPlanetary

Students visiting Spaceweek '91 exhibition, Bangladesh, 1991. The Planetary Society records. mssPlanetary

54 *Radar image of typhoon center, Philippine Sea*, December 18, 1944. Office of Chief of Naval Operations Aerology Section, Radar and Weather. Jeremy Norman collection on the history of aerodynamics, aviation and aerospace. Gift of Jeremy M. Norman, 2014

55 *Aurora Borealis. As Observed March 1, 1872, at 9 h. 25 m. PM*, 1881. E. L. Trouvelot (1827–1895). Jay T. Last collection of graphic arts and social history. prjJLC SCI 002969

56 *Twilight and afterglow effects from eruption of Krakatoa seen on Nov. 26, 1883, from Chelsea, London in The Eruption of Krakatoa, and Subsequent Phenomena*, 1888. George James Simmons (1838–1900), editor; William Ascroft (1832–1914), artist. 476564

57 *Flight tower operator*, 1941. "Dick" Whittington Studio (1924–87). "Dick" Whittington Studio collection of negatives and photographs. photCL Whitt 3051

58 *Roy Knabenshue's passenger dirigible leaving the hangar, Pasadena, California*, ca. 1913. Roy Knabenshue scrapbook. photCL 45

Soar

59 *The Ascent of the Aerial Balloon*, 1783. John Lodge (died 1796). Huntington Library aeronautica collection: prints and ephemera. pri472

60 *Aerostation out at Elbows, or the Itinerant Aeronaut*, 1786. Thomas Rowlandson (1757–1827). Huntington Library aeronautica collection: prints and ephemera. pri470

61 *Aerostation* print depicting four historic balloons and an aerial view of Chester, England, 1796. J. Pass. Huntington Library aeronautica collection: prints and ephemera. 10015

62 Poster of *Henri Beudet: L'Étoile polaire* (The polar star), ca. 1870s. Boehm & Fils. Huntington Library aeronautica collection: prints and ephemera. 10015

63 *Andrée and His Balloon*, 1898. Henri Lachambre (1846–1904) and Alexis Machuron (1872–1901). Burndy Library collection. 716599

Five Weeks in a Balloon (English edition), 1876. Jules Verne (1828–1905). 2888

The Conquest of the Air, 1902. John Alexander. Burndy Library collection. 716458

My Life and Balloon Experiences, 1887–89. Henry Tracey Coxwell (1819–1900). 3497

Up in a Balloon sheet music, ca. 1868. Wm. A. Pond & Co. (active 19th century). Jay T. Last collection of graphic arts and social history. prjJLC SMUS

64 *Travels in the Air*, 1871. James Glaisher (1809–1903) et al. 17780

65 Painted glass and copper snuffbox, 1784–87. Henri-Joseph Van Blarenberghe (1741–1826). 34.21

Backdrop: *Histoire chronologique d' l' aérostation* (Chronological history of the aerostation), 183. Henry Emy (Armand-Louis-Henri Telory) (1820–1875). Huntington Library aeronautica collection: prints and ephemera. pri475

- 66** Roy Knabenshue scrapbook, 1913. A. Roy Knabenshue (1876–1960). photCL 45
- 67** *Man suspended from a balloon or dirigible over Pasadena, California*, ca. 1913. Harold A. Parker (1889–1949). Gift of Roy Dickson, 1999. photLS 402
- 68** *King of the Air* sheet music, ca. 1910. Julius K. Johnson. Jay T. Last collection of graphic arts and social history. prjJLC SMUS
- Mohan Singh at the Curtiss School of Aviation in San Diego, California*, ca. 1911. Jeremy Norman collection on the history of aerodynamics, aviation and aerospace. Gift of Jeremy M. Norman, 2014
- 69** *Hugh Robinson leaving the earth, Edmonton, Canada*, 1909. Byron Mag. Co.. Jeremy Norman collection on the history of aerodynamics, aviation and aerospace. Gift of Jeremy M. Norman, 2014
- Glenn Curtiss testing his hydroaeroplane design, San Diego, California*, 1910. Jeremy Norman collection on the history of aerodynamics, aviation and aerospace. Gift of Jeremy M. Norman, 2014
- 70** *Ruth Nichols next to New Cincinnati, her Lockheed Vega*, 1931. Harvey C. Christen papers. Gift of Mr. and Mrs. Burt Basney. mssChristenpapers
- 71** *Unidentified woman at Jet Propulsion Lab, Pasadena, California*, date unknown. Albert R. Hibbs papers. Gift of Victoria Hibbs, 2010. mssHibbs
- 72** *Unidentified man holding rocket at Jet Propulsion Lab, Pasadena, California*, date unknown. Albert R. Hibbs papers. Gift of Victoria Hibbs, 2010. mssHibbs

Blast

- 73** *Explosion of a 4,000-pound bomb, U.S. Army Ballistics Research Laboratory, Aberdeen, Maryland*, ca. 1944. Edwin Powell Hubble papers. Gift of the Grace Burke Hubble estate, 1980. mssHUB 1044

- 74** *Adjustable nozzle and test section of the 20-inch supersonic wind tunnel, Jet Propulsion Laboratory*, date unknown. Albert R. Hibbs papers. Gift of Victoria Hibbs, 2010. mssHibbs
- 75** *Model plane in the 10-foot wind tunnel at GALCIT* (Guggenheim Aeronautical Laboratories at California Institute of Technology), ca. 1960. Jeremy Norman collection on the history of aerodynamics, aviation and aerospace. Gift of Jeremy M. Norman, 2015
- Resistance testing of a missile, US Army Ballistics Research Laboratory, Aberdeen, Maryland*, ca. 1944. Edwin Powell Hubble papers. Gift of the Grace Burke Hubble estate, 1980. mssHUB 1044
- 76** *Series of photographs measuring the velocity of a rocket, US Army Ballistics Research Laboratory, Aberdeen, Maryland*, ca. 1944. Edwin Powell Hubble papers. Gift of the Grace Burke Hubble estate, 1980. mssHUB 1044
- 77** *Military airplane dropping missiles at Aberdeen Proving Ground, Maryland*, ca. 1944. Edwin Powell Hubble papers. Gift of the Grace Burke Hubble estate, 1980. mssHUB 1044
- A rocket launched from wooden scaffolding, Aberdeen Proving Ground, Maryland*, ca. 1944. Edwin Powell Hubble papers. Gift of the Grace Burke Hubble estate, 1980. mssHUB 1044
- 78** *The Saturn V: America's Moon Rocket* brochure, 1967. NASA George C. Marshall Space Flight Center. Albert R. Hibbs papers. Gift of Victoria Hibbs, 2010. mssHibbs
- 79** *The Moon Probe, Pioneer IV* brochure, 1959. NASA Jet Propulsion Laboratory. Albert R. Hibbs papers. Gift of Victoria Hibbs, 2010. mssHibbs
- Project Gemini* brochure, 1966. NASA. Albert R. Hibbs papers. Gift of Victoria Hibbs, 2010. mssHibbs
- Apollo 8: Man Around the Moon* brochure, 1968. NASA. Albert R.

Hibbs papers. Gift of Victoria Hibbs, 2010. mssHibbs

Mission Report: Apollo 10 brochure, 1969. NASA. Albert R. Hibbs papers. Gift of Victoria Hibbs, 2010. mssHibbs

80 Print of the Montgolfier ballooning experiment at Versailles, France, September 19, 1783, with manuscript notations, ca. 1790–1900. Jean Grégois. Huntington Library aeronautica collection: prints and ephemera. 10015

81 *Two squirrel monkeys aboard Spacelab 3, Challenger space shuttle, on Day 5*, 1985. NASA. The Planetary Society records. mssPlanetary

82 *Female dogs, Kusachka and Pal'ma, in 1958 after second voyage in Soviet R2-A rocket, in Razvitie raketostroeniya i kosmonavтики v SSSR* (Development of rocketry and space technology in the USSR), 1973. Valentin Petrovich Glushko (1908–1989). Gift of Jeremy M. Norman, 2013. TL781.8.S65 G5813 1973

83 *Surface of the moon*, date unknown. Frederic Eugene Wright (1877–1953). Frederick Eugene Wright papers. The Carnegie Institution of Washington collection at the Huntington Library. mssWright

84 *Astronaut Edwin E. Aldrin Jr. on the surface of the moon, Apollo 11 mission*, July 20, 1969. Neil Armstrong (1930–2012). Burndy Library collection. Dibner mssor

Land

- 85** *Los Angeles Times*, July 21, 1969. Burndy Library collection. Dibner mssor. © 1969. Los Angeles Times.
- The New York Times*, July 21, 1969. Burndy Library collection. Dibner mssor. © 1969 The New York Times. All rights reserved. Used by permission and protected by the Copyright Laws of the United States. The printing, copying, redistribution, or retransmission of this Content without express written permission is prohibited.
- 86** *Le petit prince* (The little prince), 1943. Antoine de Saint-Exupéry (1900–1944). 493220

The Man in the Moore, 1657. Francis Godwin (1562–1633). 145245

87 *From the earth to the moon: direct voyage in ninety-seven hours, twenty minutes* (English edition), 1872. Jules Verne (1828–1905). Burndy Library collection. 751418

Tiazhest' ischezla: Fantasticheskii ocherk (Gravity is gone), 1934. Konstantin Eduardovich Tsiolkovsky (1857–1935). Jeremy Norman collection on the history of aerodynamics, aviation and aerospace. Gift of Jeremy M. Norman, 2015

Die Fahrt in's Weltall (Journey into space), 1929. Willy Ley (1906–1969). Burndy Library collection. 716722

88 *Atlas photographique de la lune* (Photographic atlas of the moon), 1896–1910. Maurice Lœwy (1833–1907) and Pierre Henri Puiseux (1855–1928). Gift of Mr. and Mrs. F. H. Wright, 1990. 492382 atlas

89 Lunar globe, 1969. Denoyer-Geppert Company. Burndy Library collection. 10297

Astronomicum caesareum (Caesar's astronomy), 1540. Peter Apian (1495–1552). 32891

Full Moon stereograph, ca. 1875. Henry Draper (1837–1882), photographer; C. Bierstadt (1819–1903), publisher. Burndy Library collection. mssHM 84497

90–91 Future Reference research notebook, 1960–69. Octavia E. Butler (1947–2006). Octavia E. Butler papers. Gift of the estate of Octavia E. Butler, 2008 and 2017. mssOEB 8239. Copyright © by Octavia E. Butler. Reprinted by permission of the Octavia E. Butler Estate and Octavia E. Butler Enterprises.

92 *Astronaut Eugene A. Cernan, Apollo 17 commander, beside the Lunar Rover with Earth in the distance*, 1972. Harrison H. Schmitt (born 1935). The Planetary Society records. mssPlanetary

93 *Earth rise from Apollo 11*, 1969. NASA. The Planetary Society records. mssPlanetary

95 Saturn V rocket tests photograph album, 1963–70. North American Aviation Inc. Burndy Library collection. photCL 666

96 *Glenn Curtiss testing his hydroaeroplane design, San Diego, California*, 1910. Jeremy Norman collection on the history of aerodynamics, aviation and aerospace. Gift of Jeremy M. Norman, 2014

Beyond

FRONT COVER

False color view of Saturn's atmosphere and satellites, taken 9.1 million miles from Earth, August 11, 1981. Voyager 2 spacecraft. The Planetary Society records. mssPlanetary

BACK COVER

Thirty-meter antenna at META II, Instituto Argentino de Radioastronomía, Argentina, ca. 1990. Planetary Society. The Planetary Society records. mssPlanetary

FRONT FLAP AND INSIDE COVER

Alchemical Scroll, ca. 1508–90s. After George Ripley (ca. 1415–1495). mssHM 30313

BACK FLAP

Painting of astronauts encountering a spaceship and interstellar creature on an unidentified planet, date unknown. Signed “Gorman.” The Planetary Society records. mssPlanetary

1 *Saturn V rocket*, 1965. North American Aviation Co. Burndy Library collection. photCL 666

2 *Night launch of space shuttle orbiter Discovery, STS-33, Cape Canaveral, Florida*, 1989. NASA. The Planetary Society records. mssPlanetary

4 *Conceptual interior of a 10,000-person space settlement*, 1976. NASA, Ames Research Center. Albert R. Hibbs papers. Gift of Victoria Hibbs, 2010. mssHibbs papers

7 *Albert Hibbs and Donna Shirley in control room for Mariner 10*

mission, Space Flight Operations Facility, Jet Propulsion Laboratory, 1974. Albert R. Hibbs papers. Gift of Victoria Hibbs, 2010. mssHibbs

8 *Students with solar sail prototype*, ca. 1980s. The Planetary Society records. mssPlanetary

Roam

9 Postcards of Vinta outrigger boats, Philippines, ca. 1910s. Collection of photographic postcards and travel ephemera of the Philippines. photCL 701

10 *Derrotero general del Mar del Sur* (Pilot book of the South Sea), 1669. mssHM 918

11 Portolan atlas (Vallard atlas), 1547. Nicolas Vallard de Dieppe, owner. mssHM 29

Los Angeles County Thomas Guide: Flood Control District, 1983. Thomas Bros. Maps. Edmund D. Edelman papers. Gift of Edmund D. Edelman and the Los Angeles County Board of Supervisors, 1994–95. mssEdelman

12–13 *Liber chronicarum* (Nuremberg chronicle), 1493. Hartmann Schedel (1440–1514). 95858

14 Notes on materials for the construction of the Wa'a, c. 1890. Nathaniel Bright Emerson (1839–1915). Nathaniel Bright Emerson papers. mssEmerson

15 *LightSail 2 image of Afghanistan, Pakistan, and the Arabian Sea*, May 31, 2021. Image courtesy of The Planetary Society, Pasadena, California

Dr. Louis Friedman and students with solar sail prototype, ca. 1980s. The Planetary Society records. mssPlanetary

16 Film stills of Carl Sagan demonstrating solar sail on *The Tonight Show Starring Johnny Carson*, 1976. The Planetary Society records. mssPlanetary. Courtesy of Carson Entertainment Group

17 *Students with solar sail prototype*, ca. 1980s. The Planetary Society records. mssPlanetary

18 *Twenty-five-minute sketch of hands and feet, “Shoo-i-kingwah, Oominoi,” North Star Bay, Greenland*, 1896. Albert Jaspas Operti (1852–1927). Views of the Arctic commemorating Commander Perry's 1896 expedition. 93.18.147

Grab

19 *Oil sketch of Inughuit boy, Cape York, Greenland*, 1896. Albert Jaspas Operti (1852–1927). Views of the Arctic commemorating Commander Perry's 1896 expedition. 93.18.16

20 *Sketches of Inughuit coats made from bear skin, seal skin, fox skin, deer skin, etc.*, ca. 1896. Albert Jaspas Operti (1852–1927). Views of the Arctic commemorating Commander Perry's 1896 expedition. 93.18.41

21 *Sketches of six Inughuit people*, 1896. Albert Jaspas Operti (1852–1927), artist. Views of the Arctic commemorating Commander Perry's 1896 expedition. 93.18.48

22–23 *Novum organum scientiarum* (New instrument of the sciences), 1645. Francis Bacon (1561–1626). 377833

Pocket terrestrial globe, ca. 1672. Joseph Moxon (1627–1691). 388000

24 *Flore forestière de la Cochinchine* (Forest flora of southern Vietnam), 1879–1907. Louis Pierre (1833–1905). Gift of Mr. and Mrs. Ralph Peer II, 2017. 646583

A Treatise on the Process and Manufacture of Fine Indigo, 1832. William Osborn. Burndy Library collection. 722203

Herbarium voucher of isotope specimen, *Disocactus nelsonii* var. *bondurensis*, 1965. Myron Kinnach (1922–2018). Botanical Library. HNT 1282a

Natural y general hystoria de las Indias (General and natural history of the Indies), 1539–1548. Gonzalo Fernández de Oviedo y Valdés (1478–1557). mssHM 177

26–27 *Stanhopea tigrina* (*coatxontecoxóchtli*) in *The*

Orchidaceae of Mexico and Guatemala, 1837–43. James Bateman (1811–1897), author; Augusta Innes Baker Withers (1792–1877), artist. 325034

28 *A Treatise on the Process and Manufacture of Fine Indigo*, 1832. William Osborn. Burndy Library collection. 722203

29 *Hollywood Freeway from Bronson looking west*, 1954. Ernest Marquez photograph collection. photCL 555

30 *John Cobb breaking land speed record, Bonneville Salt Flats, Utah*, August 1939. “Dick” Whittington Studio (1924–87). “Dick” Whittington Studio collection of negatives and photographs. photCL Whitt 2757/2697

Speed

31 *The Flight of Intellect*, ca. 1825. George E. Madeley (1798–1858). Huntington Library aeronautica collection: prints and ephemera. pri470

32 *Mathematical Magick*, 1691. John Wilkins (1614–1672). 4017

33 Concept art for hydrogen-fuel airplane, date unknown. Willis M. Hawkins papers. Gift of Nancy G. Bostick, 2008. mssHawkins papers

John Cobb and crew with Railton Mobil Special car, Bonneville Salt Flats, Utah, 1939. “Dick” Whittington Studio (1924–87). “Dick” Whittington Studio collection of negatives and photographs. photCL Whitt 2756

34 *Race car driver Barney Oldfield at Legion Ascot Speedway, Los Angeles*, 1932. Ernest Marquez photograph collection. photCL 555

35 Central Pacific Railroad stereographs, ca. 1864–69. Alfred A. Hart (1816–1908). A. A. Hart Stereographs of the Central Pacific Railroad. photCL 184

36 *Lockheed 2000 supersonic transport full-scale mock-up*, 1966. Lockheed Aircraft Corporation. R. Richard Heppe collection. Gift of Janice Heppe, 2015. mssHeppe OV

37 *First aerial system at the Cape Cod wireless station*, ca. 1900. Guglielmo Marconi papers. Purchased by the Library Collectors' Council, 2021. mssMarconig

38 *Paul Horowitz in control room of Project BETA* (Billion-channel Extra Terrestrial Assay), *Oak Ridge Observatory, Harvard, Massachusetts*, ca. 1995. The Planetary Society records. mssPlanetary

Signal

39 *Jacob Horowitz at the base of the 84-foot SETI radio telescope*, *Oak Ridge Observatory, Harvard, Massachusetts*, ca. 1983. Paul Horowitz (born 1942). The Planetary Society records. mssPlanetary

40 *Operators and staff at Marconi wireless station, Cape Breton, Nova Scotia*, ca. 1900. Guglielmo Marconi papers. Purchased by the Library Collectors' Council, 2021. mssMarconig

41 *Marconi sheet music*, ca. 1900. Thomas J. Reynolds. Jay T. Last collection of graphic arts and social history. priJLC SMUS
Letter from Guglielmo Marconi to Josephine Bowen Holman, August 20, 1900. Guglielmo Marconi (1874–1937). Guglielmo Marconi correspondence. Gift of Hon. Peter Smith, 2005. mssMarconi

42 *Chirologia, or The Natural Language of the Hand*, 1644. John Bulwer (1606–1656). 113590

43–44 *Ladies Telegraph, for Corresponding at a Distance*, 1798. Robert Rowe (1775–1843). 633342

45 Pocket Signal Disk, US Service Issue, ca. 1940s. The Standard Novelty Co.. Frank E. Bullock papers. Gift of Beverly Bullock McLeod, 2011. mssBullock

46–47 Audio cassette tape of plasma waves, 1979. Voyager 1 spacecraft. Albert R. Hibbs papers. Gift of Victoria Hibbs, 2010. mssHibbs

Sounds of Saturn phonograph record, 1982. Dr. Frederick L. Scarf (1930–1988); TRW Space and Technology Group, publisher.

The Planetary Society records. mssPlanetary

Southern hemisphere of Jupiter from Great Red Spot to the south pole, 1979. Voyager 2 spacecraft. Albert R. Hibbs papers. Gift of Victoria Hibbs, 2010. mssHibbs

Colorized image of Saturn's ring system, 1981. Voyager 2 spacecraft. The Planetary Society records. mssPlanetary

Backdrop: *Color composite image highlighting different bands of Jupiter's atmosphere*, August 11, 1981. Voyager 2 spacecraft. The Planetary Society records. mssPlanetary

48 "...Water..." pen-and-ink drawing for editorial cartoon, 1976. Paul Conrad (1924–2010). Gift of Paul and Kay Conrad. mssCON 517. © Paul Conrad, 1976

Greetings from Neptune postcard to Albert Hibbs, ca. 1986. Paul McGehee (1950–1989). Albert R. Hibbs papers. Gift of Victoria Hibbs, 2010. mssHibbs

49 *A worker checking data at META II* (Megachannel Extra Terrestrial Assay) in *Argentina*, ca. 1998. The Planetary Society records. mssPlanetary

50 *Hello Mars...* bumper sticker, 1976. Albert R. Hibbs papers. Gift of Victoria Hibbs, 2010. mssHibbs

Ada Limón, "In Praise of Mystery: A Poem for Europa" from *Startlement: New and Selected Poems*. Copyright © 2025 by Ada Limón. Reprinted with the permission of The Permissions Company, LLC on behalf of Milkweed Editions, milkweed.org. / Copyright © 2026 by Ada Limón. Reproduced with permission of the Licensor through PLSclear.

51 *Albert Einstein at the blackboard*, *Hale Library, Carnegie Observatories of Washington, Pasadena, California*, ca. 1931. Mount Wilson Observatory photographs and audiovisual materials. The Carnegie Institution of Washington collection at the Huntington Library. photCL COPC 2807

52 Postcard of Moro girl weaving hemp cloth, Zamboanga, Philippines, ca. 1910s. Collection of photographic postcards and travel ephemera of the Philippines. photCL 701

Translate

53 *Spectrum Analysis*, 1870. Henry E. Roscoe (1833–1915). Burndy Library collection. 701143

54 *Color composite image highlighting different bands of Jupiter's atmosphere*, 1979. Voyager 2 spacecraft. Albert R. Hibbs papers. Gift of Victoria Hibbs, 2010. mssHibbs

55 *Color-enhanced image of Saturn's Northern Temperate Belt*, 1980. Voyager 1 spacecraft. Albert R. Hibbs papers. Gift of Victoria Hibbs, 2010. mssHibbs

Composite image of Saturn and its satellites, 1980. Voyager 1 spacecraft. Albert R. Hibbs papers. Gift of Victoria Hibbs, 2010. mssHibbs

Pencil sketch of Jupiter with notations about observed colors and clouds, 1926. Francis Gladheim Pease (1881–1938). Francis Gladheim Pease papers. The Carnegie Institution of Washington collection at the Huntington Library. mssPease papers

56 *Sanpō chie no umi taizen* (Practical mathematics for commerce), 1793. Hirose Tomoshige. Burndy Library collection. 720150

57 *The First Six Books of the Elements of Euclid*, 1847. Oliver Byrne (1810–1880). 302391

Plans, Elevations, Sections, and Details of the Alhambra, 1842–45. Jules Gourey (1800–1834), Owen Jones (1791–1871), and Pasqual de Gayangos y Arce (1809–1897). 145361

58 *Tablas para los niños que empiezan a contar* (Tables for children learning to count), 1836. Agustín Vicente Zamorano, (1798–1842). 4373

59 *On the Connexion of the Physical Sciences*, 1837. Mary Somerville (1780–1872). Burndy Library collection. 706756

Mechanism of the Heavens, 1831. Mary Somerville (1780–1872). 484444

60 *A Primer of Higher Space (The Fourth Dimension)*, 1913. Claude Fayette Bragdon (1866–1946). Burndy Library collection. 705175

61 *A Primer of Higher Space (The Fourth Dimension)*, 1913. Claude Fayette Bragdon (1866–1946). Burndy Library collection. 705175

62 *Fashion shoot at Information Center, San Onofre Nuclear Generating Station*, 1966. Joseph Fadler (1924–2013). Southern California Edison collection of negatives and photographs. mssSCE

Transform

63 *In Search of Colour*, 1949. Imperial Chemical Industries. HD9660.D844 I462 1949

65 Death mask of Sir Isaac Newton, 1727. Michael Rysbrack (1694–1770). Grace K. Babson collection of the works of Sir Isaac Newton. mssHM 83466

66 Du Pont Plastics brochure, ca. 1946. E. I. Du Pont de Nemours & Co., Plastics Department. Frank E. Bullock papers. Gift of Beverly Bullock McLeod, 2011. mssBullock

Matico Aristoflex flooring advertisement in *House Beautiful* magazine, 1955. Mastic Tile Corporation of America. NA7100 .H65

Plastics in the School and Home Workshop, 1940. Andrew Jules Lockrey (born 1897). Gift of Roger S. Hong, 2006. 655024

67 *Molecules and Man*, 1920. Robert E. Rose (1879–1946). Burndy Library collection. 717165

68 *No More War!*, 1958. Linus Pauling (1901–1994). Burndy Library collection. 705978

Two Minutes till Midnight, 1955. Elmer Davis (1890–1958). Burndy Library collection. 705603

Dawn over Zero, 1946. William L. Laurence (1888–1977). Burndy Library collection. 717589

69 Telegram sent by Albert Einstein on behalf of the Emergency Committee of Atomic Scientists, 1946. Albert Einstein (1879–1955). Albert Einstein collection. Burndy Library collection. mssEinstein

70–71 *Dawn over Zero*, 1946. William L. Laurence (1888–1977). Burndy Library collection. 717589

72 *Students touring Nuclear Electric Generation exhibit, San Onofre Nuclear Generating Station*, 1968. Joseph Fadler (1924–2013). Southern California Edison collection of negatives and photographs. mssSCE

Refueling at San Onofre Nuclear Generating Station, San Diego County, California, ca. 1970. Joseph Fadler (1924–2013). Southern California Edison collection of negatives and photographs. mssSCE

73 San Onofre Nuclear Generating Station pen-and-ink drawing for editorial cartoon, 1976. Paul Conrad (1924–2010). Gift of Paul and Kay Conrad. mssCON 497. © Paul Conrad, 1976

Film stills from protest at San Onofre Nuclear Generating Station marking 32nd anniversary of Hiroshima bombing, August 1977. Southern California Edison motion picture film. mssSCE MP 096

75 *San Onofre Nuclear Generating Station*, 1970. Joseph Fadler (1924–2013). Southern California Edison collection of negatives and photographs. mssSCE

76 *First high-resolution map of Viking 1 landing site on Mars*, July 20, 1976. Viking 1 lander. Albert R. Hibbs papers. Gift of Victoria Hibbs, 2010. mssHibbs

Imagine

77 *Mars rover prototype testing, Dumont Dunes, Death Valley*, May 1992. Charlene M. Anderson. The Planetary Society records. mssPlanetary

78 *Fallout Protection* brochure, 1961. US Department of Defense. Burndy Library collection. 717567

79 *Tiazhest' ischezla: Fantasticheskiĭ ocherk* (Gravity is gone), 1934. Konstantin Eduardovich Tsiolkovsky (1857–1935). Jeremy Norman collection on the history of aerodynamics, aviation and aerospace. Gift of Jeremy M. Norman, 2015

Stations in Space, 1960. Donald Cox (1921–1998), author; W. A. Kocher, artist. Burndy Library collection. 716728

Concept drawing of car on overhead Carveyor structure, 1955. Lunden, Hayward & O'Connor (1949–57). Samuel E. Lunden collection. Gift of Samuel E. Lunden, 1984. archLunden

80 Film stills from *Biosphere 2: The Human Experiment*, 1991. Space Biosphere Ventures. Albert R. Hibbs papers. Gift of Victoria Hibbs, 2010. mssHibbs

Film stills of Biospherians entering Biosphere 2, September 26, 1991. Albert R. Hibbs papers. Gift of Victoria Hibbs, 2010. mssHibbs

81, 82–83 *Green Machine Feasibility Study*, 1980. Glen Howard Small (born 1937). Southern California regional planning collection. Gift of Los Angeles County Department of Regional Planning, 1997. 605982. © Glen Howard Small, architect

84 *Entretiens sur la pluralité des mondes* (Conversations on the plurality of worlds), 1686. Bernard Le Bovier de Fontenelle (1657–1757). 381966

85 *Sur les autres mondes* (On other worlds), 1937. Lucien Rudaux (1874–1947). Gift of Mr. and Mrs. F. H. Wright, 1990. QB43 .R82 1937

By Air Express to Venus, 1929. Roy Rockwood (Howard Garis) (1873–1962). 645799

Pluck and Luck magazine, October 2, 1901. Richard R. Montgomery (Franky Tousey) (1853–1902). 294580

The War of the Worlds, 1898 (1960 edition). H. G. Wells (1866–1946), author; Edward Gorey (1925–2000), artist. Burndy Library collection. 706333. Image used with permission of The Edward Gorey Charitable Trust

86 *A Martian Canal*, ca. 1955. Chesley Bonestell (1888–1986). William K. Hartmann collection. Gift of William K. Hartmann, 2025. mssHartmann box 2

87 *Sunset on Polar Dune Fields of Mars*, 1980. William K. Hartmann (born 1939). Gift of William K. Hartmann, 2025. mssHartmann box 1

88 Working notes and sketch of Oankali species, ca. 1985. Octavia E. Butler (1947–2006). Octavia E. Butler papers. Gift of the estate of Octavia E. Butler, 2008 and 2017. mssOEB box 150

89 Mars landscape in *Otrkytie mira* (Discovery of the world), 1956. Boris V. Liapunov (1921–1975). Burndy Library collection. 716729

90 *Looking southwest from the Chryse region of Mars*, August 31, 1976. Viking 1 spacecraft. Albert R. Hibbs papers. Gift of Victoria Hibbs, 2010. mssHibbs

91 *Photomosaic of Cydonia region of Mars*, June 1976. Viking 1 spacecraft. Albert R. Hibbs papers. Gift of Victoria Hibbs, 2010. mssHibbs

92–93 *Mars balloon testing, Mojave Desert*, 1990. Charlene M. Anderson. The Planetary Society records. mssPlanetary

95 *SNAKE guide rope, Mars balloon testing, Mojave Desert*, 1990. Charlene M. Anderson. The Planetary Society records. mssPlanetary

96 *Setting up for Mars balloon testing, Mojave Desert*, 1990. Charlene M. Anderson. The Planetary Society records. mssPlanetary

Below

FRONT COVER

Los Angeles Aqueduct, 1966. Otis R. Marston (1894–1979). Otis R. Marston papers: still images. mssMarston box 42

BACK COVER

Telepresence Remotely Operated Vehicle (TROV) in McMurdo Sound,

Antarctica, 1993. Dale T. Andersen (born 1955). The Planetary Society records. mssPlanetary. Courtesy of Dale T. Andersen, PhD, Carl Sagan Center, SETI Institute

INSIDE COVER

Kinginzan funai shikioka kasegikatazu (Illustrations of operations inside and outside of gold and silver mines), Sado Island, Japan, after 1788. Burndy Library collection. mssHM 82855

FRONT FLAP

Chemical Atlas; or, The Chemistry of Familiar Objects, 1857. Edward L. Youmans (1821–1887). Burndy Library collection. 752174

BACK FLAP

Mundus subterraneus (Subterranean world), 1669. Athanasius Kircher (1602–1680). 60552

1 *Second heightening, Aswan Dam, Egypt*, 1931. Aswan Dam photographs. Burndy Library collection. photCL Burndy 1

2 *Earthquake at Santa Barbara steam plant*, 1925. G. Haven Bishop (1879–1972). Southern California Edison collection of negatives and photographs. photCL SCE

4 Sections of manganese nodules dredged from the South Pacific in *Report on the Scientific Results of the Voyage of HMS Challenger During the Years 1873–1876*, 1882–95. Charles Wyville Thomson (1830–1882) and John Murray (1841–1914). Burndy Library collection. 753642

7 *The bottom of Cook's Kitchen Engine Shaft in 'Mongst Mines and Miners*, 1893. J. C. Burrow (1852–1914), author and photographer; William Thomas (1857–1931), author. Burndy Library collection. 752789

8 *Diver preparing to guide conduit underwater, Huntington Beach steam station*, 1957. Joseph Fadler (1924–2013). Southern California Edison collection of negatives and photographs. photCL SCE

Fathom

9 *Das Meer* (The sea), 1867. Matthias J. Schleiden (1804–1881). Burndy Library collection. 705778

10 *Mussel Diver, Thailand*, 1977. Robert Glenn Ketchum (born 1947). Gift of Jack B. Ketchum. 94.29.5

Das Meer (The sea), 1867. Matthias J. Schleiden (1804–1881). Burndy Library collection. 705778

11 *De historia piscium* (On the history of fish), 1686. Francis Willughby (1635–1672). 287707

Ichtyologie, ou, Histoire naturelle, générale et particulière des poissons (Ichthyology, or, general and particular natural history of fishes), 1785–97. Marcus E. Bloch (1723–1799). Gift of Dr. Giles W. Mead, 1995. 496716

12–13 *Composite image of Earth's biosphere*, 1980. NASA satellites NIMBUS-7 and NOAA-7. The Planetary Society records. mssPlanetary

14–15 *The Fresh-Water Fishes of Great Britain*, 1828. Sarah Bowdich Lee (Mrs. R. Lee) (1791–1856). 112912

16 *Ocean and River Gardens*, 1857. Henry Noel Humphreys (1810–1879). 425205

Album of seaweed specimens Collected, Arranged, and Mounted by Miss G. E. Dyke-Poore, Jersey, British Islands, 1855–85. Burndy Library collection. mssHM 84128

17 Album of seaweed and algae specimens from the southern coast of England, ca. 1860. Burndy Library collection. mssHM 84127

Actinologia Britannica: A History of the British Sea-Anemones and Corals, 1860. Philip H. Gosse (1810–1888), author; William Dicks (1815–1892), artist. 421788

18–21 *Report on the Scientific Results of the Voyage of HMS Challenger During the Years 1873–1876*, 1882–95. Charles Wyville Thomson (1830–1882) and John Murray (1841–1914). Burndy Library collection. 753642

22–23 *Twenty Thousand Leagues under the Seas* (English edition), 1873. Jules Verne (1828–1905), author; Édouard Riou (1833–1900), artist. Christopher Isherwood collection. 617974

24 Notebook of engineer E. Pilkington, Western Union Cable Station, Bay Roberts, Newfoundland, ca. 1912–16. E. Pilkington. Burndy Library collection. Burndy ms52

25 Box of telegraph cable laid in 1869 by Société du Câble Transatlantique Française (French Transatlantic Cable Society), from Brest to St. Pierre and St. Pierre to Duxbury, Mass., ca. 19th century. Telegraph Construction & Maintenance Company. Burndy Library collection. 10289

26 Whaling voyage logbook, south Atlantic and the southwest Indian Ocean, 1833–35. Gift of Mrs. Charles M. Heron, 1955. mssHM 26610

A Most True and Marvelous Strange Wonder broadside, 1568. Timothy Granger. 18306

27 Painting of hunting right whales in ledger of whaling voyages, ca. 1851–57. David E. Marshall (born 1807). David E. Marshall papers. Purchased by the Library Collectors' Council, 2015. mssHM 81600

Jokōroku (Record of abolishing locusts), 1826. Ōkura Nagatsune (1768–1860). Burndy Library collection. 720167

28 *Moby Dick, or, the Whale*, 1851 (1930 edition). Herman Melville (1819–1891), author; Rockwell Kent (1882–1971), artist. 320348

29 *View of Stromboli, Italy, from the Sunbeam*, ca. 1874. Annie Brassey (1839–1887). Lady Annie Brassey photograph collection. photCL 331

30 *Cracks along the highway near Long Beach, California*, 1933. Larry Lynde. Collection of photographs and postcards of the Long Beach, California, earthquake. photCL 715

Rupture

31 *Mundus subterraneus* (Subterranean world), 1669. Athanasius Kircher (1602–1680). 60552

32 *Louis Agassiz statue at Stanford University*, April 21, 1906. W. C. Mendenhall. Ralph Arnold photograph and map collection. Gift of Ralph Arnold, 1955–1961. photCL 311

33 *Apartment and store, Anaheim Blvd., Long Beach*, 1933. Austin Studio. Collection of photographs and postcards of the Long Beach, California, earthquake. photCL 715

Residence on Elm, Long Beach, 1933. Collection of photographs and postcards of the Long Beach, California, earthquake. photCL 715

Birds-eye view of ruins of San Francisco from Captive Airship 600 feet above Folsom between Fifth and Sixth, 1906. George R. Lawrence (1868–1938). Collection of panoramic photographs. photPAN 24

34 Visualization of Earth's crust in *Atlas zu Alex. v. Humboldt's kosmos* (Atlas of Alex v. Humboldt's kosmos), 1853. Alexander von Humboldt (1769–1859), author; Traugott Bromme (1802–1866), engraver. Burndy Library collection. 761978

35 *Campi phlegraei* (Flaming fields), 1776. William Hamilton (1730–1803), author; Pietro Fabris (active ca. 1740–1859), artist. 27434

36 *Lava bubbles at Kalapana, Hawai'i*, 1988. The Planetary Society records. mssPlanetary

37 *Mundus subterraneus* (Subterranean world), 1669. Athanasius Kircher (1602–1680). 60552

38 *A. C. Vroman in Petrified Forest, Arizona*, 1895. Horatio N. Rust photograph collection. Gift of Nelly Rust Lockwood and Edward H. Rust, 1943. photCL 8

Dig

39 *Eucalyptus tree downed during Eaton Fire windstorm, with employee Damon Mears, The Huntington*, January 2025. Ibarionex Perello (born 1965). HU13TR12

40 *Herbarium Apulei* (Herbarium of Apuleius), ca. 1481–82. Barbarus Apuleius (active 9th century). 89924

41 *Osservazioni microscopiche sulla tremella* (Microscopic observations on tremella), 1774. Bonaventura Corti (1729–1813). 478720

42 Original sketch of *Section No. 8, Black River and Erie Canal Feeder*, New York, ca. 1841. Lardner Vanuxem (1792–1848). Lardner Vanuxem collection. Burndy Library collection. mssVanuxem

43 *Grand Canyon*, ca. 1941. Edward Weston (1886–1958). Edward Weston collection. 000.111.105. © Center for Creative Photography, Arizona Board of Regents

44 *Geological and Geographical Atlas of Colorado and Portions of Adjacent Territory*, 1877. F. V. Hayden (1829–1887). 302399

45 *Buttes of the Cross, Cleopatra's Chair, Utah*, 1965. Otis R. Marston (1894–1979). Otis R. Marston papers: still images. mssMarston papers

46 Postcard of Petrified Forest, near Holbrook Arizona, ca. 1950. Bob Bradshaw (1918–2008). Postcard collection. PriEph

47 *Bad Luck, Hot Rocks*, 2014. Ryan Thompson (born 1981) and Phil Orr. BF 575.G8 B33 2014. *Bad Luck, Hot Rocks: Conscience Letters and Photographs from the Petrified Forest* edited by Ryan Thompson & Phil Orr, pp. 38–39. Published by THE ICE PLANT, 2014.

Postcard of Old Faithful Log, Petrified Forest, Arizona, ca. 1945. Postcard collection. PriEph

Postcard of Rainbow Canyon, Petrified Forest, Arizona, ca. 1933. Curt Teich & Co. Detroit Publishing Company collection. Purchased by the Library Collectors' Council, 2006. 645655

48 *Description of a Skeleton of the Mastodon Giganteus of North America*, 1852. John Warren (1778–1856), author; Benjamin Franklin Nutting (ca. 1826–1884), artist. Burndy Library collection. 752241

49 *The Zoology of the Voyage of H.M.S. Beagle, Part I: Fossil Mammalia*, 1839–43. Charles Darwin (1809–1882), editor; Richard Owen

(1804–1892), author; George Johann Scharf (1788–1860), artist. Warren D. Mohr/Charles Darwin collection. 604911

50 *Nicolai stenonis elementorum myologiae specimen* (Specimen of the elements of myology), 1667. Nicolaus Steno (1638–1686). 477435

51 Sketches in notebook of the Geological Survey of State of New York, ca. 1838. Lardner Vanuxem (1792–1848). Burndy Library collection. Burndy ms

52 *Astronaut and geologist Harrison H. Schmitt working on lunar surface during Apollo 17 mission*, 1972. Eugene A. Cernan (1934–2017). The Planetary Society records. mssPlanetary

Survey

53 *Colorado River runner Otis "Dock" Marston at Pearce Ferry, Grand Canyon*, 1947. Margaret Marston (1892–1968). Otis R. Marston papers: still images. mssMarston

54 *On the Disposition of Iron in Variegated Strata*, 1868. George Maw (1832–1912). Burndy Library collection. 718273

55 *Minéralogie micrographique: Roches éruptives françaises* (Micrographic mineralogy: French igneous rocks), 1879. Ferdinand Fouqué (1828–1904) and Auguste Michel Lévy (1844–1911), authors; M. Jacquemin, artist. 477798

56 *Geological and Geographical Atlas of Colorado and Portions of Adjacent Territory*, 1877. F. V. Hayden (1829–1887). 302399

57 Survey and plot of Mount Vernon and neighboring farms, 1793. George Washington (1732–1799). George Washington Collection. mssHM 5995

58 Arithmetic and ciphering notebook, 1798. Joseph Hunt. Jay T. Last collection of graphic arts and social history. PjrlJC EDU

59 *Ryōchi zusetsu* (Diagrams of Surveying), 1852. Hasegawa Hiroshi (Zenzaemon) (1782–1839). Burndy Library collection. 713789

60 Photograph album of the U.S. Geological Survey of the Territories, ca. 1868–77. William Henry Holmes (1846–1943), compiler; William H. Jackson (1843–1942), photographer. photCL 96

61 *Astronaut and geologist Harrison H. Schmitt working on lunar surface during Apollo 17 mission*, 1972. Eugene A. Cernan (1934–2017). The Planetary Society records. mssPlanetary

62 *Northrop P-61 Black Widow*, ca. 1945. Northrop Grumman Corporation papers. Gift of Northrop Grumman Corporation, 2011. mssNorthrop

63–64 *Photo Intelligence*, ca. 1945. US Army Photographic Interpretation Detachment. photCL 589

65 *Bonnors Castle and Ruins of Paradise in Grand Canyon via Ash Fork, Arizona*, ca. 1895. G. L. Rose. Stereographs of Indians of the Southwest, California, and other views by George Wharton James and G. L. Rose. photCL 294

66 *General view from the south, Gould & Curry Works, Nevada*, ca. 1865. Lawrence & Houseworth (1851–1868). Stereograph collection. photST

Claim

67 Daguerreotype of five miners in California with shovels and pans, ca. 1848–50s. Collection of cased photographs and related images. photDAG 37

68 Stereograph of *The Tunnel, Gould & Curry Mine, Nevada*, ca. 1865. Lawrence & Houseworth (1851–1868). Stereograph collection. photST

Stereograph of *Behind the Pipes in the Kennebec Claim, Birchville, Nevada*, ca. 1870s. Thomas Houseworth & Co. (1868–90). Stereograph collection. photST

69 *Mining on the Comstock* broadside, 1876. T. L. Dawes, artist; J. B. Marshall, publisher. Jay T. Last collection of graphic arts and social history. pjrlJC 004359

70 *Diannan kuangchang tulüe* (Illustrated account of mining in Diannan), 1844. Wu Qijin (1789–1847). Burndy Library collection. 752790

Details from *'Mongst Mines and Miners, or Underground Scenes by Flashlight*, 1893. J. C. Burrow (1852–1914), author and photographer; William Thomas (1857–1931), author. Burndy Library collection. 752789

71 Postcard of Wesselton diamond mine in Kimberley, South Africa, operated by De Beers Consolidated Mines Ltd., ca. 1906. Henry Blake Fuller letters to Louise Lawrence Venus Washburn. Gift of Mrs. Roland R. Tileston, 1950. mssFuller

Annual Report, 1950. Phelps Dodge Corporation. Americana ephemera collection. priAmericana

72–73 *Kinginzan funai shikioka kasegikatazu* (Illustrations of operations inside and outside of gold and silver mines), Sado Island, Japan, after 1788. Burndy Library collection. mssHM 82855

74 *Looking southwest at Zumaya No. 1 during its period of maximum flow, Mene Grande, Zulia*, 1914. John A. Stokes. Ralph Arnold photograph and map collection. Gift of Ralph Arnold, 1955–1961. photCL 311

Interior view of Zumba well, showing drilling crew and Mrs. Stokes, Mene Grande, Zulia, 1914. John A. Stokes. Ralph Arnold photograph and map collection. Gift of Ralph Arnold, 1955–1961. photCL 311

75 *Resumen de actividades* (Annual report), 1953. Compañía Shell de Venezuela (Venezuela Shell Company). Foreign ephemera collection. PriEph

76 Field book related to oil fields at Lake Maracaibo, Venezuela, 1912. Ralph Arnold (1875–1961). Ralph Arnold papers. Gift of Ralph Arnold, 1955–1961. mssArnold box 129

77 *Live oil seepages near Zumba well, Mene Grande, Zulia, Venezuela*, 1914. John A. Stokes. Ralph Arnold

photograph and map collection. Gift of Ralph Arnold, 1955–1961. photCL 311

78 *Surveyors, Los Angeles Aqueduct, Owens Valley, California*, 1906–7. Frank Rolfe (born 1874). Frank Rolfe collection of photographs and negatives. Donated by the Historical Society of Southern California, 1992. photCL 400 volume 12

Divert

79 Hand-drawn map of the Valley of Mexico, after 1652. mssHM 39

81 Postcard of sailors viewing Gatun Locks, Panama Canal, ca. 1914–23. Vibert & Dixon. Foreign ephemera collection. PriEph

Postcard of men mixing concrete at Miraflores, Panama Canal, ca. 1910s. L. L. Maduro, Jr. Foreign ephemera collection. PriEph

Aswan Dam heightening, Lock no. 1, Gate no. 20, 1910. Aswan Dam photographs. Burndy Library collection. photCL Burndy 1

82 *Construction at Boulder Dam (Hoover Dam)*, 1934. "Dick" Whittington Studio (1924–87). "Dick" Whittington Studio collection of negatives and photographs. photCL Whitt 761

Colorado River brochure, 1931. Citizens Colorado River Water Committee. California ephemera collection. PriEph

83 *Los Angeles Aqueduct pipeline*, ca. 1915–25. Ernest Marquez photograph collection. photCL 555

Concrete lining Alabama Hills, Owens Valley, California, ca. 1910. West Coast Art Co. Owens Valley views. photCL 77

84 *Water Transportation: Hoover Dam to User leaflet*, 1958. Imperial Water District, publisher; G. A. Reed, artist. California ephemera collection. PriEph

85 *Los Angeles Aqueduct*, 1966. Otis R. Marston (1894–1979). Otis R. Marston papers: still images. mssMarston box 42

86 *Woman with bedrock mortars*, ca. 1915. William H. Weinland photograph collection. Gift of Clarence Weinland. photCL 39

Ground

87 *Popular Mineralogy*, 1850. Henry Sowerby (1825–1891). Burndy Library collection. 712287

88 *The Mineral Kingdom*, 1869. Johann Gottlob Kurr (1798–1870), author; John van Voorst (1804–1898), translator. Burndy Library collection. 752226

89 Expedition journal, 1791–92. José Longinos Martínez (1756–1802). mssHM 321

90 *Pictographs by Chumash or Yokuts people, Kern County, California*, 1904–5. Ralph Arnold (1875–1961). Ralph Arnold photograph and map collection. Gift of Ralph Arnold, 1955–1961. photCL 311

Well of Moon and Sky—Kotuumot Kehaay, 2013. Mercedes Dorame (born 1980). Purchased with funds from The Philip and Muriel Berman Foundation. 2021.14.2. © Mercedes Dorame, 2013

Specimen tints of artists' oil colours, ca. 1910s. Winsor & Newton. Diana Korzenik collection of art education ephemera and books. 603405

91 “A catalogue of simple and mixt colours,” in *Philosophical Transactions*, 1686. Richard Waller (ca. 1650–1715). 98681

92 Lingbi Stone from Anhui province, China, 20th century. Gift of Ralph Johnson. B2012.7.9

93 *Shizhuzhai shubua pu* (Ten Bamboo Studio manual of calligraphy and painting), 1633–1703. Hu Zhengyan (ca. 1584–1674). Purchased with funds from June and Simon K.C. Li, Fong Liu, Mei-Lee Ney, and Anne and Jim Rothenberg, in honor of Steven S. Koblik. 2014.7.3.12

95 *John Wesley Powell expedition near the upper end of the Colorado River*, 1872. E. O. Beaman (1837–1876). photPF 3655

96 *Upheaval Dome, Utah*, 1961. Otis R. Marston (1894–1979). Otis R. Marston papers: still images. mssMarston

Booklet

COVER

Apollo 11 view of Earth rise, 1969. NASA. The Planetary Society records. mssPlanetary

INSIDE FRONT COVER

Burndy Library scientific instrument collection, The Huntington Library, 2023

INSIDE BACK COVER

Historic lightbulbs (lamps) in the Burndy Library scientific instrument collection, The Huntington Library, 2023

6 Burndy Library scientific instrument collection, The Huntington Library, 2023

Slipcase

TITLE (TOP TO BOTTOM)

⌚ Natural y general hystoria de las Indias (General and natural history of the Indies), 1539–48. Gonzalo Fernández de Oviedo y Valdés (1478–1557)

⌚ *Tiazhest' ischezla: Fantasticheskii ocherk* (Gravity is gone), 1934. Konstantin Eduardovich Tsiolkovsky (1857–1935)

⌚ *Chemical Atlas; or, The Chemistry of Familiar Objects*, 1857. Edward L. Youmans (1821–1887)

SUBTITLE (TOP TO BOTTOM)

⌚ *Report on the Scientific Results of the Voyage of HMS Challenger During the Years 1873–1876*, 1882–95. Charles Wyville Thomson (1830–1882) and John Murray (1841–1914)

⌚ *Wayō jikon burui* (Japanese–English vocabulary guide), 1872. Miki Kōsai (Utagawa Yoshimori) (1830–1885)

⌚ *Animal Locomotion*, 1887. Eadweard Muybridge (1830–1904)

LONG SPINE

⌚ *De historia piscium* (On the history of fish), 1686. Francis Willughby (1635–1672)

⌚ *Phrenology Made Practical and Popularly Explained*, 1860. Frederick Bridges (died 1883)

SHORT SPINE

⌚ *An Original Theory or New Hypothesis of the Universe*, 1750. Thomas Wright (1711–1786)

COMMISSIONED PHOTOGRAPHY BY

Anna Beeke (born 1984)

⌚ 54; 62–63

BOOKLET

Inside front cover; 6; inside back cover

Heather Rasmussen (born 1982)

⌚ 12; 20–21; 29; 44

⌚ 25; 55; 72–73; 92

⌚ 12–13; 15–16; 23; 24; 49–50; 76–77

⌚ 22–23; 26–27; 43–44; 46–47; 65

⌚ 13; 20–21; 65; 89







