

CATALOGUE 40:  
Fifty Rare Works in Science,  
Medicine and Thought  
*Issued on our 40th Anniversary*



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## CONTENTS

BACON	1	LAVOISIER	26
BATESON	2	LE LOYER	27
BEAUMONT	3	LEY	28
BIDLOO	4	LORENTZ	29
BOHR	5	MANTELL	30
BOUCHER DE PERTHES	6	MASCAGNI	31
BOURNEVILLE	7	MAXWELL	32
COPERNICUS	8	MAXWELL	33
DALTON	9	MESMER	34
DARWIN	10	MESMER	35
DARWIN & WALLACE	11	MORSE	36
DARWIN	12	MOSELEY	37
DESCARTES	13	NEWTON	38
DONNÉ	14	PFAFF	39
EINSTEIN	15	PLANCK	40
FULLER	16	REID	41
GALTON	17	RÖNTGEN	42
GLOUCESTER	18	RUTHERFORD	43
GREW	19	SÄNGER	44
HALES	20	VAIL	45
HOBBS	21	VESALIUS	46
HOOKE	22	VESALIUS	47
HUMBOLDT	23	WALLACE	48
HUNTER	24	WEGENER	49
IBM	25	WILCOX	50



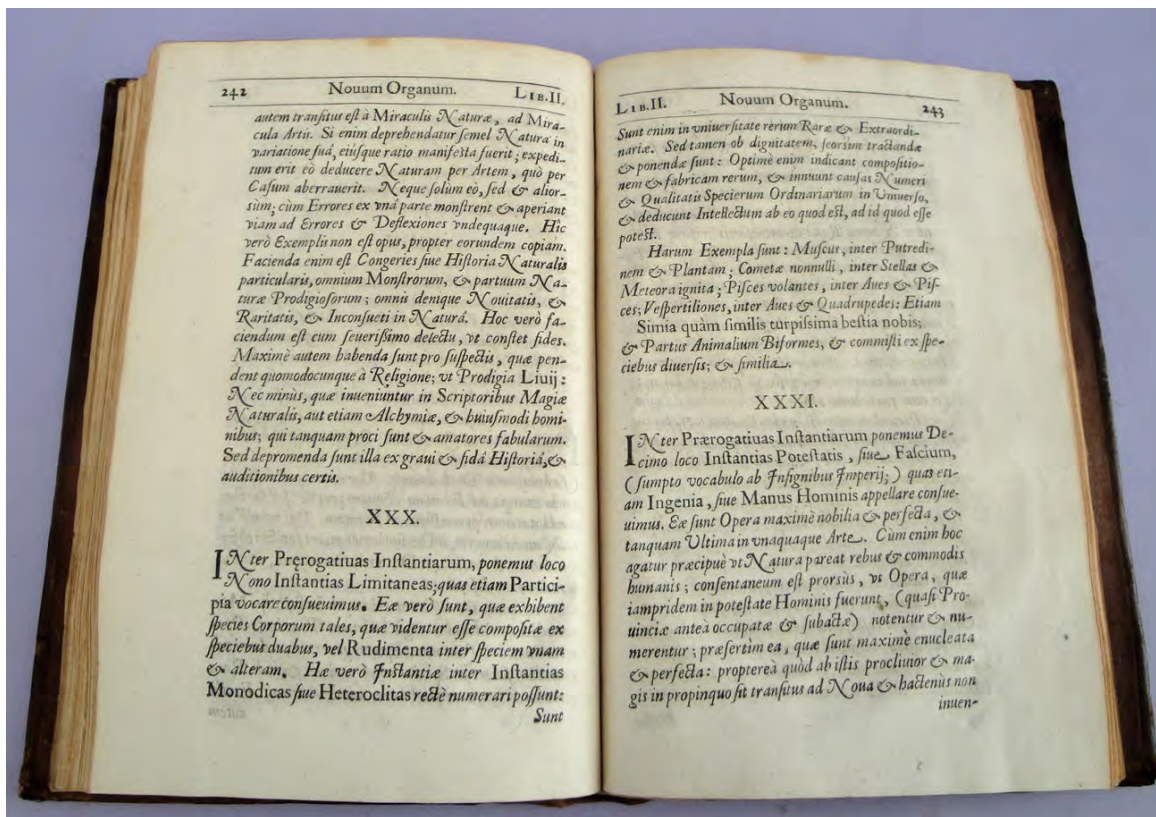
FRANCISCV  
DE VERULAMIO /  
Summi Angliæ  
CANCELLARIS /  
Instauratio  
magna.

Multi pertransibunt & augebitur scientia.

Anno

LONDINI  
Apud Iouacem Billium  
Typographum.  
Regium.

1620.



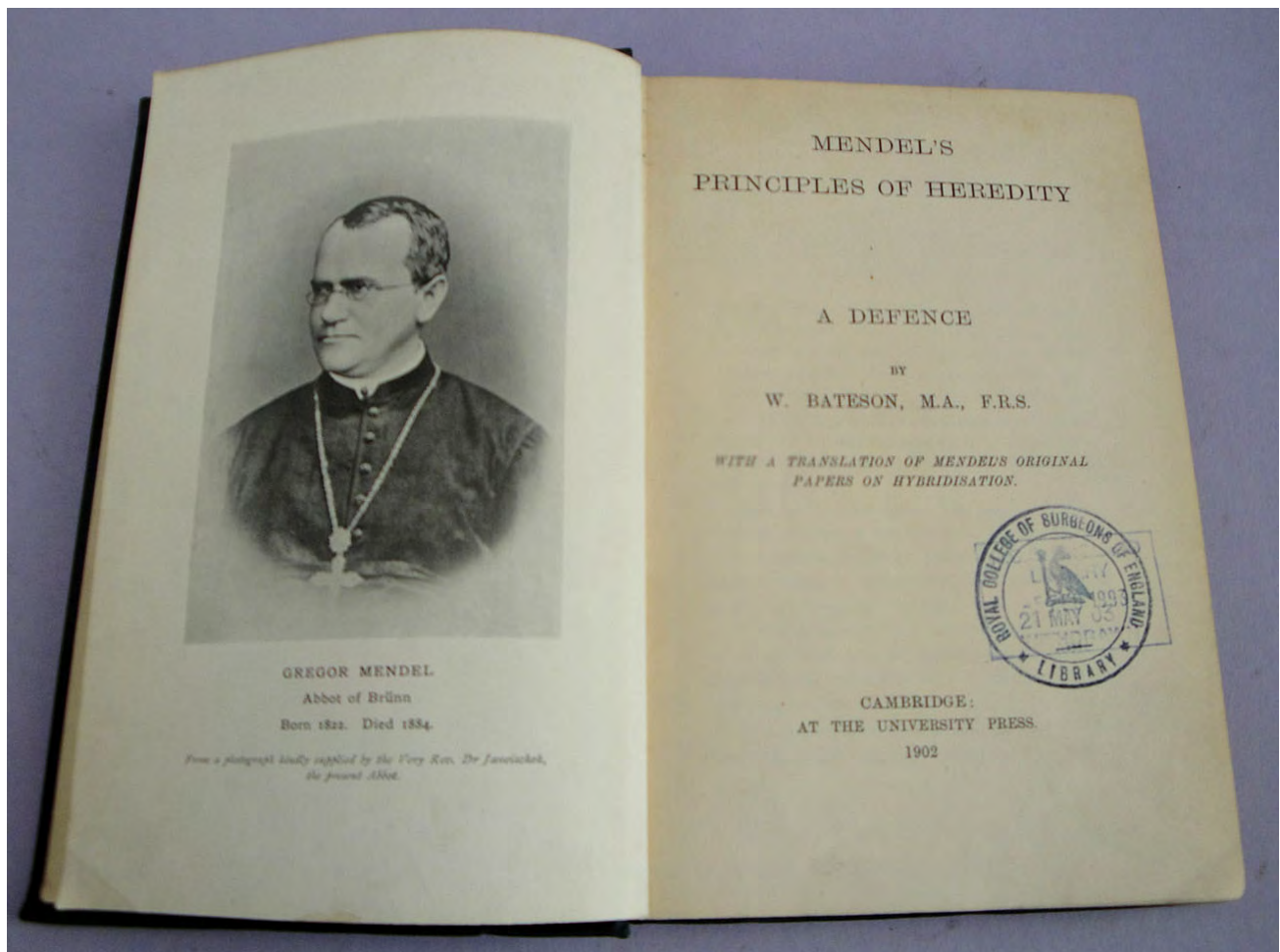
## Scientific Method

**1. Bacon, Francis** (1561–1620). *Instauratio magna*. [Novum organum sive indicia vera de interpretatione naturae.] Small folio. [10], 172, 181–360, 36, [2]pp. Beautiful engraved titlepage by Simon de Passe (1595–1647). London: John Bill, 1620. 278 x 187 mm. Calf c. 1620, skillfully rebaked, repairs to inner margin and upper right corner of title page. Insignificant marginal worming on a few leaves, colophon/errata leaf a little soiled, but a very good copy. Early engraved bookplate. \$15,000

**First Edition**, second issue. (Only a handful of copies of the first issue exist.) The philosophical exposition of the experimental method in science, which greatly influenced the creation and development of the first scientific academies—the “Invisible College,” the Royal Society, and l’Académie Royale des Sciences, with inestimable effect on the development of scientific thought. At a time when most thinkers were slaves to the classical

authorities, “men of sharp wits shut up in the cells of a few authors, chiefly Aristotle, their dictator,” Bacon argued that hypotheses be subject to proof whether in nature or in the laboratory before we can accept their validity. With amazing insight Bacon even suggested what we now call controls on experiments. STC 1163. Horblit 8b. Dibner 80. *Printing and the Mind of Man* 119. Gibson, Bacon: (1950), 103b. 41427

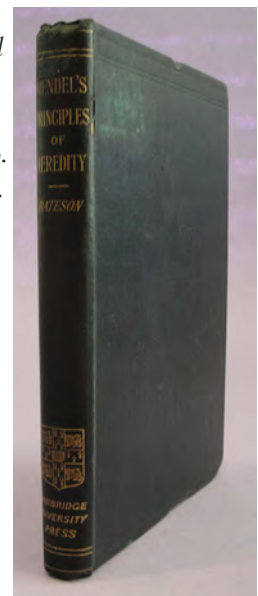


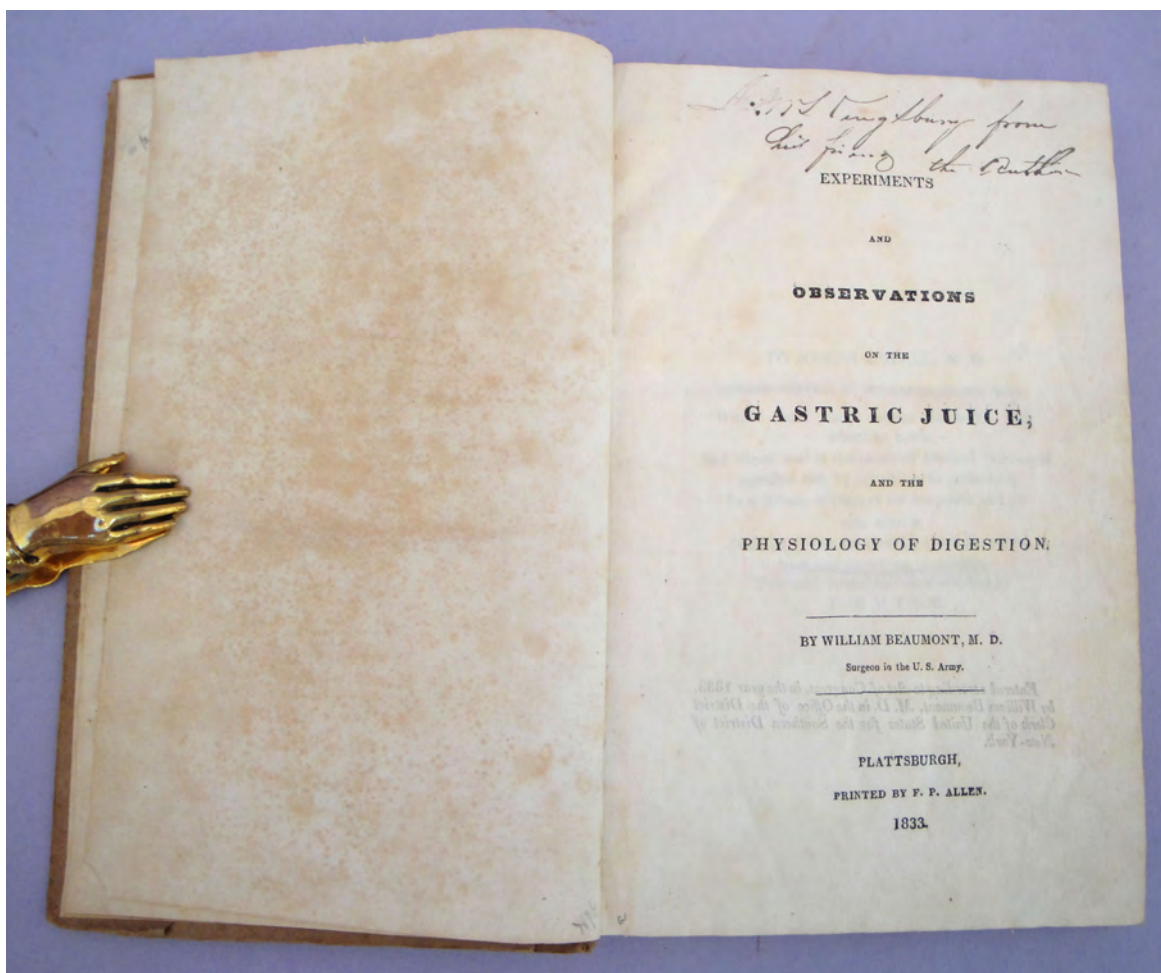


2. **Bateson, William** (1861-1926). Mendel's principles of heredity: A defence. xiv, [2], 212pp. Portrait frontispiece. Cambridge: Cambridge University Press, 1902. 188 x 125 mm. Original green cloth, gilt-lettered spine, small split in upper front hinge, upper extremity a bit rubbed. Library stamp of the Royal College of Surgeons on title and a few other leaves. Very good copy. \$750

**First Edition.** The first textbook presentation of Mendelian genetics, written in response to W. F. R. Weldon's attack (in *Biometrika* I [1902]) on the validity of Mendel's principles. The book includes the English translation of Mendel's "Versuche über Pflanzenhybriden" previously pub-

lished in the *Journal of the Royal Horticultural Society*, and the first English translation of Mendel's 1870 paper on hieracium hybrids obtained by artificial fertilization. Dunn, pp. 64-65. Garrison-Morton 241. Norman 135. 41545





### *The Most Important Presentation Copy Extant*

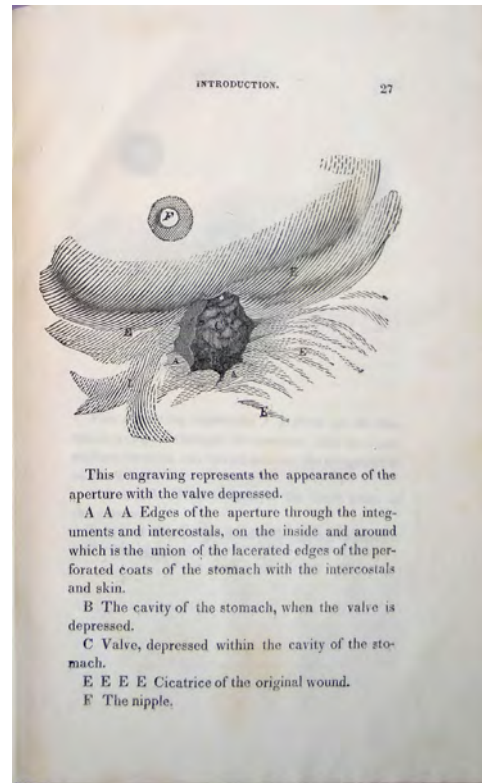
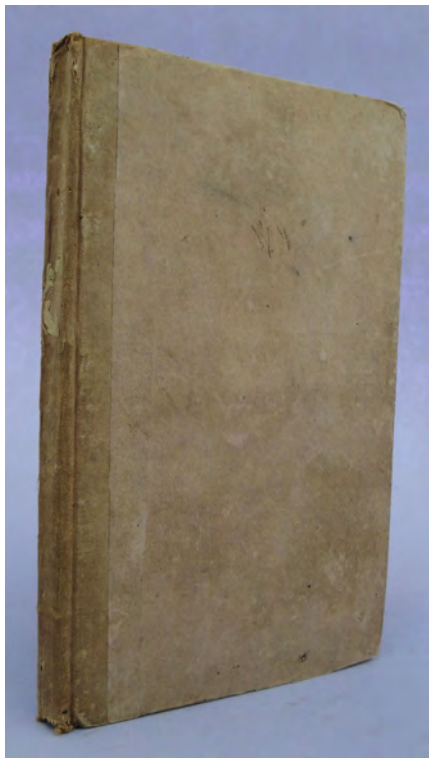
**3. Beaumont, William (1785-1853).** Experiments and observations on the gastric juice, and the physiology of digestion. 8vo. 280pp. Plattsburgh: F. P. Allen, 1833. 223 x 140 mm. Original boards, cloth spine, a little worn, remains of paper label on spine; preserved in quarter morocco slipcase. Faint foxing, otherwise fine. *Presentation copy, inscribed on the title by Beaumont to his friend James Wilkinson Kingsbury (1801-53): "J. W. Kingsbury from his friend the Author."* Kingsbury's signature written faintly in pencil on front free endpaper. The Thomas Streeter copy, with his note in pencil on the front free endpaper.

\$75,000

**First Edition.** The most important presentation copy extant of the first great American contribution to physiology. Beaumont inscribed this copy to his longtime friend James W. Kingsbury, an army officer whom Beaumont had met when both men were stationed in Prairie du Chien, Wisconsin in the early 1830s. Kingsbury was a man of some prominence in St. Louis, where he had married a local heiress, Julia Antoinette Cabanne, and acquired from his father-in-law a 425-acre tract of land that is now home to Kingsbury Place, one of St. Louis's most elegant resi-

dential communities. In 1835 Beaumont moved his family to St. Louis where he remained the rest of his life; his decision to settle in the city, although motivated by professional ambition, certainly also owed something to the presence of his friend there.

As is well known, Beaumont, a U. S. Army surgeon, was the first to make an accurate scientific study of the physical phenomena of gastric digestion. While stationed at Fort Mackinac, Michigan, close to the Canadian border, Beaumont had been presented with a unique opportunity in the person of one of his



patients, the young French Canadian soldier Alexis St. Martin, who was left with a permanent gastric fistula after suffering a gunshot wound to the stomach. Beaumont's experiments and observations, conducted between 1825 and 1831, conclusively established the chemical nature of digestion, the presence and role of hydrochloric acid in the stomach, the temperature of the stomach during digestion, the movement of the stomach walls and the relative digestibility of certain foods—all of which revolutionized current theories of the physiology of digestion.

Kingsbury was familiar with Beaumont's researches on digestion, as Beaumont had continued his experiments with Alexis St. Martin during his tenure at Prairie du Chien. When Beaumont decided to publish his *Experiments and Observations* by subscription, Kingsbury, who by then was back to St. Louis, acted as one of Beaumont's agents, distributing prospectuses for the book to local booksellers and other likely purchasers. The Beaumont archives at Washington University's Becker Medical Library includes a letter that Kingsbury wrote to Beaumont on July 14, 1833; this is the earliest letter written to Beaumont to contain a reference to Beaumont's book:

Your book will be valuable to any one whether a medical man, or a plain farmer,

especially when Diet is all the rage as it is now. I hope it may prove as profitable to your purse, as it has to your standing in the great world, where you are located you do not require Alex's intestines to gain you a name or practice. Send me on some 4 or 5 of the prospectus. I shall take one or two copies, my friends will take some & I trust that the talent of the country will have & manifest a feeling for kindred abilities.

At the end of his letter Kingsbury repeats his request:

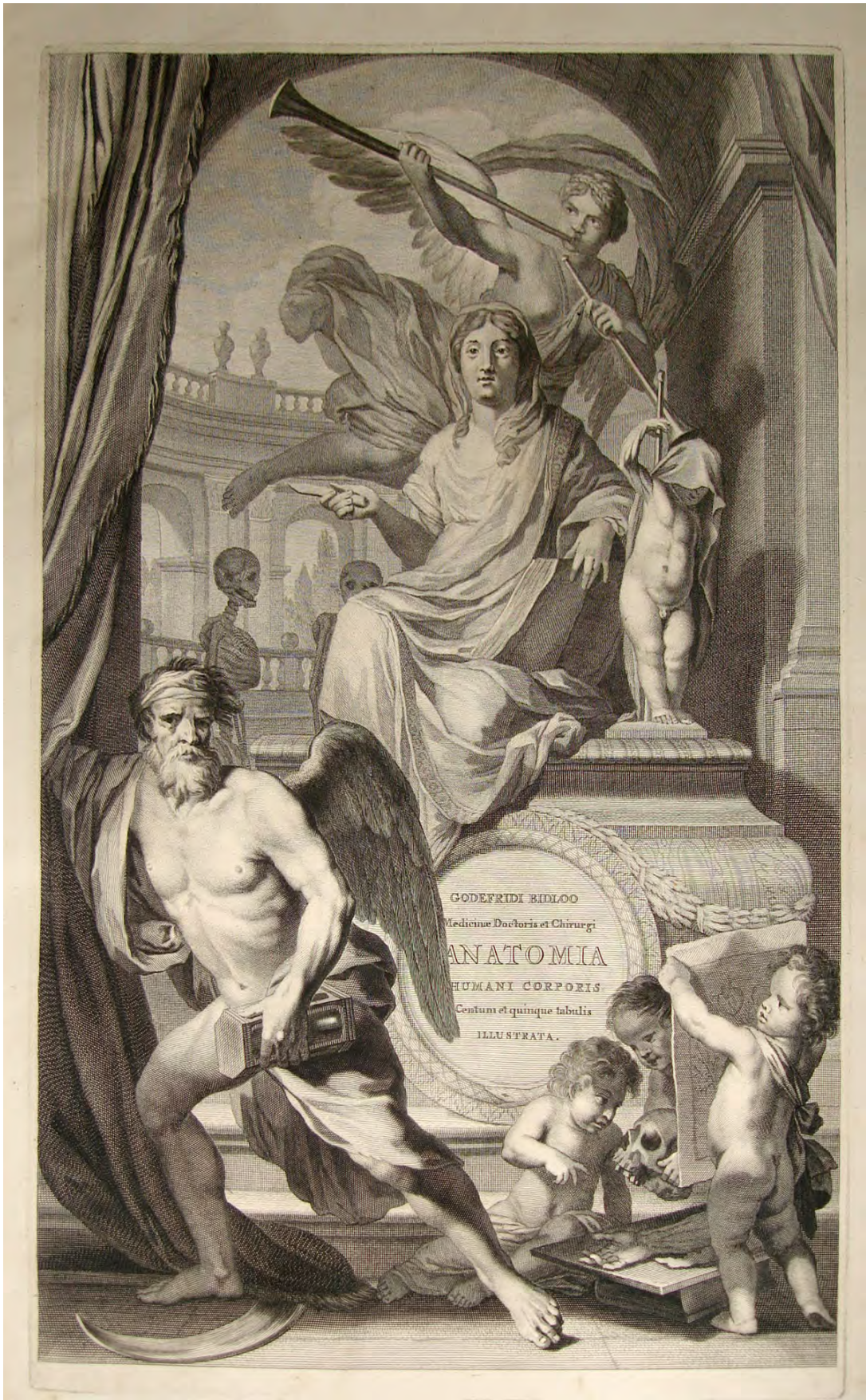
Send your prospectus as soon as you can we have about 16 doctors here to be examined.

The sale of only one other presentation copy of this work is recorded: the Haskell F. Norman copy, which sold for \$45,000 at Christie's NY in 1998. That was one of fifty copies which Beaumont had bound in full leather. Considering normal book production practice, it is likely that the special full-leather copies were produced after the main edition. The Norman copy was inscribed by Beaumont to William Dunlap, whose relationship with Beaumont is unknown. Dibner 130. Fulton, pp. 186–190. Horblit 10. Lilly, p. 185. Norman Library 152. Norman, *One Hundred Books Famous in Medicine*, 61. Hunter, *Kingsbury Place: The First Two Hundred Years*, pp. 5, 7–8. 39845



*Large Paper Copy in Contemporary Maroon Morocco*

4. **Bidloo, Govert** (1649-1713). *Anatomia humani corporis, centum & quinque tabulis, per artificiosiss. G. de Lairese ad vivum delineatis*. Large folio. [68]ff. Additional engraved title, engraved portrait by Abraham Bloteling after Gérard de Lairese, 105 numbered engraved plates after Lairese, probably by Bloteling and Peter and Philip van Gunst (plate 23 folding), number 10 printed on two sheets, printer's woodcut device on title, woodcut initials and tail-pieces. Amsterdam: for the widow of Joannes van Someren, the heirs of Joannes van Dyk, Henry Boom and widow of Theodore Boom, 1685. 628 x 359 mm. Contemporary maroon morocco gilt with gilt coat-of-arms of Samuel Bernard [Olivier 1042 fer 1] on the sides, gilt edges (rebacked, old spine laid down, corners repaired); leather backed folding case. Lacuna in text leaf 2G repaired with loss of a few words on verso, small tear in plate 23 repaired. Provenance: Samuel Bernard (ca 1651-1739) painter and engraver (coat-of-arms on binding); Fenwick Beekman (bookplate); Ira M. Rutkow (pencil signature on rear flyleaf). \$35,000





**First Edition, Large Paper Copy.** Considered as an artistic meditation on anatomy, Gerard de Lairesse's designs are a total departure from the idealistic tradition inaugurated by the Vesalian woodcuts. They are also worlds apart from the productions of the Fialetti-Casserio collaboration. Lairesse displayed his figures with everyday realism and sensuality, contrasting the raw dissected parts of the body with the full, soft surfaces of undissected flesh surrounding them; placing flayed, bound figures in ordinary nightclothes or bedding; setting objects such as a book, a jar, a crawling fly in the same space as a dissected limb or torso. He thus brought the qualities of Dutch still-life painting into anatomical illustration, and gave a new, darker expression to the significance of dissection. De Lairesse's images of dissected pregnancies and premature infants also reflect compassion—a quality unusual in art that was intended primarily to be scientific.

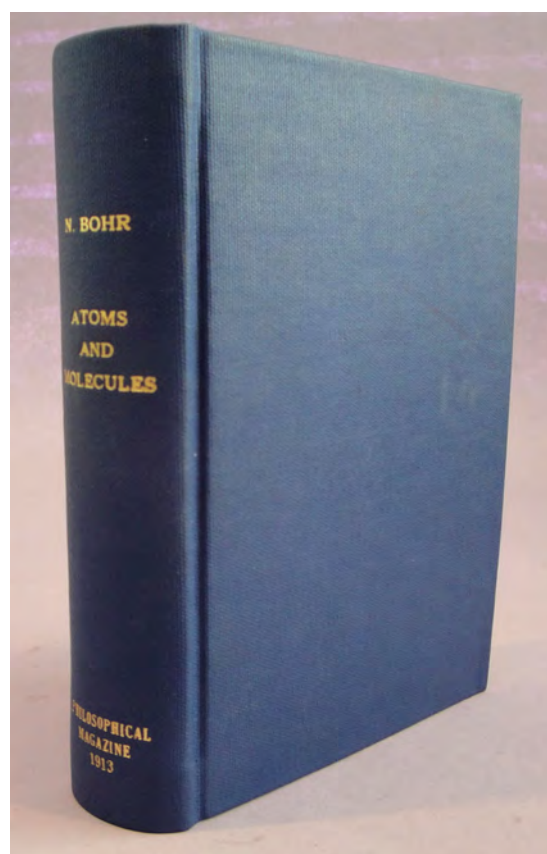
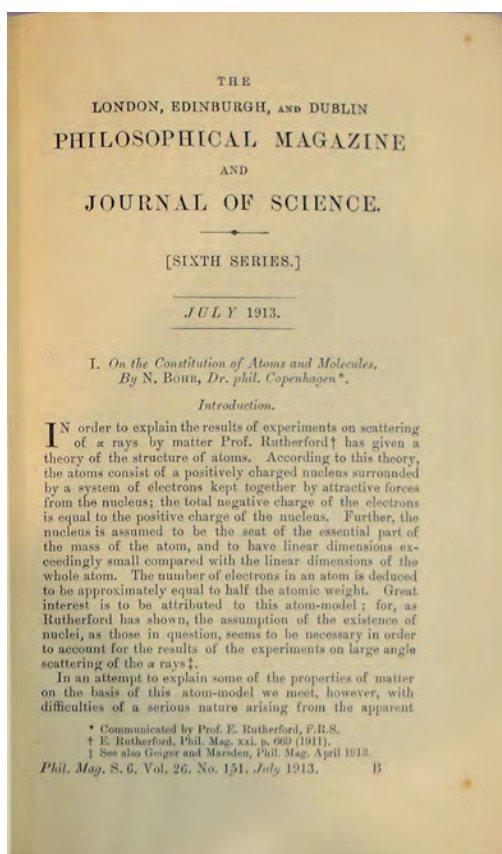
A painter and writer on art theory, Lairesse was influenced by Rembrandt, who painted his portrait in 1665, and also by the French styles of Nicolas Poussin and Claude Lorrain. The French called him the "Dutch Poussin." Lairesse suffered from congenital syphilis, which gave him a deformed nose visible in Rembrandt's portrait. Perhaps because he had always lived with disease, Lairesse had more than a casual interest in medicine. Syphilis made him blind in 1690, and for the rest of his active life Lairesse supported himself by lecturing and writing about art, publishing two books on drawing and painting which



were widely reprinted and translated throughout the eighteenth century. Some of Lairesse's drawings were probably engraved by Abraham Bloteling. A line engraver and creator of mezzotint plates who worked in both Holland and England, Bloteling was particularly famous for the quality of his mezzotints, for which he initiated a more thorough system of preparing the grounds, and may have invented the rocker. According to Choulant-Frank, Haller and Moehsen believed that some plates in the series were engraved by the brothers Pieter and Philip van Gunst. Despite imperfections from the point of view of dissection, which Choulant-Frank and others have pointed out, the Bidloo—de Lairesse anatomical studies reflect much that is good, including early depictions of skin and hair from observation with a microscope.

Bidloo began this project with de Lairesse around 1676 during a period in which he was also writing plays in Amsterdam, obtaining his medical degree, and working as a surgeon. It would appear that Bidloo brought his flair for drama to the conception and realization of this project. The 105 large drawings were probably completed about 1682, after which the plates had to be engraved—a huge production. Garrison-Morton 386. Beekman, "Bidloo and Cowper, Anatomists," *Ann. Med. Hist.* VII (1935); pp. 113-29 mentions this copy. Choulant-Frank p. 250. Dumaitre, *La Curieuse Destinée des Planches Anatomiques de Gérard de Lairesse* (1982). Hofer, *Baroque Book Illustration*, 146. Norman 231. Roberts & Tomlinson, *The Fabric of the Body*, pp. 309-17. Russell, *British Anatomy*, 211. Wax, *The Mezzotint: History and Technique* (1990) 25-26.

40094

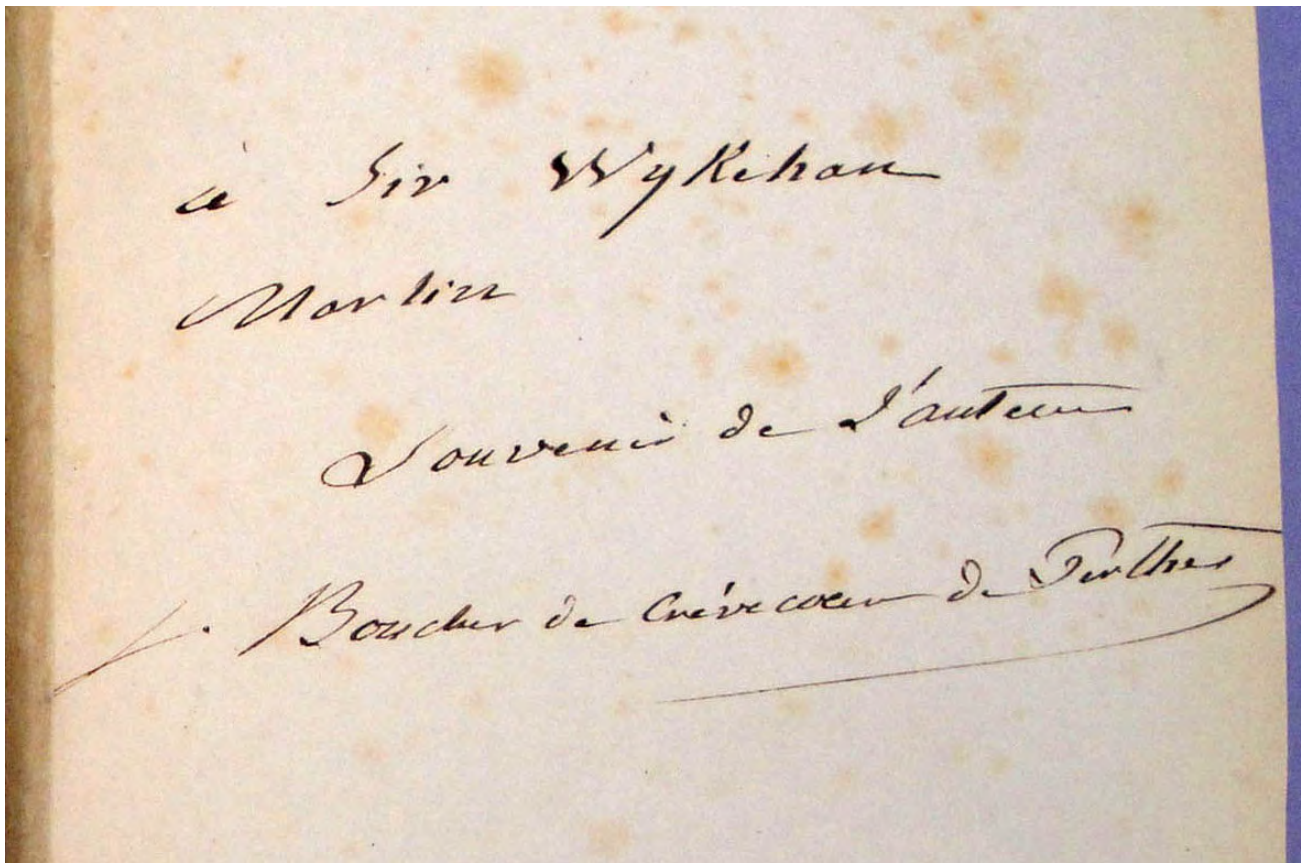


## Revolution in Atomic Theory

5. **Bohr, Niels** (1885–1962). On the constitution of atoms and molecules. 3 parts. In *Phil. Mag.* S. 6, Vol. 26 (1913): 1–25; 476–502; 857–875. Whole volume, 8vo. viii, 936pp. Plates. London: Taylor & Francis, 1913. 217 x 136 mm. Modern cloth. Very good copy. Library stamp of Deventer Bibliothek. \$4500

**First Edition.** Modern theories of the atom incorporating quantum mechanics begin with Bohr's great three-part paper of 1913, in which he postulated the existence of stationary states of an atomic system whose behavior may be described in terms of classical mechanics, while the transition of the system from one stationary state to another represents a nonclassical process accompanied by emission or absorption of one quantum of homogeneous radiation whose frequency is connected with its energy by Planck's equation. Bohr's atomic theory inaugurated two of the most adventurous decades in the history of physics. "On 6 March 1913 Bohr sent the 'first chapter' of his work on the constitution of atoms and molecules to [Ernest] Rutherford and announced that further chapters would follow within a few weeks. In the following weeks he made a few additions and alterations in the first chapter, which became part one of a trilogy: part one, signed 5 April and containing

mainly the theory of the one-electron atom and its line spectra, appeared in the July issue of *Philosophical Magazine*; part two, dealing with systems having only one nucleus, was sent off to Rutherford on 10 June and appeared in September; and part three, on systems of several nuclei (i.e. on molecules) was ready by August and appeared in the November issue of the same journal. The first paper opened with general considerations concerning the binding of electrons in an atom and also stated the principal assumptions used in the calculations. . . . Bohr investigated the theory of many-electron atoms, especially their stability, in part two. . . . Finally in part three, Bohr treated the structure of molecules and their stability, taking as examples the hydrogen molecule and a molecule consisting of two helium atoms" (Mehra & Rechenberg, *Historical Development of Quantum Theory* I, 189–92). Norman 258. Pais, *Niels Bohr's Times*, pp. 149–55. 41463



*Inscribed to Sir Charles Wykeham-Martin*

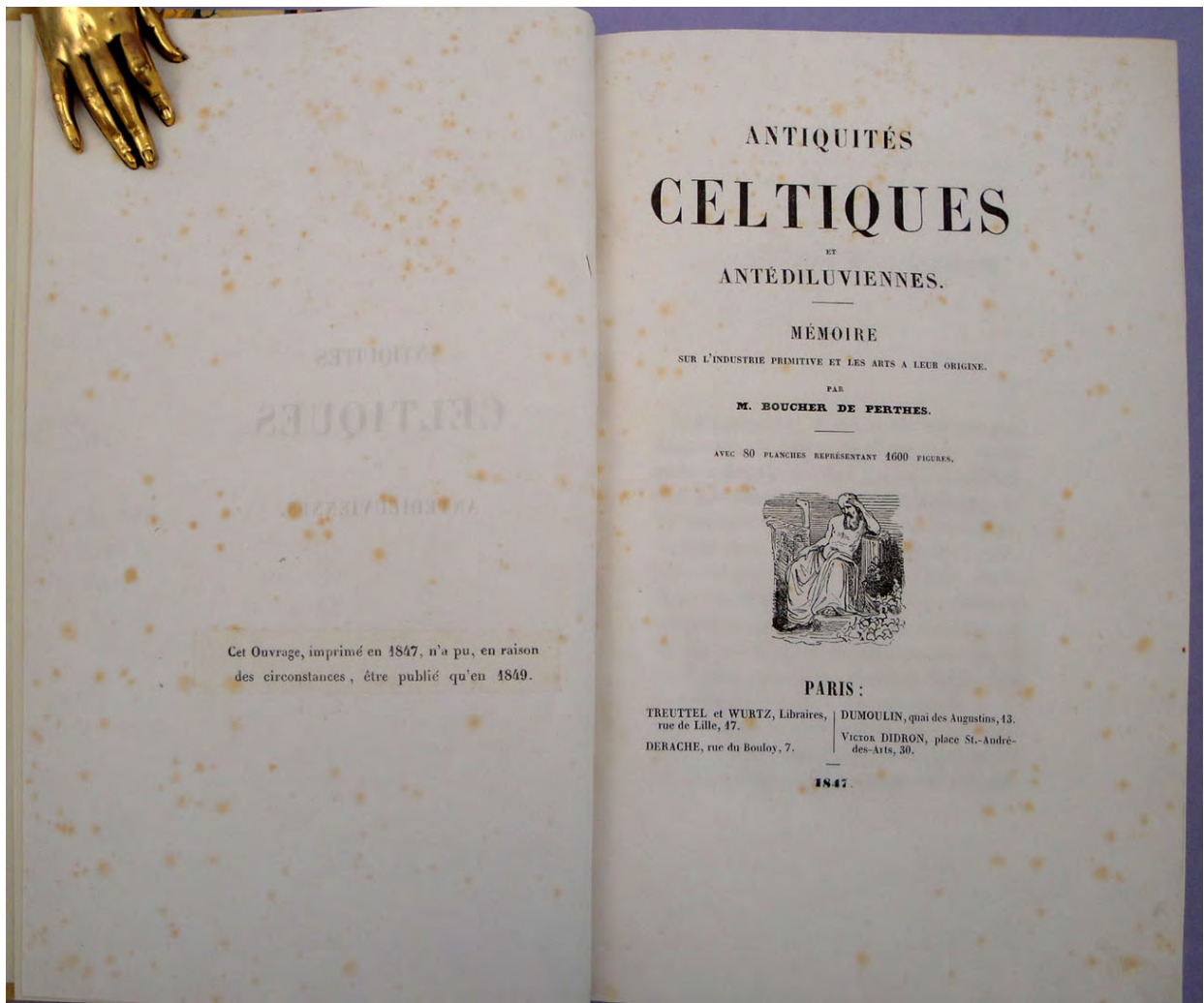
**6. Boucher de Perthes, Jacques** (1788–1868). *Antiquités celtiques et antédiluviennes. Mémoire sur l'industrie primitive et les arts à leur origine*. 3 vols. Vol. 1: [4], xii, 628pp. 80 lithographed plates. A pasted-in printed note opposite the title states (in French) that “this work, printed in 1847, could not, because of circumstances, be published until 1849.” Vol. 2: [4], xvi, 511pp. 26 lithographed plates. Vol. 3: [4], i–xxiv, 681pp.; 10 lithographed plates, text illustrations. Paris: Treuttel et Wurtz; Derache; Dumoulin, 1847 [i.e. 1849]–57–64. 237 × 150 mm. 21st century quarter morocco gilt, marbled boards. Fine apart from some light foxing. *Inscribed by Boucher de Perthes on the front flyleaf of Vol. I: “A Sir Wykeham Martin Souvenir de l’auteur Boucher de Crèvecœur de Perthes.”* \$9500

**First Edition.** As president of the local learned society in Abbeville, Boucher de Perthes became acquainted with the work of fellow member Casimir Picard, who in 1835 had begun excavating both polished and flaked stone axes from peat beds in the nearby Somme Valley. Boucher continued Picard’s investigations after the latter’s death in 1841, eventually discovering what he claimed to be human artifacts in strata containing the remains of extinct animals. He interpreted this evidence as proof of an

ancient human population coeval with these “antediluvian” species.

Boucher’s conclusion as to man’s antiquity, along with the methods that led to it, offered a radical departure from the prevailing scientific climate. By this time, the growing body of fossil evidence of extinct species had forced most scientists to abandon a strictly Biblical interpretation of the earth’s chronology, but the search for similar evidence of prehistoric man had yielded nothing conclusive, so that there was as yet no apparent reason





to extend man's time on earth beyond the period of recorded history. Boucher took a new and far more fruitful approach to the question of man's antiquity, defining man as a maker of tools, identifying hewn flint objects as human artifacts, and dating these artifacts by their position in a site where the integrity of the strata had not been disturbed. Boucher's work was largely ignored by the scientific establishment, and it was not until the late 1850s, when Sir Charles Lyell and other British geologists, including Joseph Prestwich and Hugh Falconer, corroborated his findings, that its value was finally recognized.

Boucher de Perthes's encyclopedic work on human antiquity incorporates within it the contents of several pamphlets previously published in separate editions. A preliminary version of the first volume had been issued in 1846; the sheets from this preliminary edition were reissued in the 1849 version, with a new title, an "Avant-propos de l'editeur," 14 pages of additional text and 41 new plates. All copies

of this set contain the 1849 version of volume one. The second volume, published in 1857, incorporates the first independent endorsement of Boucher de Perthes' findings, provided by Dr. Marcel-Jérôme Rigollot, a physician from the Somme Valley town of Amiens. The third and final volume, published in 1864, was Boucher de Perthes' last major contribution to prehistory; it reflects the vindication of his views on human antiquity by the scientific community.

The recipient of this inscribed copy of *Antiquités celtiques* was Charles Wykeham-Martin (1801-70) of Leeds Castle, Kent. Wykeham-Martin had participated in the scientific congress at Dunkirk that Boucher de Perthes attended shortly after the significance of his scientific work was acknowledged in England. Boucher de Perthes outlined this trip in his *Voyage en Angleterre, Écosse et Irlande en 1860* (1868), mentioning Wyckham-Martin on p. 26. Spencer, *Ecce homo* (1986) 3.496. *Printing and the Mind of Man* 325. 40415

ICONOGRAPHIE  
PHOTOGRAPHIQUE

DE LA

SALPÊTRIÈRE

(SERVICE DE M. CHARCOT)

PAR

BOURNEVILLE ET P. REGNARD



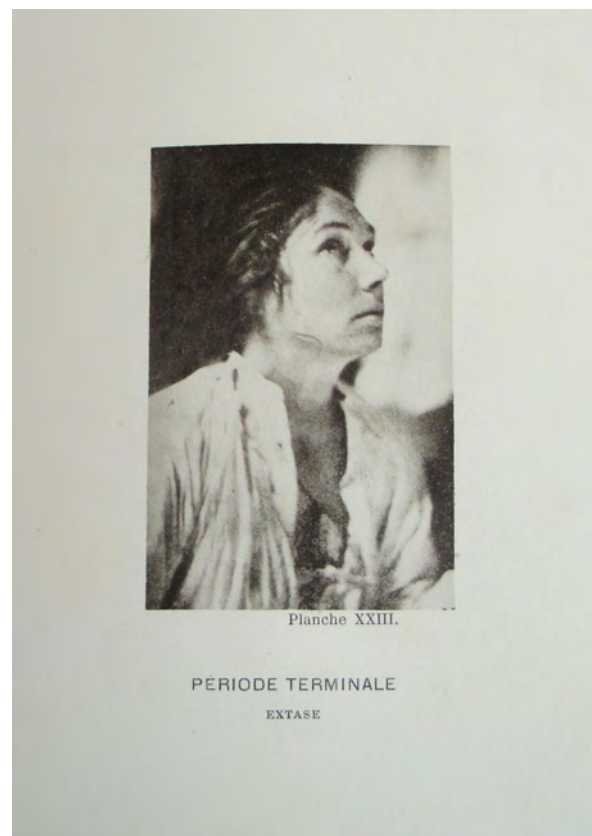
PARIS

Aux bureaux du PROGRÈS MÉDICAL | V. ADRIEN DELAHAYE & C<sup>e</sup>, Libraires-Éditeurs  
6, rue des Écoles, 6. | Place de l'École-de-Médecine.

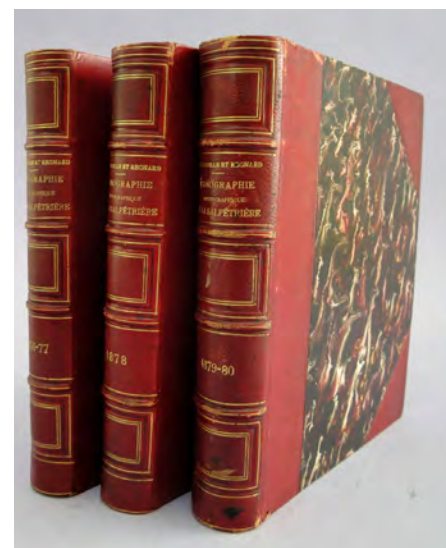
1876-1877

7. **Bourneville, Desiré Magloire** (1840-1909) & **Paul Regnard** (1850-1927). *Iconographie photographique de la Salpêtrière. Service de M. Charcot*. 3 vols. [4], iv, 166, [2]; [4], 323, [4]; [4], 259, [5]pp. 119 plates, mostly photolithographs after Paul Regnard's photographs, Vol. I also contains a few engravings by P. Richer. Paris: Bureaux du Progrès Médical; V. Adrien Delahaye & Cie. [Vol. III: V. Adrien Delahaye et Lecroisnier], 1876-1880. 222 x 190 mm. Original publisher's binding of half red morocco, marbled boards, all leaves on guards, light wear. Occasional faint foxing on plates, but very good.

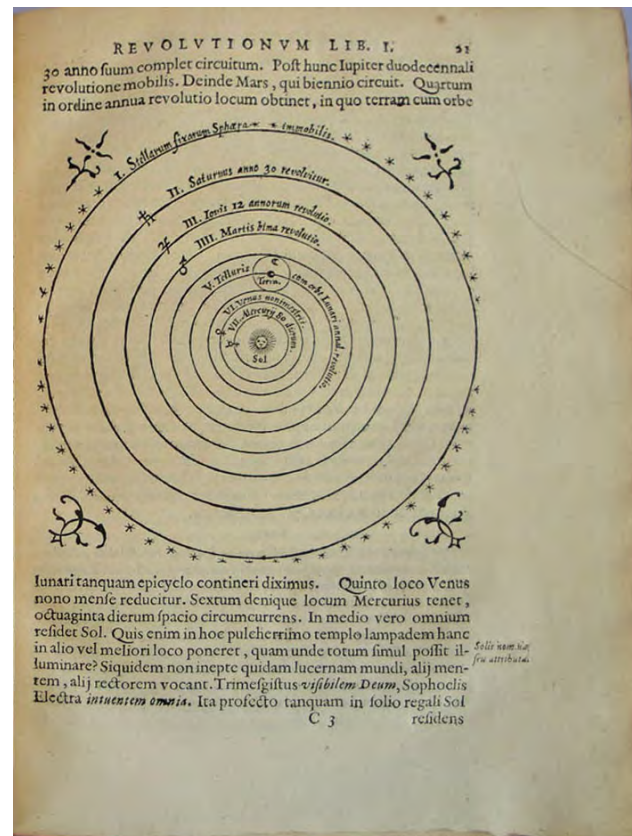
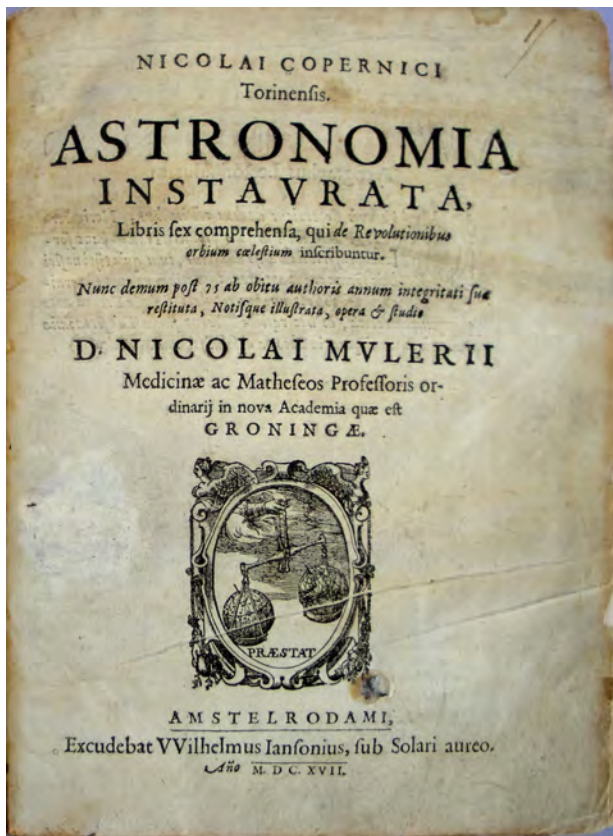
\$4500



**First Edition;** second issue of Vol. I, with photolithographed and engraved plates instead of the original albumin prints found in the first issue. An unusual and significant collection of photographic portraits of female patients suffering from mental illness. In 1870 separate provisions were made at the Salpêtrière for non-demented epileptics and hysterics, and Jean-Martin Charcot, the great French neurologist and psychiatrist, was appointed head of that section of the hospital. Working with Bourneville, who served as Charcot's assistant from 1870 to 1879, Charcot performed much valuable research during this period, which led to the concept that hysteria was a legitimate mental disease. Bourneville and Charcot conceived the idea of creating a photographic record of their patients, and recruited a young colleague at the Salpêtrière, Paul Regnard, to take the photographs. Volumes I and II are devoted to cases of hystero-epilepsy; Volume III also includes discussions of hypnotism, somnambulism and magnetism, as well as an appendix on "Le Sabat" (witches' Sabbath).



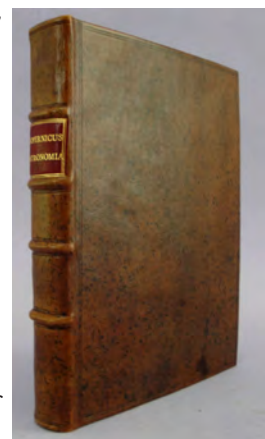
Most of the patients depicted are young women, and Bourneville's text describes five sensational case histories of patients under Charcot's care. Goetz et al., *Charcot: Constructing Neurology*, pp. 184-87. Grolier Club, *The Truthful Lens*, 23. Norman 292. 41542



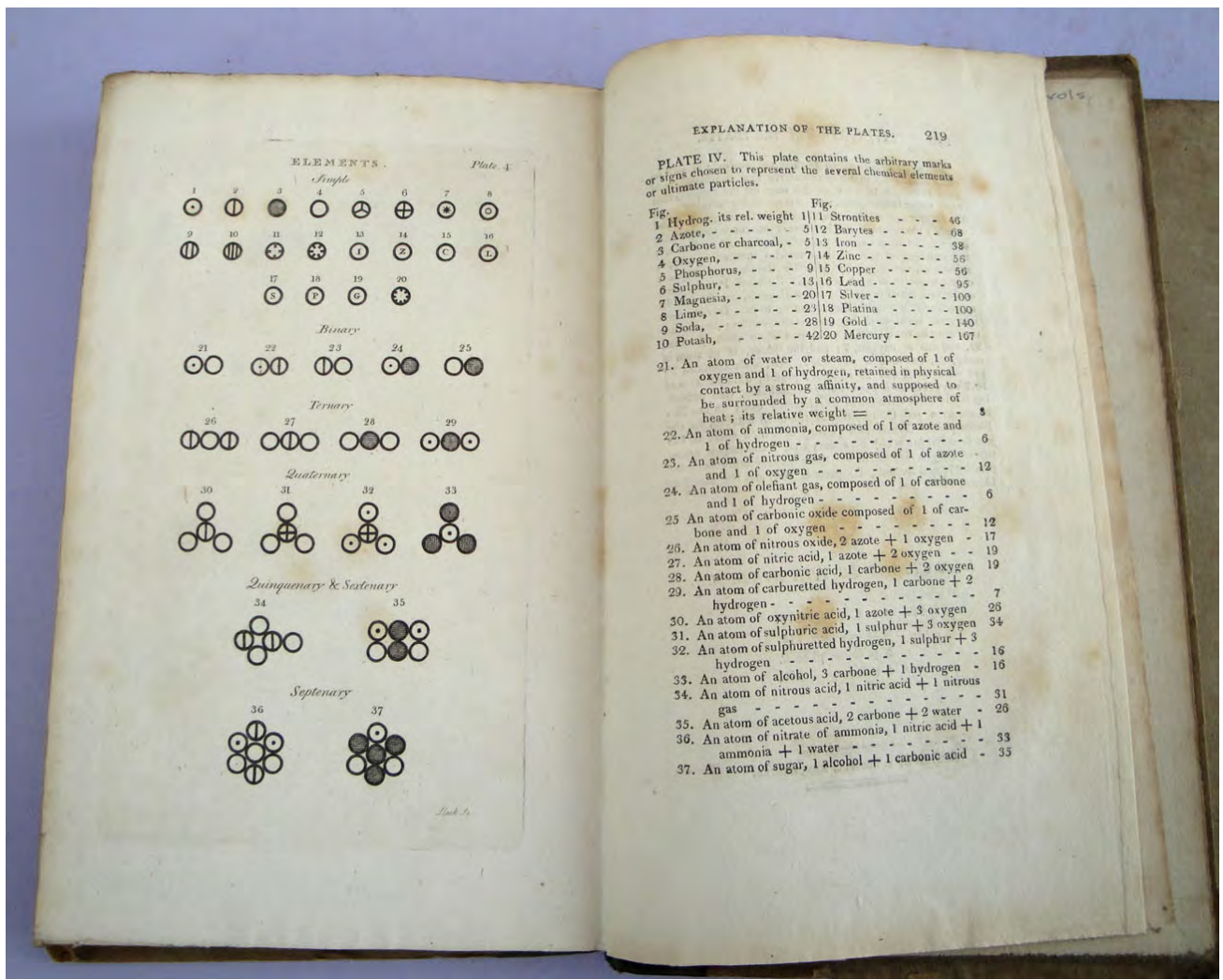
**8. Copernicus, Nicolaus** (1473–1543). *Astronomia instaurata*, libris sex comprehensa, qui de revolutionibus orbium coelestium inscribuntur. Edited by Nicolaus Muler (1564–1630). 4to. [22], 487 [1]pp. Text woodcuts. Amsterdam: Wilhelm Janson, 1617. 238 x 180 mm. Modern calf in period style. Library stamp erased from inner margin of title, repairs to outer margin, occasional light browning, but very good. \$25,000

Third edition, revised, updated and annotated, of Copernicus's epochal *De revolutionibus orbium coelestium* (1543), with specimen computations, a catalogue of observations used in the book, a life of Copernicus, and much supplementary material reflecting the progress of astronomy since Copernicus's death over 70 years before. It was edited by the Flemish physician and astronomer Nicolaus Muler, professor of medicine and mathematics at the University of Groeningen; "Muler may well have had a better technical understanding of Copernicus's astronomy than any subsequent editor of the text" (Swerd-

low & Neugebauer, *Mathematical Astronomy in Copernicus' De Revolutionibus*, I, p. 89). Published just a year after all of Copernicus's works were placed on the Index, this was the most widely available edition in a period that saw the vindication of Copernicus's heliocentric hypothesis of the solar system by Kepler, Galileo and their sympathizers. According to Owen Gingerich, author of *An Annotated Census of Copernicus's De revolutionibus* (2001), the third edition is as scarce as the second edition of 1566. See *Printing and the Mind of Man* 70. 41437





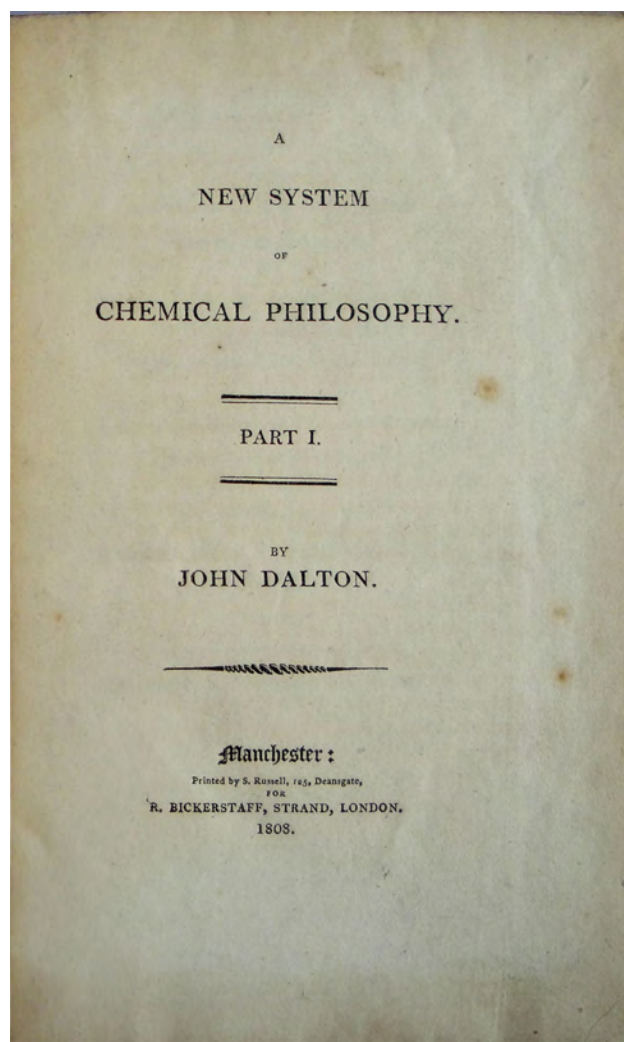


*Foundation of the Atomic Theory—  
In Original Boards, Uncut*

**9. Dalton, John** (1766-1844). A new system of chemical philosophy. 2 vols. in 3. vi, [2]. 220; [8], 221-560; xii, 357, [3]pp. 8 plates. Manchester: S. Russell for R. Bickerstaff, Strand, London; Manchester: Russell & Allen for R. Bickerstaff, Strand, London; executors of S. Russell for George Wilson, 1808-1810-1827. 222 x 135mm. (uncut and partially unopened). Original boards, cloth spines, printed paper labels, spines expertly repaired. Light browning and foxing, a few tiny tears in blank margins, but fine otherwise. 19th century stamp of W. B. Sellers, Surgeon, Rochdale inside covers and on a few pages. In cloth slipcase.

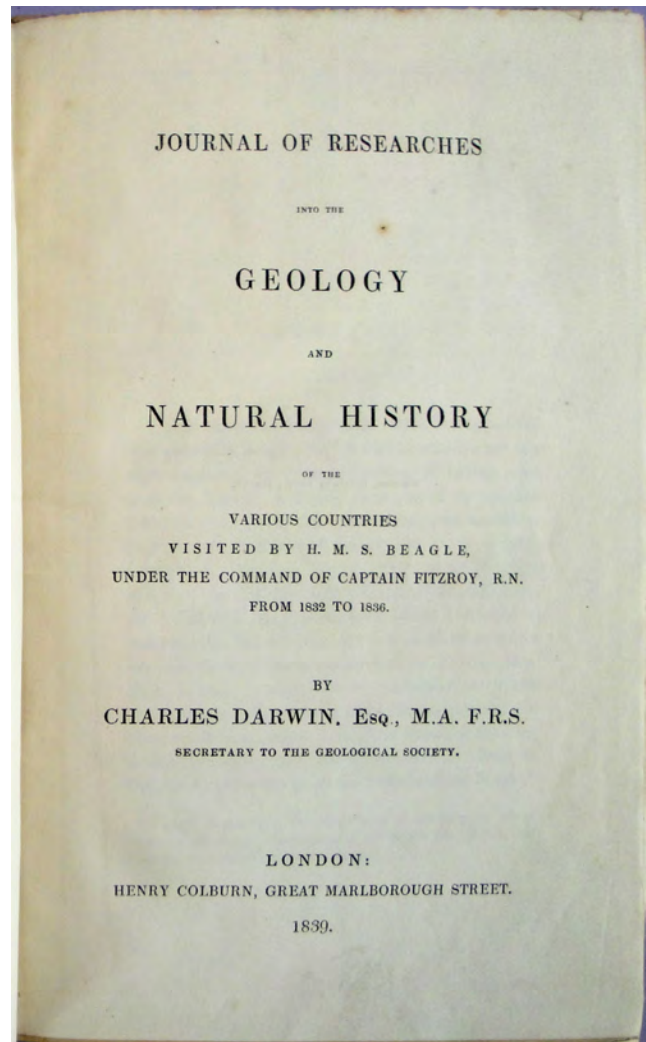
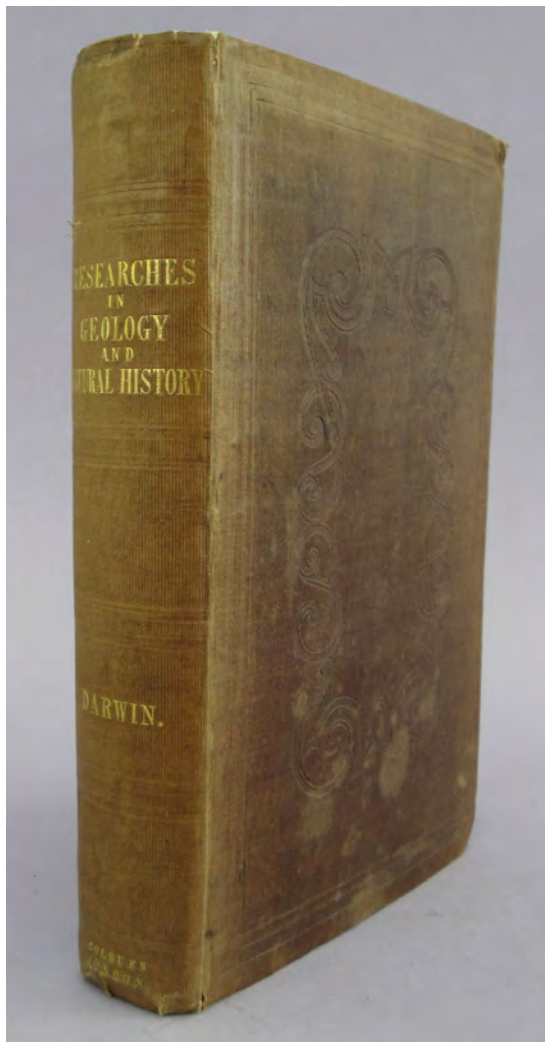
\$30,000





**First Edition.** The idea that all matter is composed of singular, indestructible particles can be traced back to the Roman poet Lucretius, but the first scientific exposition of this “atomic” theory and its physical implications was presented by Dalton in his *New System of Chemical Philosophy*. Dalton believed that all matter was composed of indestructible and indivisible atoms of various weights, each weight corresponding to one of the chemical elements, and that these atoms remained unchanged during chemical processes. Dalton’s theory was the first to give significance to the relative weights of the ultimate particles of all known compounds, and to provide a quantitative explanation of the phenomena of chemical reaction. His work with relative atomic weights prompted him to construct the first periodic table of elements (in Vol. I, pt. 1), to formulate

laws concerning their combination and to provide schematic representations of various possible combinations of atoms. He expressed the age-old problem of chemical combination in terms of the number of atoms of each contributing element contained in the smallest unit (later termed a “molecule”) of any compound substance; this model of physical matter, later confirmed by experiment, has dominated chemical theory (with modifications) ever since. Dalton’s equation of the concepts “atom” and “chemical element” was of fundamental importance, as it provided the chemist with a new and enormously fruitful model of reality. The original bindings appear to have been done at the same time, which suggests that some copies remained in sheets until the publication of the third volume. Dibner 44. Horblit 22. Norman 575. *Printing and the Mind of Man* 261. 41436



### *Voyage of the Beagle—Darwin's First Published Book*

**10. Darwin, Charles** (1809–82). Journal of researches into the geology and natural history of the various countries visited by H. M. S. Beagle . . . [i–iv], [vii] viii–xiv, 615pp. plus pp. 609–629 addenda; 16–page publisher's catalogue dated August 1839. 2 folding maps, 4 text wood-engravings. London: Henry Colburn, 1839. 235 x 146 mm. Original plum cloth (Freeman binding b), minor fading and spotting, spine skillfully and subtly repaired. Edges of first folding map a bit frayed and with minor tear, minor foxing, but fine otherwise. 19th century owner's name partly erased from front pastedown.

\$25,000

**First Edition**, second issue, and the **First Separate Edition**. Darwin's first published book, now universally known as *The Voyage of the Beagle*, "is undoubtedly the most often read and stands second only to *On the Origin of Species* as the most often printed. It is an important travel book in its own right and its relation to the background of his evolutionary ideas has often been stressed. . . . The first issue forms, as is well known, the third volume of *The*

*Narrative of the Voyages of H. M. Ships Adventure and Beagle*, edited by Captain Robert Fitzroy and published, in three volumes and an appendix to Volume II, in 1839. . . . On its first appearance in its own right, also in 1839, it was called *Journal of Researches into the Geology and Natural History* etc." (Freeman, pp. 31–32). See Freeman for a detailed discussion of the work's publishing history and bibliographical features. Freeman, *The Works of Charles Darwin*, II. 414–56

On the Tendency of Species to form Varieties; and on the Perpetuation of Varieties and Species by Natural Means of Selection. By CHARLES DARWIN, Esq., F.R.S., F.L.S., & F.G.S., and ALFRED WALLACE, Esq. Communicated by Sir CHARLES LYELL, F.R.S., F.L.S., and J. D. HOOKER, Esq., M.D., V.P.R.S., F.L.S., &c.

[Read July 1st, 1858.]

London, June 30th, 1858.

MY DEAR SIR,—The accompanying papers, which we have the honour of communicating to the Linnean Society, and which all relate to the same subject, viz. the Laws which affect the Production of Varieties, Races, and Species, contain the results of the investigations of two indefatigable naturalists, Mr. Charles Darwin and Mr. Alfred Wallace.

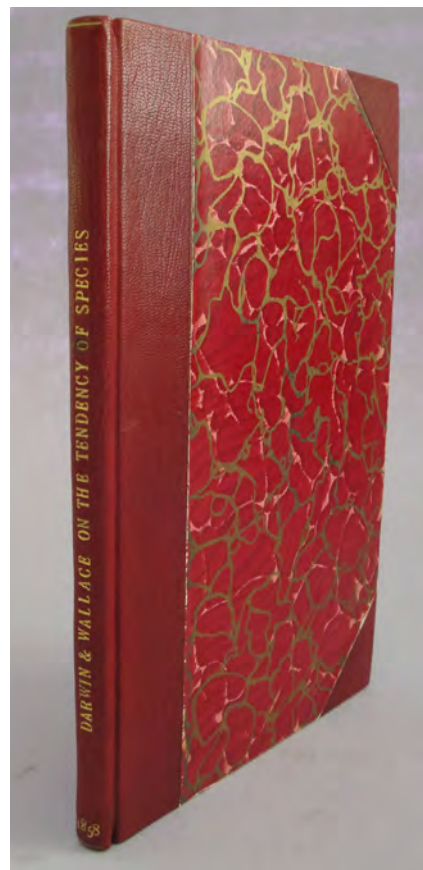
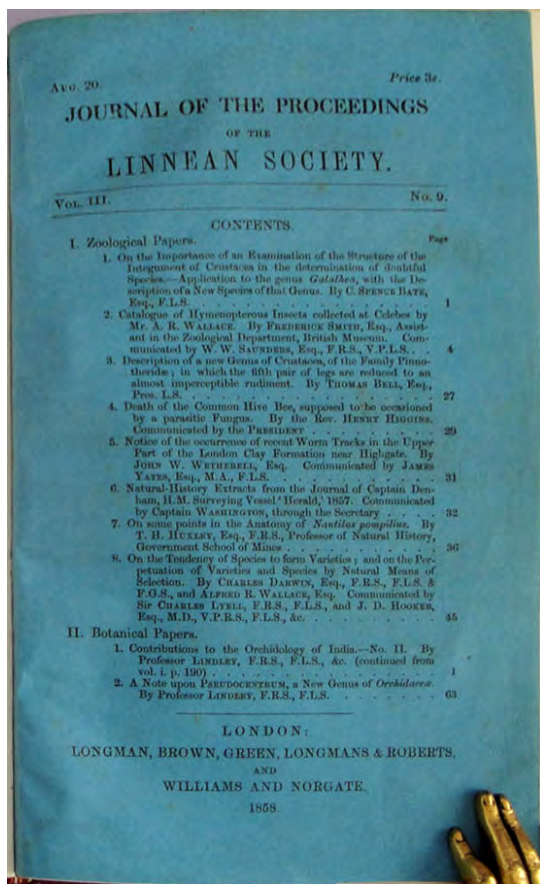
These gentlemen having, independently and unknown to one another, conceived the same very ingenious theory to account for the appearance and perpetuation of varieties and of specific forms on our planet, may both fairly claim the merit of being original thinkers in this important line of inquiry; but neither of them having published his views, though Mr. Darwin has for many years past been repeatedly urged by us to do so, and both authors having now unreservedly placed their papers in our hands, we think it would best promote the interests of science that a selection from them should be laid before the Linnean Society.

Taken in the order of their dates, they consist of:—

1. Extracts from a MS. work on Species\*, by Mr. Darwin, which was sketched in 1839, and copied in 1844, when the copy was read by Dr. Hooker, and its contents afterwards communicated to Sir Charles Lyell. The first Part is devoted to "The Variation of Organic Beings under Domestication and in their Natural State;" and the second chapter of that Part, from which we propose to read to the Society the extracts referred to, is headed, "On the Variation of Organic Beings in a state of Nature; on the Natural Means of Selection; on the Comparison of Domestic Races and true Species."

2. An abstract of a private letter addressed to Professor Asa Gray, of Boston, U.S., in October 1857, by Mr. Darwin, in which

\* This MS. work was never intended for publication, and therefore was not written with care.—C. D. 1858.

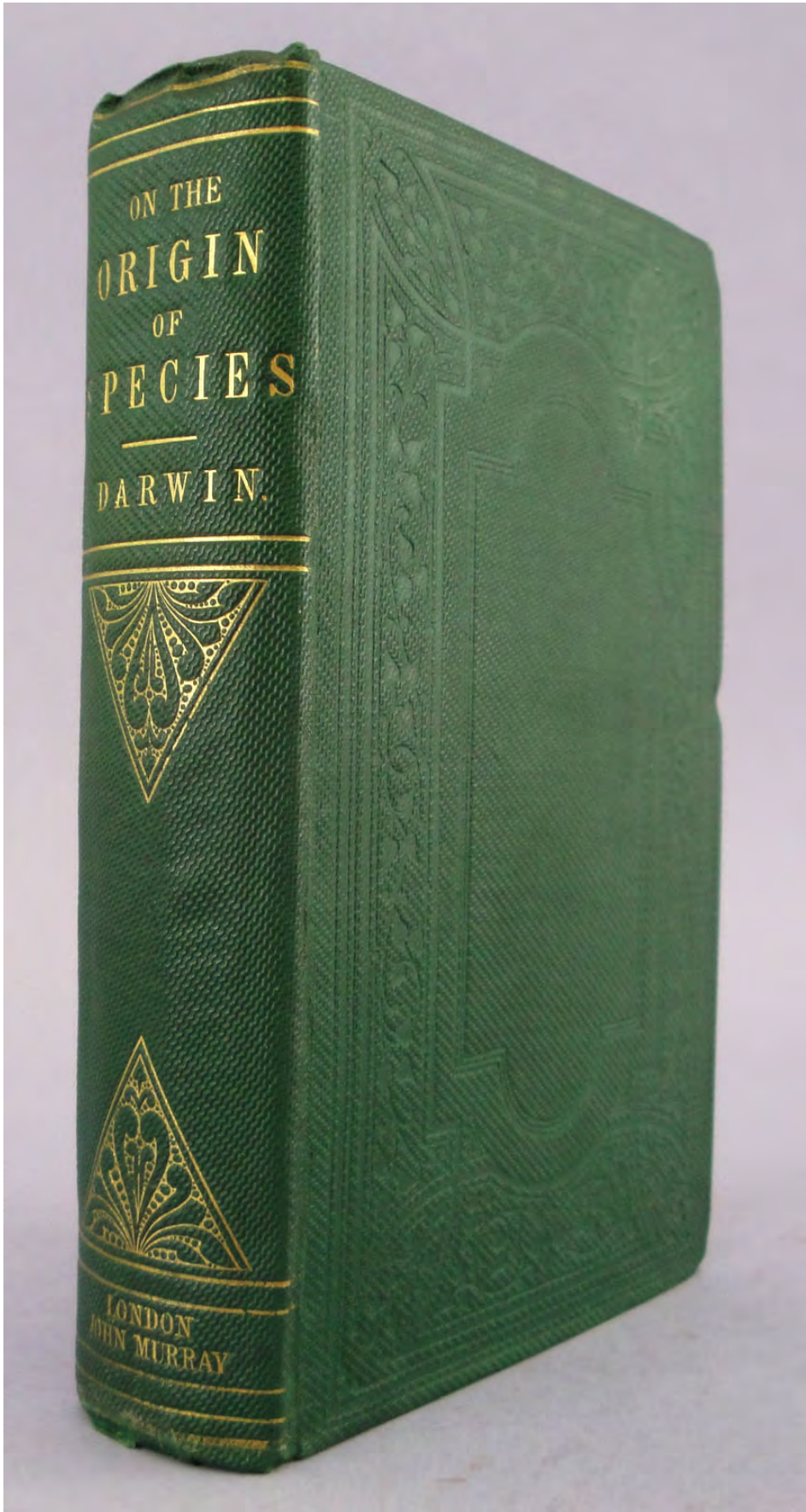


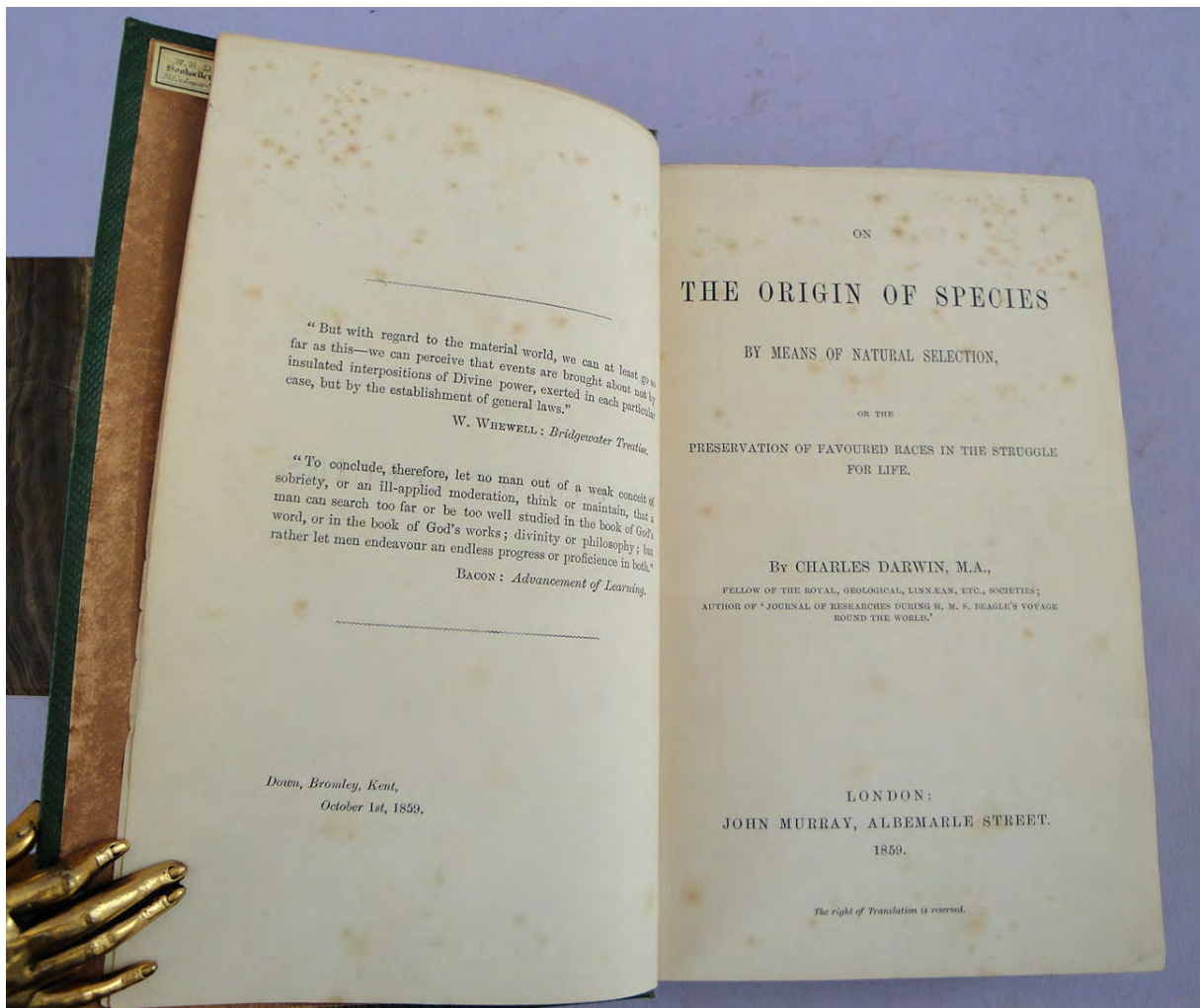
**II. Darwin, Charles (1809–82) & Alfred Russel Wallace (1823–1913).** “On the tendency of species to form varieties; and on the perpetuation of varieties and species by natural selection.” Extract from *Journal of the Proceedings of the Linnean Society* 3 (1858): 45–62. 217 x 138 mm. 19th century half morocco, journal number’s original blue printed wrappers bound in. Very good copy. \$20,000

**First Printing.** The first printed exposition of the theory of evolution by natural selection. Darwin had developed the essential elements of his theory by 1838 and set them on paper in 1844; however, he chose to keep his work on evolution unpublished for the time, instead concentrating his energies first on the preparation for publication of his geological work on the Beagle voyage, and then on an exhaustive eight-year study of the barnacle genus Cirripedia. In 1856, at the urging of Charles Lyell, Darwin began writing a vast encyclopedic work on natural selection; however, it is possible that the extremely cautious Darwin might never have published his evolutionary theories during his lifetime had not Alfred Russel Wallace, a New Zealand naturalist, independently developed his own theory of natural selection. Wallace conceived the theory during an attack of malarial fever in Ternate in the Mollucas (February, 1858) and sent a manuscript summary to Darwin, who feared that his discovery would be pre-empted. “In the

interest of justice Hooker and Lyell suggested joint publication of Wallace’s paper, ‘On the tendency of varieties to depart indefinitely from the original type,’ prefaced by a section of a manuscript of a work on species written by Darwin in 1844, when it was read by Hooker, plus an abstract of a letter by Darwin to Asa Gray, dated 1857, to show that Darwin’s views on the subject had not changed between 1844 and 1857” (Garrison–Morton 119). The two papers were read by Lyell before the Linnean Society on 1 July 1858 and published on 20 August.

Freeman lists five forms in which this paper appears: 1) as above; 2) journal issue, zoology papers only (pink wrappers); 3) journal volume, zoology and botany papers; 4) journal volume, zoology papers only; and 5) authors’ offprint (buff wrappers). Only a handful of copies of the offprint are recorded. Freeman 346. Horblit 23a. *Printing and the Mind of Man* 344a. Norman 591. 41444



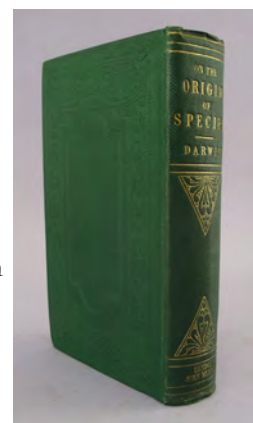


## The “Origin”

**12. Darwin, Charles** (1809–82). On the origin of species by means of natural selection. ix, 502pp., plus 32-page publisher’s catalogue dated June 1859. Folding diagram. London: John Murray, 1859. 200 x 123 mm. Original green cloth, hinges very skillfully repaired. Minor foxing on title and a few other leaves, but a fine copy with the binding in unusually bright, fresh condition. Preserved in a quarter morocco slipcase. 19th century bookplate of William Frederick Vernon. \$125,000

**First Edition.** Although the idea of species evolution can be traced as far back as the ancient Greek belief in the “great chain of being,” Darwin’s great achievement was to make this centuries-old “underground” concept acceptable to the scientific community by cogently arguing for the existence of a viable mechanism—natural selection—by which new species evolve over vast periods of time. There is

only one issue of the first edition. While three binding and advertisement variants have been identified, no priority has been established. 1,250 copies were printed, of which about 1,170 were available for sale; the remainder consisted of 12 author’s copies, 41 review copies, 5 copyright copies, and at least 20 presentation copies. Freeman 373. Dibner 199. Horblit 23b. *Printing and the Mind of Man* 344b. Norman 593. 41425





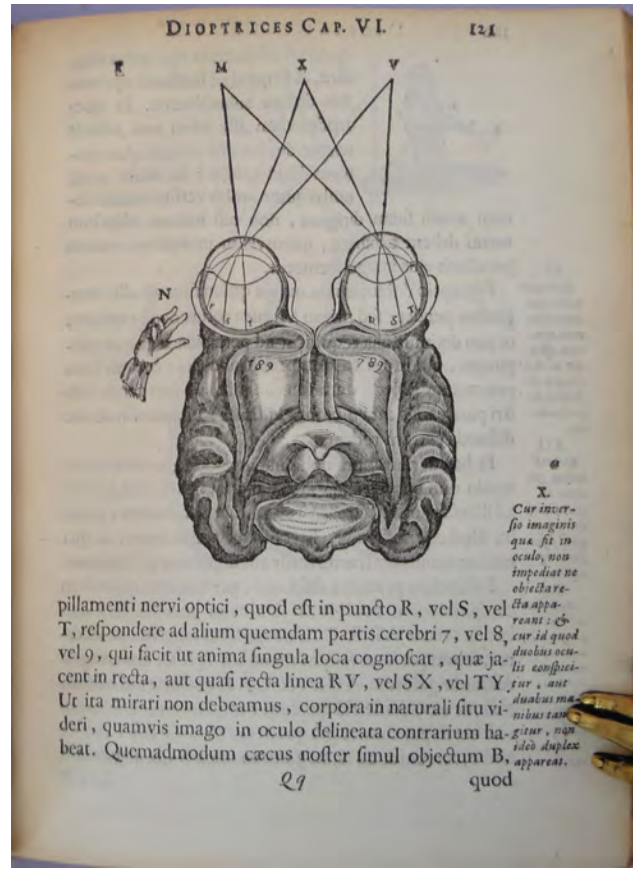
**13. Descartes, René** (1596–1650). (1) *Principia philosophiæ*. 4to. [22], 310pp. Text woodcuts & diagrams (some full-page). Amsterdam: Ludovic Elzevir, 1644. (2) *Specimina philosophiæ: Seu dissertatio de methodo . . . dioptrice, et meteora . . .* [16], 331pp. Numerous woodcuts & diagrams in text. Ibid, 1644. (3) *Tractatus de homine et de formatione foetus. Quorum prior notis perpetuis Ludovic de la Forge illustratur.* [76], 239pp. Numerous text woodcuts (some full-page). Amsterdam: Daniel Elzevir, 1677. Together, 3 vols in 1, 4to. 192 × 147 mm. Contemporary blind-tooled vellum. Old signature on first titlepage. Bookplate of the Hagley Hall Library. Two leaves in (3) trimmed closely, touching woodcut illustrations, light marginal browning as might be expected, but fine copies. \$12,500

(1) **First Edition.** Descartes's exhaustive system of physics, which developed his theory of vortices. After the condemnation of Galileo in 1633, Descartes was careful to qualify his Copernican views by the idea that all motion is relative. The vortical theory allowed him to argue that since the earth was at rest in its surrounding medium it was unmoved, although it, together with the entire vortex, necessarily circled the sun. The *Principia* contains a number of highly

important contributions such as the first scientific theory of magnetism, as well as 8 laws of impact which are now regarded as incorrect. Although Descartes's system was soon superseded by Newtonian physics, Descartes's *Principia* was the first truly comprehensive attempt to look at the world in a fundamentally new, mechanistic and non-teleological way. Wolf, *History of Science I* (1950) 321,399,646ff. Chapin, *Nicolaus Copernicus* (1973) 40.



(2) **First Edition in Latin**, and revised second edition of the *Discours de la méthode*, *Dioptrique*, and *Météores*. In the wake of Galileo's trial and condemnation before the Holy Office, Descartes regarded his larger manuscripts such as *L'Homme* and *Le monde* as too heretical for publication. He did, however, decide to include some fragments from these manuscripts as examples of his method in the book containing his *Discours de la méthode* (1637). These included his *Dioptrique*, on the making of telescopes and lenses; his *Météores*, a geometric analysis of rainbows; and a treatise on analytical geometry. The above first Latin edition includes both the *Dioptrique* and the *Météores*; however, the *Géométrie* did not appear in Latin until 1649. Descartes's revolutionary methods of thinking so eloquently described in the *Discours* are too well known to be discussed here. It should be pointed out, though, that this first Latin edition contains the first publication of the Latin catch-phrase with which Descartes's work has come to be universally identified—"Cogito, ergo sum."



(3) Later edition, edited by de la Forge, of Descartes's posthumously published treatise on physiology—"the first attempt to present systematically a coherent description of bodily responses in terms of actual— or hypothetical—neuro-muscular structures" (Fearing, *Reflex Action* [1964], pp. 18–24). See Garrison-Morton 574. *Dictionary of Scientific Biography*. Guibert, *Descartes*, pp. 104–5; 118–19; 202–3. Taylor, *Scientific Work of Descartes* (1952) 158–194. 41441

Fig. 5.

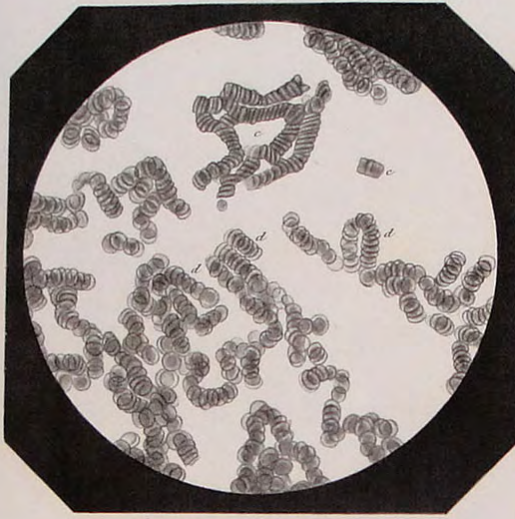


Fig. 6.

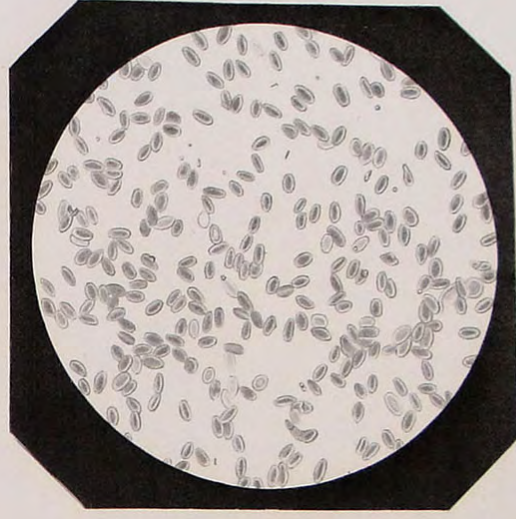
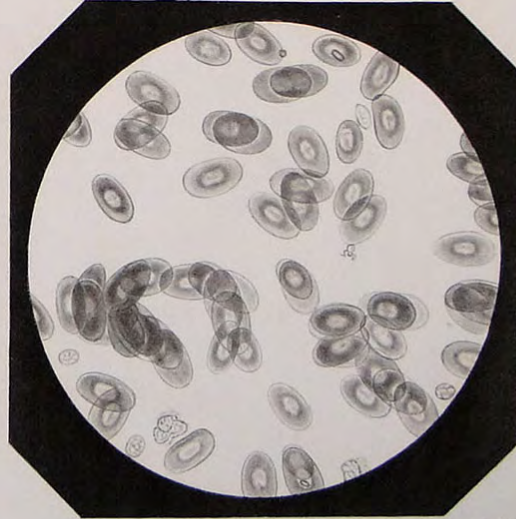


Fig. 7.



Fig. 8.



*Pré au Microscope Daguerriotype par L. Foucault.*

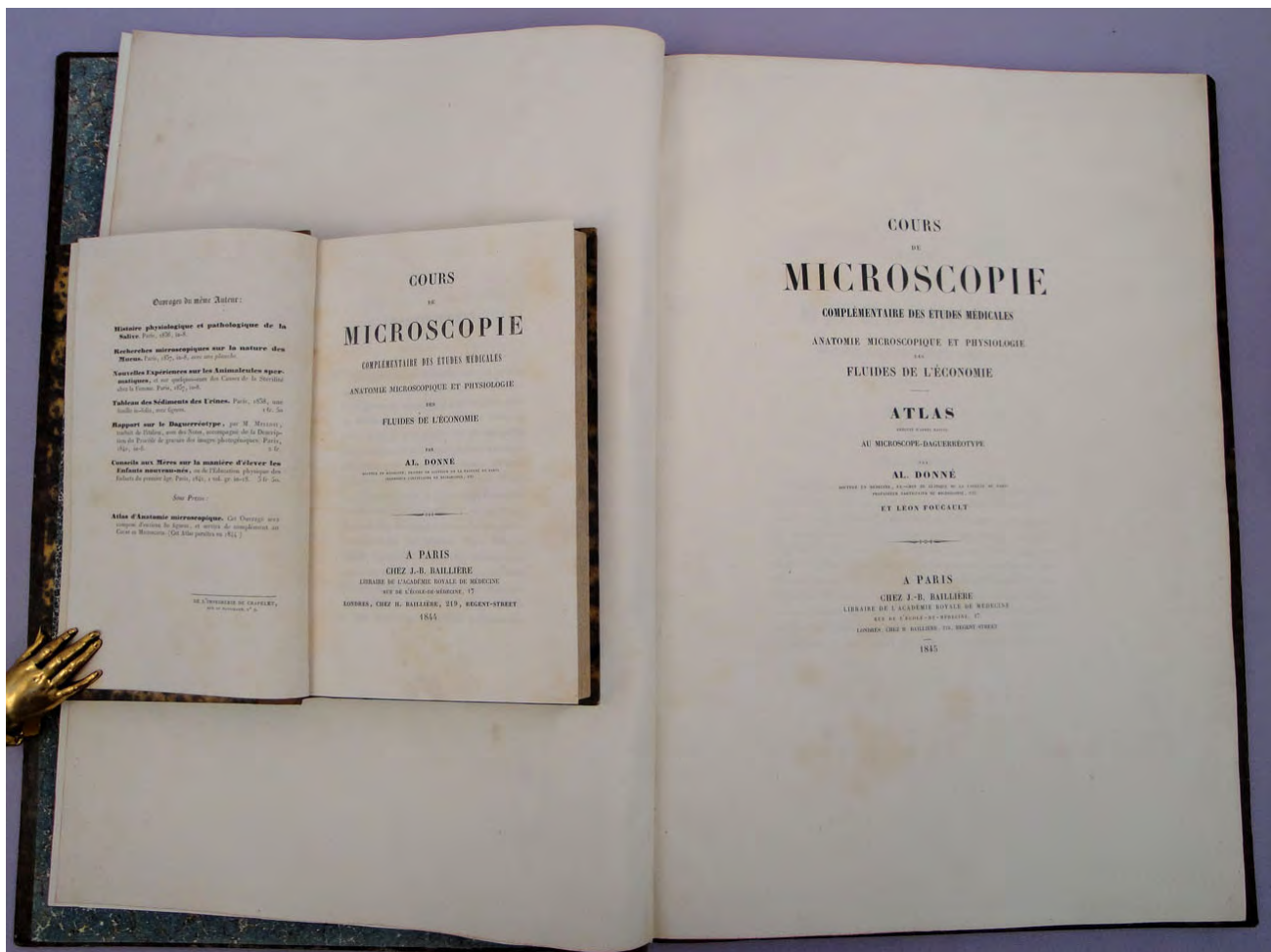
*Pré par Duval.*

Fig. 5. Globules de sang humain réunis en chapelets.

Fig. 6. Globules de sang de Chameau.

Fig. 7. Globules de sang de Grenouille à l'état normal  
vus de face, de champ et en chapelets.

Fig. 8. Globules de sang de Grenouille avec leurs noyaux très apparents.



*Major Medical and Photographic Landmark*

**14. Donné, Alfred François** (1801–78). Cours de microscopie complémentaire des études médicales . . . Text and atlas. [4], ii, 550, [2, incl. errata]pp. (text); 30pp. plus 20 plates engraved by Ouvret after micro-daguerreotypes taken by Léon Foucault (1819–68). Paris: J.-B. Baillière [etc.], 1844–45. 215 x 130 mm. (text); 436 x 300 mm. (atlas). Text in 19th century quarter calf, mottled boards, a few insignificant wormholes in covers; atlas in modern binding to match. Occasional foxing in text, but very good overall. \$15,000

**First Edition** of a major landmark in the fields of hematology, oncology, bacteriology, medical microscopy and photomicrography. Donné, a French public health physician, began teaching his pioneering course on medical microscopy in 1837, a time when the medical establishment remained largely unconvinced of the microscope’s usefulness as a diagnostic and investigative tool. In July 1839 Louis Daguerre, one of the inventors of photography, announced to the Académie des Sciences his

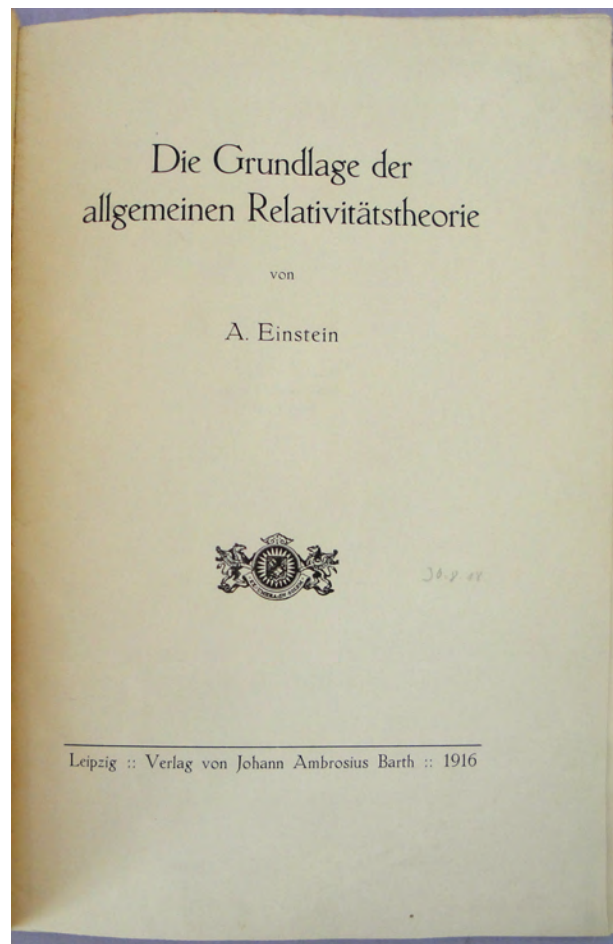
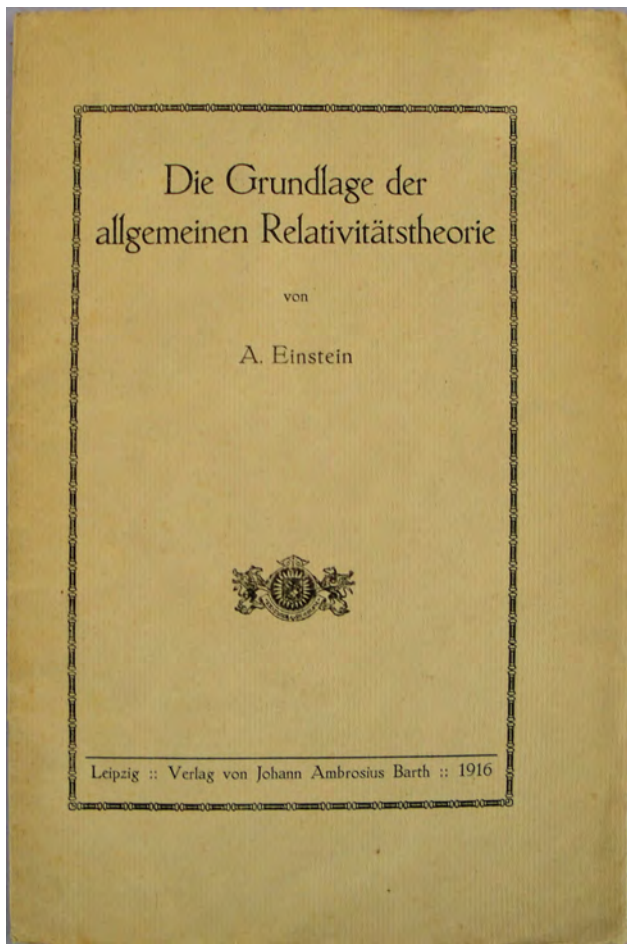
“daguerreotype” process for creating finely detailed photographic images on specially prepared glass plates. Donné immediately embraced this new art, and within a few months had created not only the first documented photographic portrait in Europe, but also the earliest method of preparing etched plates from daguerreotypes. Donné resolved to incorporate photography into his microscopy course, and in February 1840 he presented to the Académie his first photographic pictures of natural objects as seen



through the microscope. “It was Alfred Donné who foresaw the helpful role that projections of microscopic pictures could play during lectures on micrography” (Dreyfus, p. 38).

Over the next few years Donné continued to refine his photomicrography methods with the help of his assistant, Léon Foucault (who would go on to have a distinguished career as a physicist). In 1844 Donné published his *Cours de microscopie . . .*, following it a year later with an atlas illustrated with 86 engravings copied from micro-daguerreotypes taken by Foucault. This extraordinary work was the first biomedical textbook to be illustrated with images made from photomicrographs. Among its noteworthy images are the first microphotographs of human blood cells and platelets, and the first photographic illustration of *Trichomonas vaginalis*, the protozoon responsible for vaginal infections, which Donné had discov-

ered in 1836. The text volume of the *Cours* contains the first description of the microscopic appearance of leukemia, which Donné had observed in blood taken from both an autopsy and a living patient. His observations mark the first time that leukemia was linked with abnormal blood pathology. Garrison-Morton 267.1, 3060.1. Dreyfus, *Some Milestones in the History of Hematology*, pp. 38-40, 54-56, 76-78. Frizot, *A New History of Photography*, p. 275. Gernsheim & Gernsheim, *The History of Photography 1685-1914*, pp. 116, 539. Hannavy, *Encyclopedia of Nineteenth-Century Photography*, Vol. 1, p. 1120. Wintrobe, *Hematology: The Blossoming of a Science*, p. 12. Bernard, *Histoire illustrée de l'hématologie*, passim. Thorburn, “Alfred François Donné, 1801-1878, discoverer of *Trichomonas vaginalis* and of leukaemia,” *British Journal of Venereal Disease* 50 (1974): 377-380. 41156



## *General Relativity*

**15. Einstein, Albert** (1879–1955). *Die Grundlage der allgemeinen Relativitätstheorie*. 8vo. 64pp. Leipzig: J. A. Barth, 1916. 244 x 163 mm. Original buff wrappers, spine very skillfully repaired; preserved in a cloth drop-back box. Very good copy. \$8500

**First Separate Edition** of Einstein's paper announcing his epochal theory of general relativity. This is not an offprint of the journal issue in the *Annalen der Physik*, but a completely new setting of type with significant additions and revisions, including an introduction published here for the first time.

“This separate edition is printed on good, strong paper, the wrappers are of strong material too, and it is described now as ‘the original edition’ of this classic paper” (Weil). *Printing and the Mind of Man* 408. *Horblit* 26c. *Dibner* 167. *Weil* 80a. *Boni* 78.1. 41457

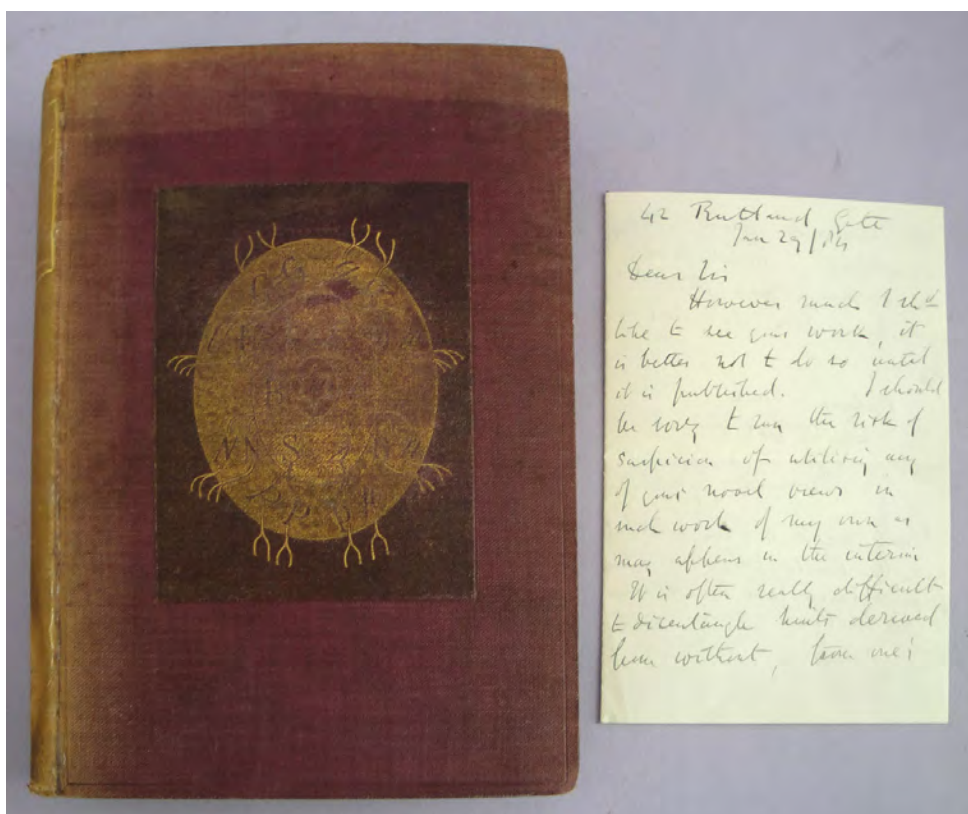


**16. Fuller, John Emory** (1799–1878). Fuller’s computing telegraph [cover title]. Telegraphic computer, a most wonderful and extraordinary instrument, by which business questions, of every possible variety, are instantly performed. . . . [inside front cover]. New York: John E. Fuller, n.d. [1851]. Text plus separate double-sided volvelle engraved by George G. Smith, mounted on heavy cardboard, containing “Fuller’s Time Telegraph” on one side and “Palmer’s Computing Scale” on the other. Original cloth, worn, text loose in binding, light toning. [22]pp. Folding lithographed table, entitled “Analytical table of mechanical movements,” tipped to inside back cover. Text measures 285 x 287 mm.; volvelle measures 283 x 285 mm. Boxed. \$2000

Later printing. Fuller’s “Time Telegraph” was a circular nonlogarithmic slide rule, designed by Fuller in 1844, and intended for calculating the number of days or weeks between any two given dates. The title reflected the fascination with the new high-speed telegraphic technology, implying high speed in calculation. On the other side is a later, improved edition (Feazel’s issue 4) of “Palmer’s Computing Scale”, the copyright of which had been purchased by Fuller in 1844 or 1845 (Feazel 1994, 11–15).

This item represents a very early use of the word “computer” for a machine rather than a person.

Until the invention of electronic computers in 1945 the term “computer” usually referred to a person who compiled mathematical tables with or without mechanical assistance. Sometimes the term referred to “lightning calculators” who performed remarkably fast computations in their heads. During the first decade of electronic computing, the term was apparently used interchangeably for people and machines. By about 1960 the word was generally applied only to machines. Baxandall 1975, no. 147. Karpinski 1940, 471–72. *Origins of Cyberspace* 302. 39049



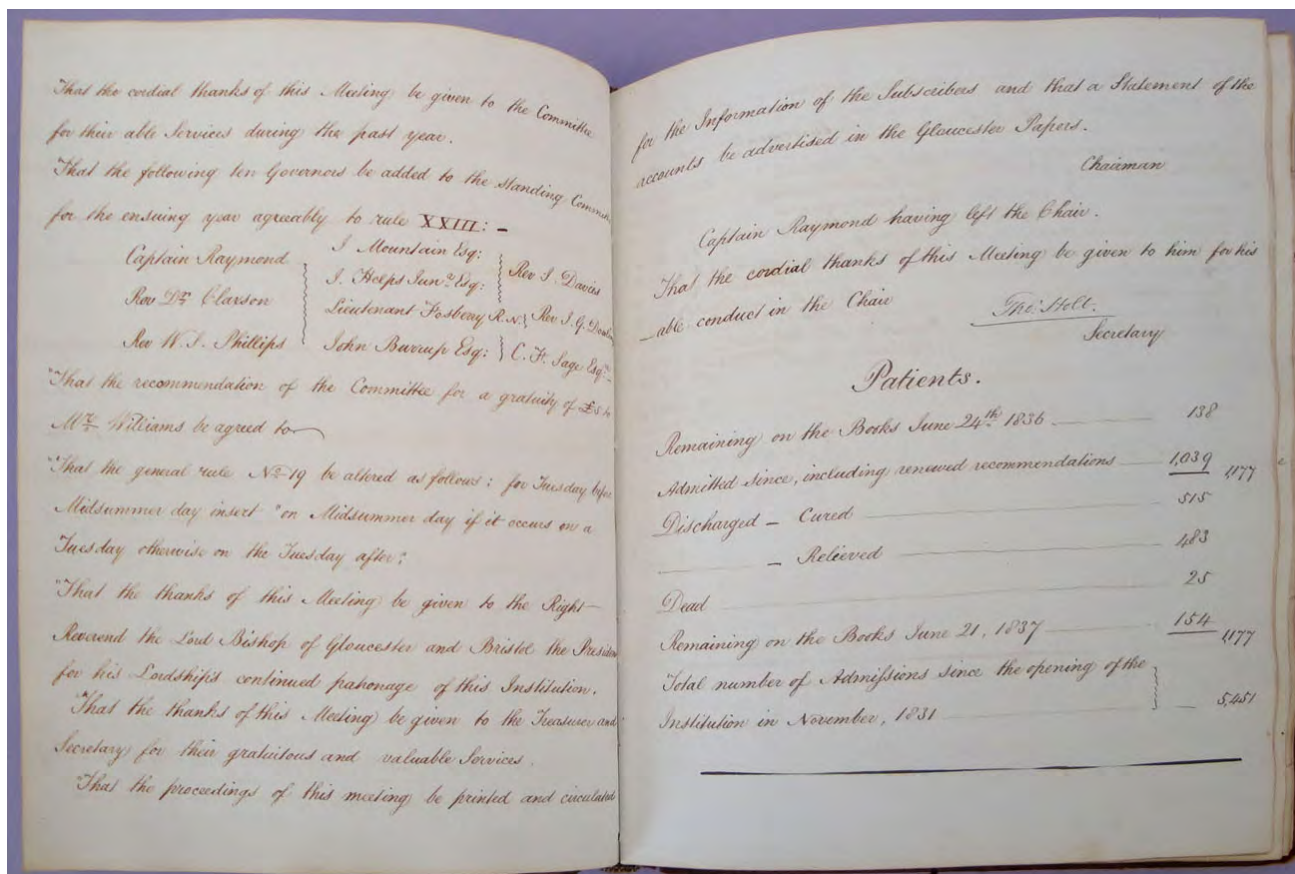
*With Autograph Letter Signed*

**17. Galton, Francis** (1822–1911). *Hereditary genius: An inquiry into its laws and consequences*. 8vo. vi, [2], 390pp. 2 folding charts. London: Macmillan, 1869. 220 x 142 mm. 19th century cloth in the style of the original binding, with panel from original binding mounted on front cover, some fading, spine repaired, library label removed from spine. Occasional foxing, library stamp on verso title, but very good. Laid in is a 2-page Autograph Letter Signed from Galton to Cuthbert Collingwood (1826–1908), dated Jan. 29, 1884. Bookplate of the Royal Institution of South Wales. \$1500

**First Edition.** Galton's first investigations into heredity focused on the heritability of human intelligence, a topic that engrossed him throughout his career. Convinced that human ability depended primarily on inheritance, Galton "hit upon a fairly simple device, the pedigree, one that would remain an analytical mainstay for the rest of his life" (Gillham, p. 155). Galton charted the pedigrees of distinguished men and compared this data to the population of Europe as a whole, noting a much higher frequency of "eminence" in the distinguished families. After publishing some preliminary papers on the subject Galton issued his *Hereditary Genius*, in which "he used the same general method of gathering data on a much grander scale and applied the 'bell curve' as an evaluative technique for the first time. . . . Overall Galton's results in *Hereditary Genius* seemed to sup-

port his thesis that talent and character were largely determined by nature" (Gillham, *Life of Sir Francis Galton*, pp. 157–58, 167).

Laid into this copy is an autograph letter signed from Galton to British physician and naturalist Cuthbert Collingwood, senior physician at Liverpool's Northern Hospital and author of numerous works on natural history and religion. In the letter Galton turns down an offer to let him read one of Collingwood's works before publication: "However much I shd. like to see your work, it is better not to do so until it is published. I should be sorry to run the risk of suspicion of utilizing any of your novel views in such work of my own as may appear in the interim. It is often really difficult to disentangle hints derived from without, from one's own original ideas . . ." 41508



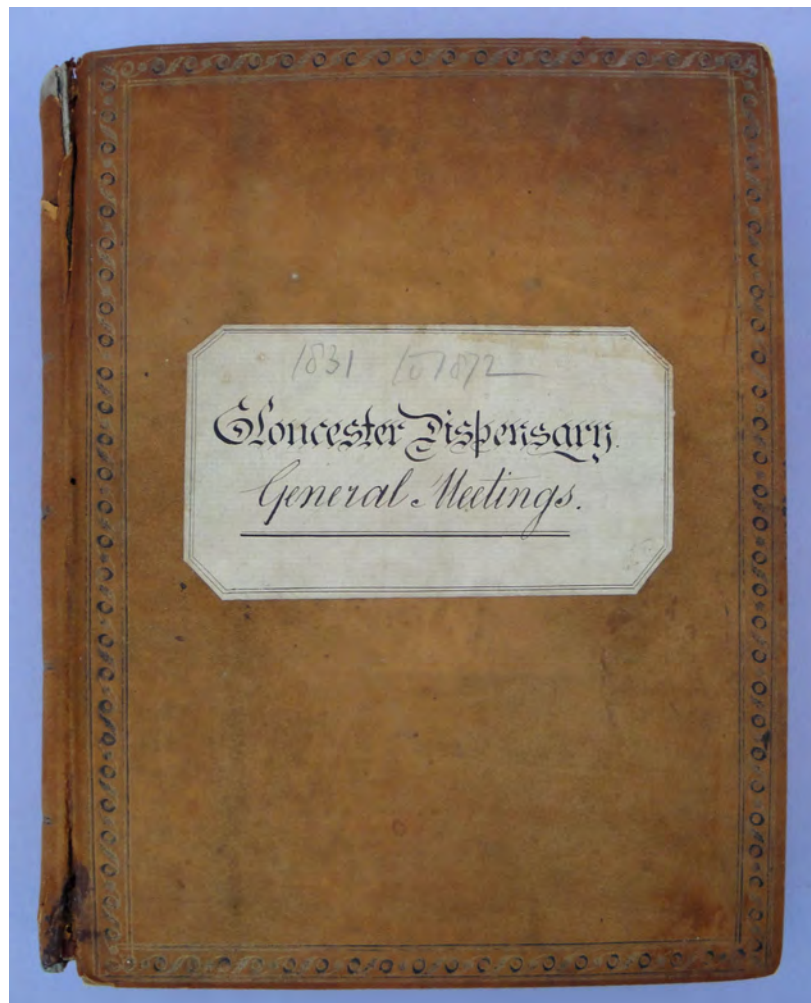
## Unique Document in British Medical and Social History

**18. Gloucester Dispensary and Vaccine Institution.** Gloucester Dispensary general meetings 1831 to 1872 [cover title]. Manuscript volume. 210pp., written in several secretarial hands, several printed subscribers' reports and notices pasted in. Gloucester, 1831-72. 237 x 190 mm. Reversed calf c. 1831, some wear at spine and corners, hinges cracking at extremities but overall sound. Very good example. \$4000

A remarkable record of the transactions of the Gloucester Dispensary, a charitable institution established in 1831 to provide free medical care for the city's poor. The Dispensary was funded by annual contributions from subscribers; those who contributed at least half a guinea a year were issued tickets that allowed them to refer poor patients to the Dispensary. "Doctors gave their services free of charge and an apothecary was employed. He lived at the dispensary, which occupied a house within the shell of the Greyfriars church. To reduce costs, in 1850 the dispensary was closed and a chemist in Eastgate Street contracted to provide rooms and supply medicines. The dispensing was at a chemist's shop in Southgate Street in 1853 and until 1857, when a medical officer was employed to carry on the institution's work, and

by 1870 a dispensary had been opened in Blackfriars. In 1872 the Gloucester Dispensary was reorganized as a provident society supported by members' payments and voluntary contributions . . . On the introduction of the National Health Service [in 1948] the [Dispensary's] buildings were let to the corporation for a health centre, which included a dispensary and closed in 1963, and the endowments, including the Barton Street premises, supported a fund for the sick poor of the city" (Herbert).

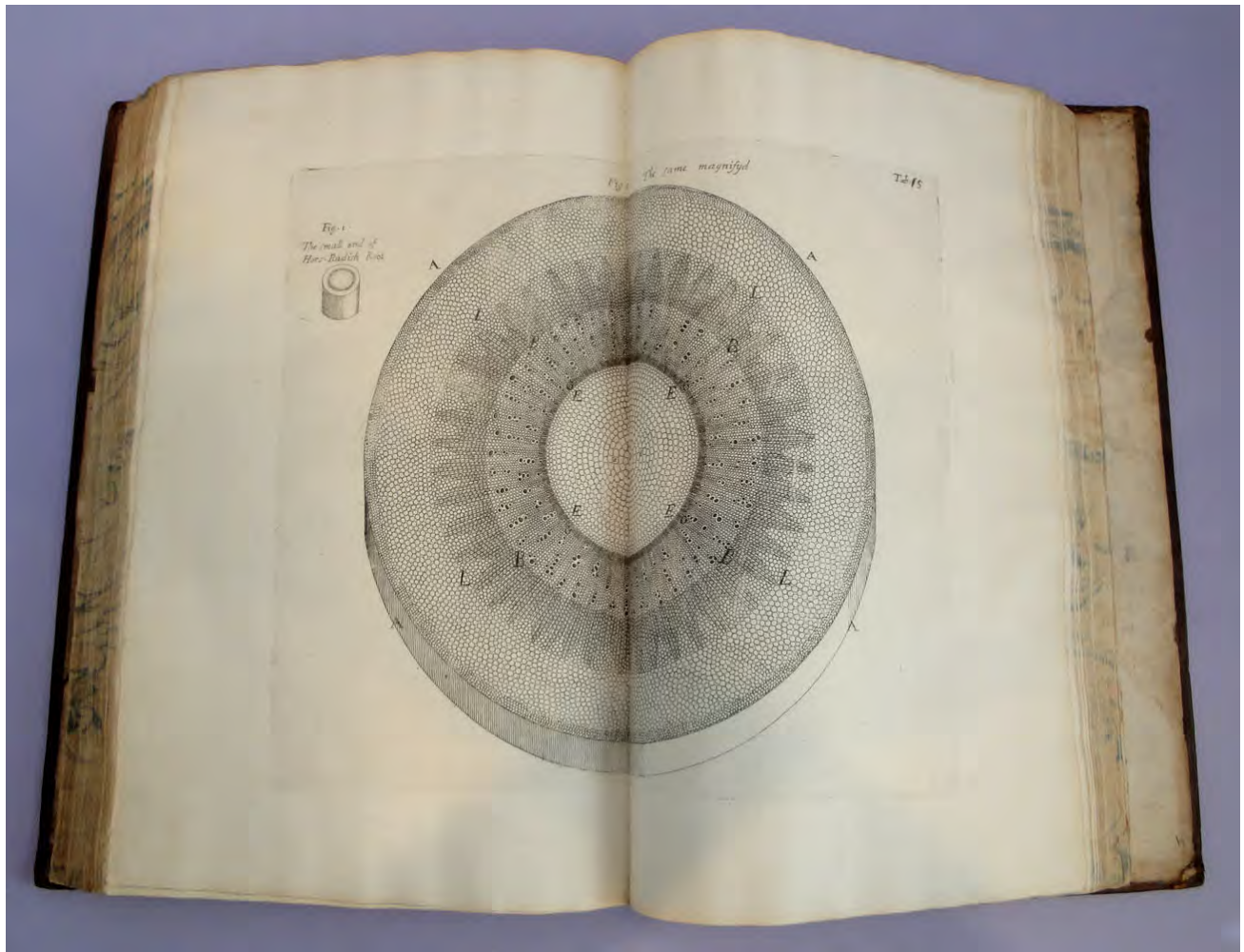
Our manuscript volume contains records of the first four decades of the Dispensary's existence, from its foundation to its transition from a charity to a provident society. Each meeting included a detailed report of the Dispensary's finances, number of patient treated (with outcomes), and comments on current



medical conditions, including prevailing epidemics. Also contained in these records are the names of the Dispensary's governing members, attending physicians and apothecaries. One of the major purposes of the Dispensary was to make vaccination against smallpox available the poor; vaccinations were to be performed "by the Surgeon of the day in attendance" (p. [9]). In the Dispensary's "Report for the year ending Midsummer 1832," the governing committee was "glad to report that 130 children of the poor have been vaccinated, and their prejudices in favor of inoculation are declining" (p. [13]).

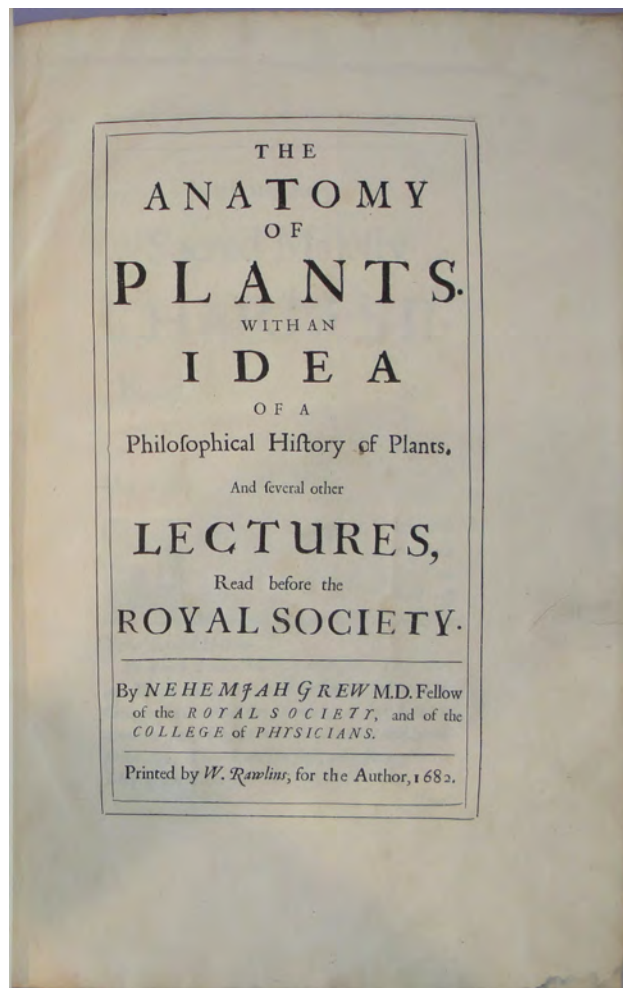
The Gloucester Dispensary can be seen as an example of the dispensary movement in Britain, a philanthropic endeavor that began in 1770 when John Coakley Lettsom founded the General Dispensary in Aldersgate Street, London. Lettsom's General Dispensary was so successful "that by 1800 another 15 dis-

pensaries had been opened in London, and 22 in the provinces. The great advantage of the dispensaries was their cheapness compared with hospitals, and the fact that they were able to treat thousands of patients a year compared with a few hundred in the hospitals. . . . For the most part, dispensaries treated medical cases leaving all but the most trivial surgical cases to the hospitals. . . . The dispensary movement began to fade gradually in the late 19th century, and rapidly when the National Insurance Act of 1911 enabled working men—the mainstay of the dispensaries—to visit a general practitioner free of charge" (Lock et al., p. 242). Lock et al., *Oxford Illustrated Companion to Medicine*, pp. 241-242. N.M. Herbert (editor). "Gloucester: Hospitals." *A History of the County of Gloucester: Volume 4: The City of Gloucester* (1988): 269-275. *British History Online*. Web. 11 May 2011. 41166



### *Foundation of Plant Anatomy*

**19. Grew, Nehemiah** (1641-1712). *The anatomy of plants. With an idea of a philosophical history of plants. And several other lectures, read before the Royal Society.* Folio. [22] 24, [10] 304, [20] pp. 83 engraved plates (5 double-page). [London:] W. Rawlins for the author, 1682. 367 x 236 mm. (large paper copy, printed on paper watermarked with the Strasbourg lily). Speckled calf c. 1682, rebacked, a little rubbed at extremities. Fine, crisp copy. Signature of English collector and antiquary John Nickolls (1710-45) on the front free endpaper; engraved bookplate of Sir Peter Thompson (1698-1770) on the verso of the title-leaf. \$4500



**First Edition.** Along with Malpighi—whose work Grew knew of and admired—Grew is considered the founder of plant anatomy, and this revised collected edition of three earlier treatises (*The Anatomy of Vegetables Begun* [1672], *An Idea of a Phytological History Propounded* [1673], and *The Comparative Anatomy of Trunks* [1675]) represents the first textbook on the subject. Grew's pioneering investigations into how organs and tissues are formed during plant growth led to the conception of the plant as a coordinated developing structure and marked the beginning of efforts to link structure and development. Along with Malpighi, Grew was the first to investigate internal plant anatomy: with the aid of the microscope, he demonstrated that plants have a characteristic ordered inner structure, (illustrated in his accurate and beautiful plates) and that all

plant tissues could be broadly divided into “ligneous” (fibro-vascular) and “pithy” (parenchymatous) categories. He showed that the “cells” first observed by Robert Hooke made up the normal structure of the parenchyma, and came very close to recognizing the universal cellular structure of plants. He believed that a plant's sexual organs were contained in its flowers, and recognized the stamen to be a male organ.

This copy is from the library of two English antiquaries, John Nickolls and Sir Peter Thompson, both of whom assembled important collections of books, documents, manuscripts and prints. It is likely that Thompson acquired this copy from the estate of Nickolls, who died at the age of 35. *Horblit* 43b. *Hunt* 362. *LeFanu*, pp. 98–105. *Morton*, pp. 178–194. *Norman* 946. 41540

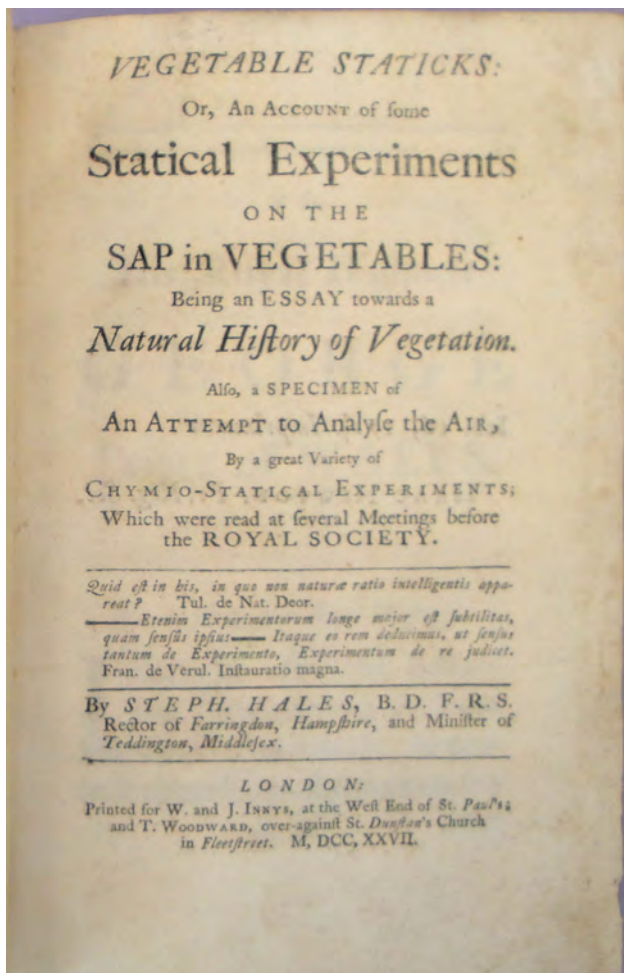


### *Classic of Physiology*

**20. Hales, Stephen** (1677-1761). (1) *Vegetable staticks: Or, an account of some statical experiments on the sap in vegetables. . . .* 8vo. [7], vii, [2], 376pp. (roman-numbered pages have even-numbered rectos and odd-numbered versos). 19 engraved plates. London: W. & J. Innys, 1727. 198 x 118 mm. Paneled calf c. 1727, extremities repaired. (2) *Statical essays: containing haemastaticks. . . .* 8vo. xxii, [26], 361, [23]pp. London: W. Innys. . . , 1733. 193 x 122 mm. Paneled calf, gilt spine, c. 1733, joints repaired, nearly uniform with the binding of *Vegetable Staticks*. 18th century red and green morocco labels on spines of both volumes are identical, indicating that the volumes were most likely sold together. Engraved bookplate of Richard Langley Esq. Together 2 volumes. Fine copies. \$12,500

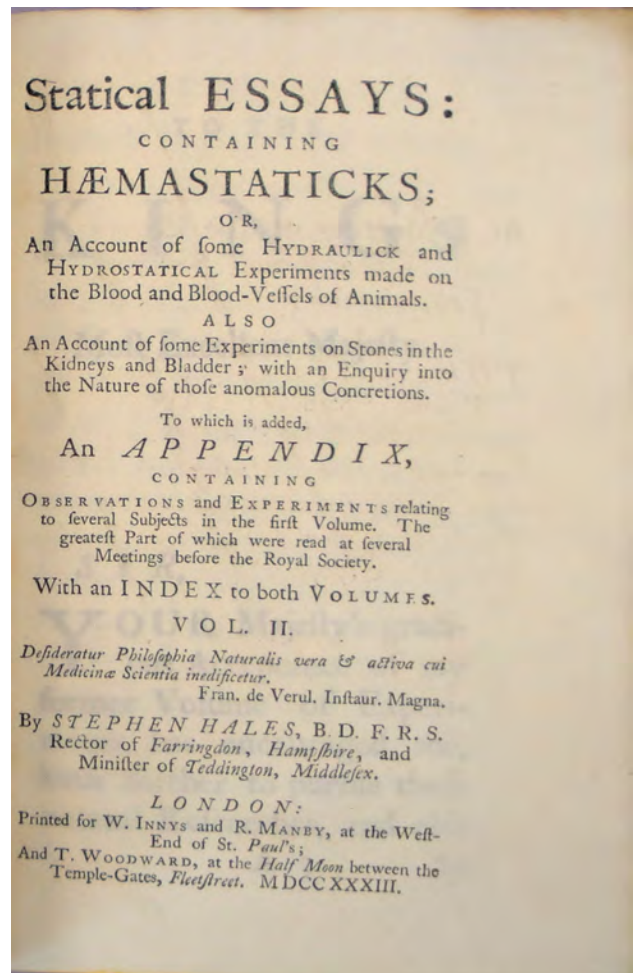
**First Editions.** Hales initiated a new stage in physiological experimentation with his “statical” methods, which were characterized by precise quantitative measurements, repetition and the used of controls, and were based on the assumption that that the known laws of matter operated in the bodies

of plants and animals as well as in non-living materials. In his investigations of plant physiology, described in *Vegetable Staticks*, Hales studied the movement of water in plants, determining that leaf suction is the main force by which water is raised through a plant, and showing that plants lose water constantly via



transpiration through their leaves. He also demonstrated that plants do not have a true circulation, and developed techniques to measure the varying rates of growth in different plant structures.

*Vegetable Staticks* is the first volume of Hales's *Statical Essays*, the second volume of which (*Haemastaticks*) appeared in 1733. *Haemastaticks*, which was published to accompany the second edition of Hales' *Vegetable Staticks*, records "Hales' invention of the manometer, with which he was the first to measure blood-pressure. His work is the greatest single contribution to our knowledge of the vascular system after Harvey, and led to the development of the blood-pressure measuring instruments now in universal use" (Garri-son-Morton 765).

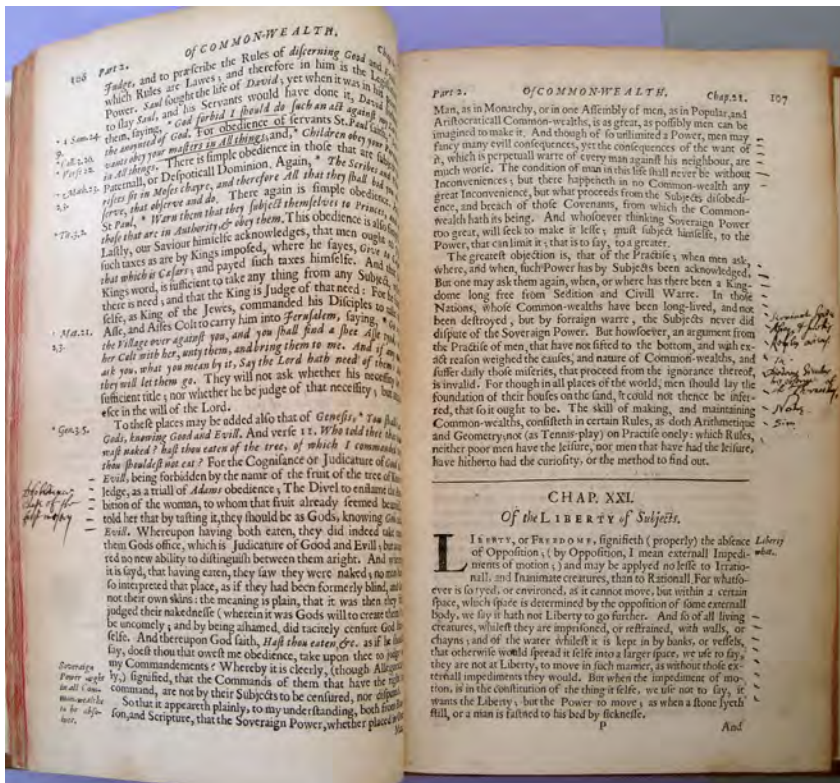


In the course of his work Hales indirectly discovered vasodilatation and vasoconstriction. Concluding that the force of the arterial blood in the capillaries could not be sufficient to produce muscular motion, he suggested a force regulated by the nerves, and perhaps electrical. "Hales was therefore the first physiologist to suggest, with some evidence to support it, the role of electricity in neuromuscular phenomena" (*Dictionary of Scientific Biography*). Horblit 45a & b *Printing and the Mind of Man* 189 Dibner 26. Morton, *Hist. Bot.*, pp. 246-54. 41476

*Non est potestas Super Terram quae Comparetur ei Job. p. 24*



	<b>LEVIATHAN</b>	
	<i>Or</i>	
	<i>THE MATTER, FORME</i>	
	<i>and POWER of A COMMON</i>	
	<i>WEALTH ECCLESIASTICALL</i>	
	<i>and CIVIL.</i>	
	<i>By THOMAS HOBBS</i>	
	<i>of MALMESBURY.</i>	
	<i>London</i>	
	<i>Printed for Andrew Crooke</i>	
	<i>1651</i>	



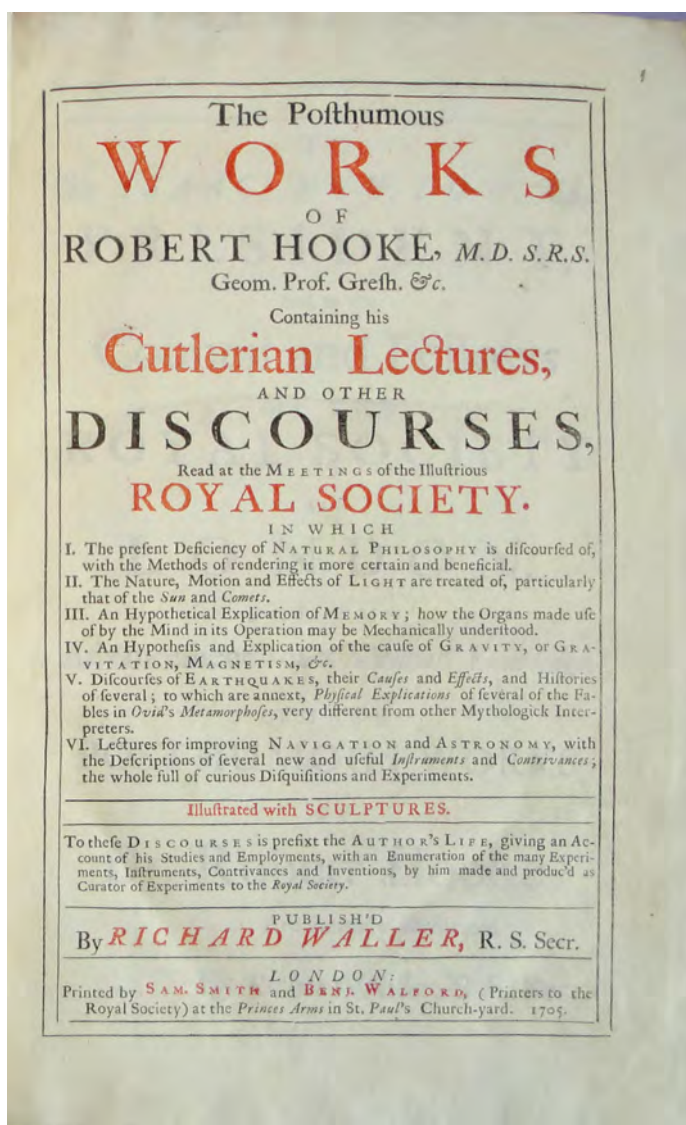
“Nasty, British and Short”

**21. Hobbes, Thomas** (1588–1679). *Leviathan, or the matter, forme and power of a commonwealth ecclesiasticall and civill.* Folio. [6], 396pp. Engraved title, folding chart. London: Printed for Andrew Crooke, 1651. 273 x 175 mm. Modern calf gilt in antique style by Bob Lucas. Light dampstaining in lower outer margin but very good. Marginal annotations in an early hand. \$15,000

**First Edition, First Issue**, with the “human head” ornament on the title. Because he was as much interested in the new mechanistic, materialistic science of the seventeenth century as he was in the political problems England faced in the 1630s and 1640s, Hobbes was able to bring a fresh emphasis to the incipient political science embodied in his day in the concept of natural law. He considered himself the first to apply the methods of Copernicus and Galileo (who was his friend) to the arena of politics, and he gave effective formulation to the concepts that were to preoccupy political philosophers, sociologists and economists for the next two centuries—materialism, the natural equality of the human species, and the social contract. Although first and foremost a political sociologist, Hobbes also touched upon economic subjects, especially money, and was influential in the development of William Petty’s outlook on a number of economic issues.

Hobbes had written two Latin books on politics before *Leviathan*, with which he hoped to reach

a general English audience. However, his brilliant vision, expressed in classic, vigorous prose, was met with horror by most, and got him labeled everything from atheist, heretic and libertine to the “monster of Malmesbury” and “pander to bestiality.” He was blamed in the House of Commons for the great London fire of 1666 and during the same period discovered a committee of bishops in the House of Lords willing to put him to the stake. It is admittedly difficult to see the charm of Hobbes’s contention that the natural human situation is “every man a wolf to every other,” with the state called into being by contract to protect us from violent death. On the other hand, Hobbes’s assertion of the fundamental natural equality between the wolves was an important first step in the development of liberalism and has become a pillar of economic theory. Schumpeter, pp. 107, 116–22. Macdonald & Hargreaves 42. Norman 1082. *Printing and the Mind of Man* 138. Wing H-2246. 41432



**22. Hooke, Robert** (1635–1703). The posthumous works of . . . containing his Cutlerian lectures, and other discourses, read at the meetings of the illustrious Royal Society. Edited by Richard Waller. Folio. [6], xxviii, 209, [2], 279–572pp., complete despite irregular pagination. 15 engraved plates numbered I–II, I–XIII. London: Sam. Smith and Benj. Walford, 1705. 323 x 203 mm. Paneled calf ca. 1705, rebacked preserving original spine, hinges cracking . Minor foxing and browning but very good to fine. \$3500

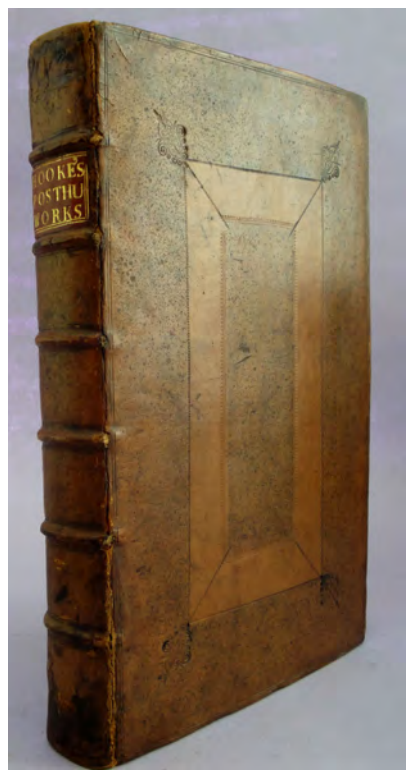
**First Edition.** Hooke’s contributions to geology, a science that held his interest for over thirty years, are for the most part found in his “Lectures and discourses on earthquakes,” the largest section of the Posthumous works. The most significant of these was Hooke’s refusal to consider fossils as anything but the remains of organic life. In a classic piece of seventeenth-century scientific argumentation, Hooke refuted the “sport of Nature” argument by showing that the resemblance between a fossil and a living

organism was inexplicable in a designful universe unless the resemblance had a straightforward causal origin. He believed that the earth had undergone a number of cataclysmic changes since its creation, which were responsible for limited variations in the surviving species—a theory that explained the lack of complete identity between the fossil record and living organisms.

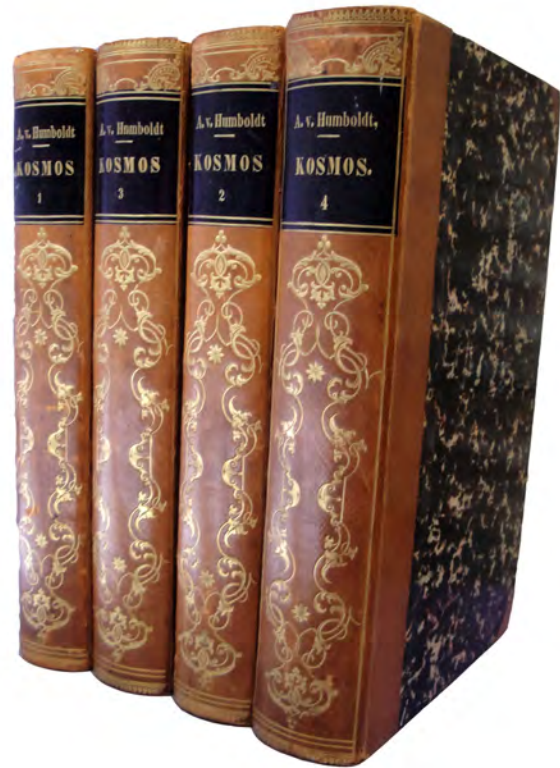
Also noteworthy is Hooke’s investigation of “how we come by the notion of Time,” found on pp.



139-41 and 144-45 of Hooke's "Lectures of Light." Hunter and MacAlpine discuss Hooke's investigation on pp. 216-220 of *Three Hundred Years of Psychiatry*, citing it as "one of the first 'modern' psychological studies." The same "Lectures of Light" also includes Hooke's description and illustration of a portable camera obscura, which featured "the use of diaphragms of different sizes to be put over the lens to demonstrate the expansion and contraction of the pupil of the eye. Another improvement is a ball-and-socket head underneath the camera, enabling it to be easily turned in different directions. This is probably the first application of this particular device to the camera" (Gernsheim, *History of Photography*, pp. 26-27). Waller's biography of Hooke, which forms the preface to the *Posthumous Works*, is one of the best contemporary sources for his life. Keynes, *Hooke*, 25. Norman 1101. 41505



Herrn Porträtmaler  
und Lithograph Feckert  
in Stuttgart  
zu Freundesgabe  
zu den 42 Tafeln  
der Kosmos  
ausgezeichnete Leistungen  
der anmuthigen Kunst  
Humboldt  
im Mai 1858,



*Inscribed to Gustav Feckert*

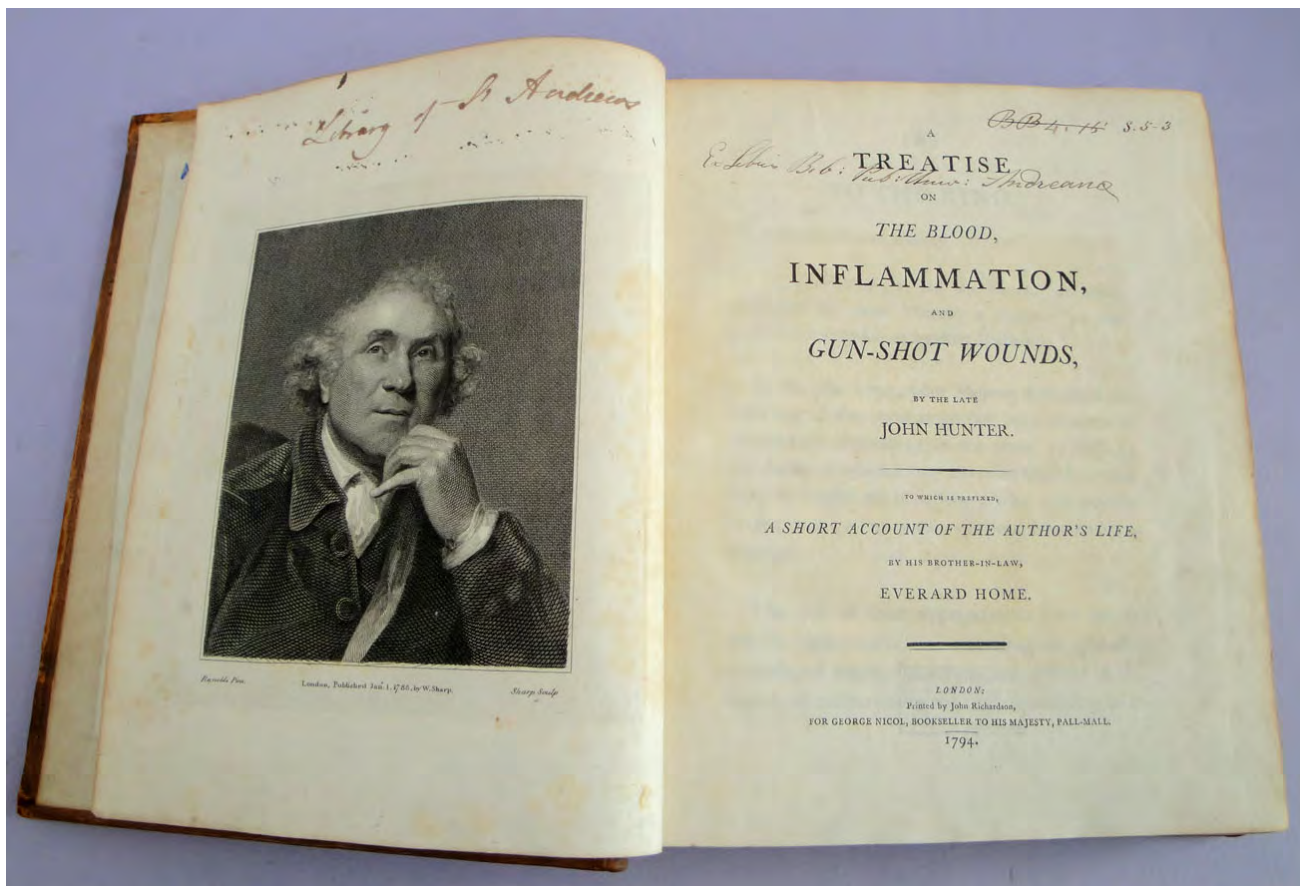
**23. Humboldt, F. W. H. Alexander von** (1769–1859). *Kosmos*. Entwurf einer physischen Weltbeschreibung. 4 vols. text plus oblong folio atlas by Traugott Bromme (1802–66). Folding table in Vol. III; 42 plates in the atlas, mostly hand-colored wood or steel-engraved thematic maps & some plain aquatint views. Stuttgart: Cotta, 1845–58 (text); Kraus & Hoffmann, 1861 (atlas). 213 x 133 mm. text; 280 x 335 mm. atlas. Text bound in half calf gilt c. 1858, with light wear to edges and corners; atlas in half sheep ca. 1861, spine and corners worn, light rubbing. With Humboldt’s autograph presentation inscription to German artist Gustav Feckert (1820–99), dated May 1858, on the front free endpaper of Vol. I. \$8500

**First Edition**, presented upon publication by Humboldt to the painter and lithographer Gustav Feckert. The inscription, written in Humboldt’s characteristically difficult hand, praises Feckert for his “ausgezeichnete Leistungen der anmuthigen Kunst” (excellent performance of the graceful art). This is the only inscribed presentation copy of *Kosmos* that we have seen in forty years.

“The *Kosmos* put together in one unified work all the various interests and discoveries of Humboldt’s lifetime. In the first volume there is a general presentation of the whole picture of the universe. The second volume starts with a discussion of the portrayal of nature through the ages by landscape painters and by poets and then continues with a history of man’s effort to discover and describe the earth since the

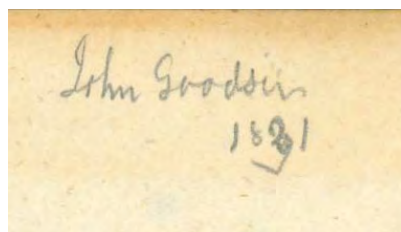
time of the ancient Egyptians. . . The third volume deals with the laws of celestial space, which we would call astronomy. The fourth volume deals with the earth, not only with geophysics, but also with man” (James, *All Possible Worlds. A History of Geographical Ideas* [1972], pp. 162–63). The atlas reflects the latest trends in cartography with its colored thematic maps.

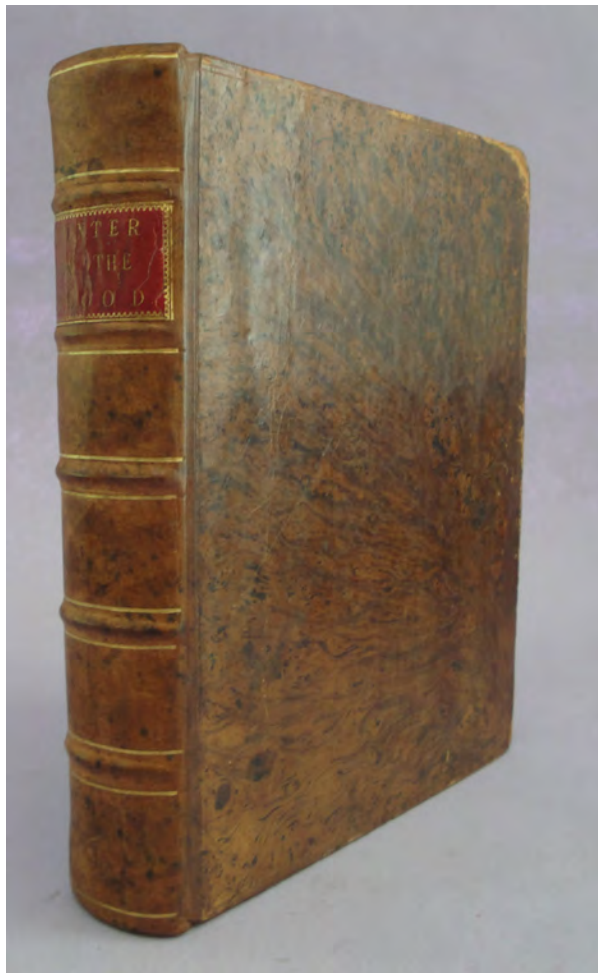
*Kosmos*, as Humboldt conceived it, consisted of the four text volumes only. Although *Printing and the Mind of Man* calls for the atlas, which first appeared in 1851/52, this was actually issued separately without Humboldt’s participation. The atlas included here is a second edition. Nor did Humboldt contribute to the index volume which appeared after his death in 1862. *Printing and the Mind of Man* 320.. Sabin 33726 (text) & 8201 (atlas). 41536



*John Goodsir's Copy*

**24. Hunter, John** (1728–93). A treatise on the blood, inflammation, and gun-shot wounds. . . . to which is prefixed, a short account of the author's life, by his brother-in-law, Everard Home. 4to. lxxvii, [1], 575pp. Engraved portrait frontispiece by William Sharp (1749–1824) after the painting by Sir Joshua Reynolds (1723–92), 9 engraved plates by William Skelton. London: John Richardson for George Nicol, 1794. 252 x 202 mm. Marbled calf ca. 1794, rebaked, corners a bit worn. Scattered foxing, but a very good copy. From the library of Scottish anatomist John Goodsir (1814–67), with his pencil signature, dated 1831, on the front free endpaper. University of St. Andrews library inscriptions on portrait and title; library discard stamp on verso title. \$6500





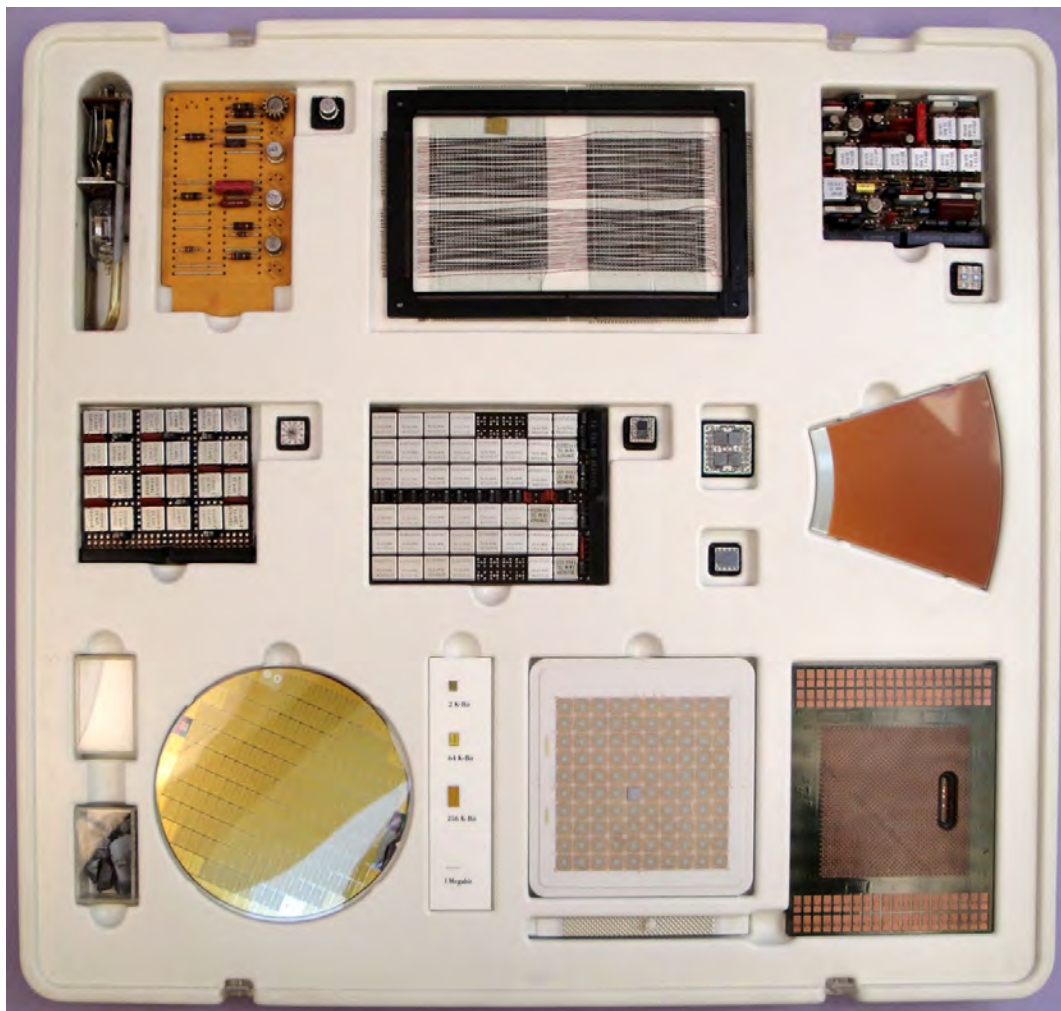
**First Edition.** Hunter's epoch-making last work, in which he published for the first time his observations on war injuries made during the Seven Years' War 32 years before, along with his studies of inflammation, which were of prime importance to pathology. Hunter was ahead of his time in recognizing and describing the three basic factors of wound pathology: (1) that an external agent in the air, and not the air itself, is a factor in wound inflammation; (2) that a good blood supply is essential in maintaining the natural defenses of the body; and (3) that the presence of devitalized tissue in a gunshot or other deep and contused wound prevents the wound from healing and promotes sepsis. He advocated a conservative system of deep wound management in which the natural functions of suppuration and drainage would be allowed to operate; this policy made sense in the context of 18th-century surgi-

cal practice, in which the causes of infection were unknown and antiseptic practices unheard-of. With regard to inflammation, Hunter recognized it as one of the most widespread phenomena in pathology and classified it into three types: (1) adhesive, in which adherence of contiguous parts causes localization of disease; (2) suppurative, in which pus is formed; and (3), ulcerative, in which tissue loss occurs through the action of the lymphatics.

This copy is from the library of Scottish anatomist John Goodsir, a pioneer in the study of the cell (see Garrison-Morton 2294.1). Goodsir was an alumnus of the University of St. Andrews. Garrison-Morton 2283. Norman 1122. Long, *Hist. Pathol.*, pp. 90-92. Qvist, *Hunter*, pp. 76-77; 146-53. Robb-Smith, "John Hunter's Private Press," *J. Hist. Med. & Allied Sci.* 25 (1970): 262-69. 41435



**25. IBM (Germany).** Computertechnologie IBM. Plastic carrying case with title printed on upper cover, fitted with two plastic trays, the upper tray displaying computer components and the lower tray containing printed materials, a VHS tape and a 30x microscope; see below for complete list. Stuttgart: IBM, 1986. Case measures 500 x 530 mm. Minor scratches to case, but overall fine, with all components fine. \$8750



**Finely Preserved Instructional / Sales Kit**, designed by IBM Germany for visual presentations of then-current IBM computer technology within the context of its historical development. For example, the history of memory technology is shown, as is the development of switching technology from the vacuum tube to microprocessors. The upper tray has 13 compartments, each containing a separate computer component which can be removed. The tray is covered with a plexiglass sheet on which the German names of the components are printed: Silizium [silicon], Quarzsand [quartz sand], Wafer, Chip-Entwicklung [chip development], Mehrschicht-Keramikträger [multi-layer ceramic substrate], Mehrschicht-Leiterplatte (Ausschnitt) [multi-layer printed circuit board (detail)], MST-Karte [MST card], Halbleiterspeicher [semiconductor memory], Speicher-Modul 512 K-Bit [512-K bit memory module], Speicher-Modul 1 Megabit [1-megabit memory module], Magnetplatte (Ausschnitt) [magnetic disk (detail)], Röhrensteck-einheit [tube plug-in unit], SMS-Karte [SMS card],

Kernspeicherebene [core memory], and SLT-Karte [SLT card].

The lower tray has six compartments containing three books, a set of 30 printed transparencies, a VHS tape (“Was im Computer steckt” [What’s in a computer]), and a 30x microscope for viewing the components in the upper tray. The books, all soft-bound, are as follows: *Computer-Technologie Textbuch* ([74]pp., IBM punch card inserted inside the back cover); *Chips—Die Technik unserer Zeit* [Chips—The technology of our time] (175pp.); and *Die Grundlage der Daten-Verarbeitung* [Foundations of data processing] (94pp. plus printed survey form inserted inside the back cover). The set of transparencies is in a folder titled *Computer-Technologie Folien* [Computer technology films]. Both tray inserts may be removed from the carrying case. The one with the original computer components is designed to be hung on a wall. Of obvious scarcity. Very few of these kits would have been manufactured. 41135

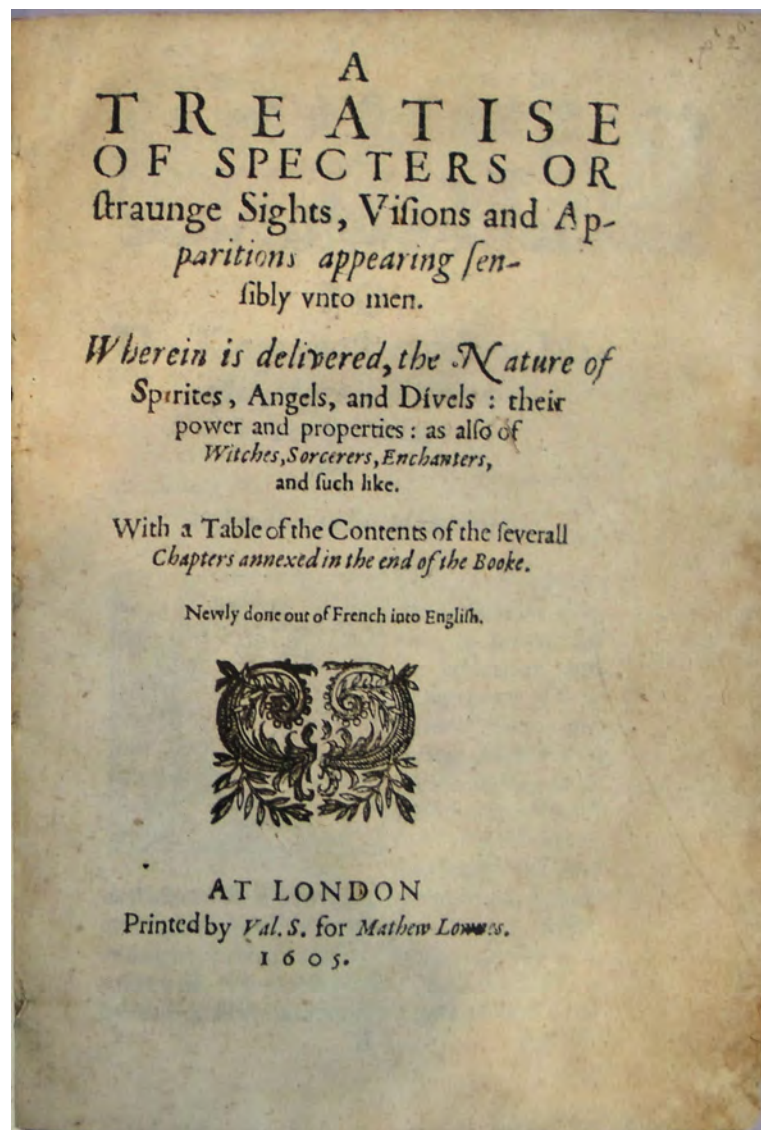


### *Foundation of Modern Chemistry*

**26. Lavoisier, Antoine Laurent** (1743–94). *Traité élémentaire de chimie*. 2 vols., 8vo. xlv, 322; viii, [323]–653 [3]pp. 2 printed folding tables, 13 engraved plates by Marie A. P. P. Lavoisier, the author's wife. Paris: Cuchet, 1789. Mottled sheep ca. 1789, gilt spines, tiny scuff-mark on front cover of Vol. I. Insignificant foxing on tables, but fine otherwise, with the contemporary binding in unusually fine condition. Early ownership signature on endpapers. \$5000

**First Edition**, second issue as usual (only 2 or 3 copies of the one-volume first issue are known). The foundation of modern chemistry. Lavoisier overthrew the phlogiston theory of Stahl, established the concept of elements as substances which cannot be further decomposed, and reformed chemical nomenclature. An important consequence of his work was the law of conservation of mass, which states that matter remains constant throughout all chemical change. The book's thirteen plates of chemical

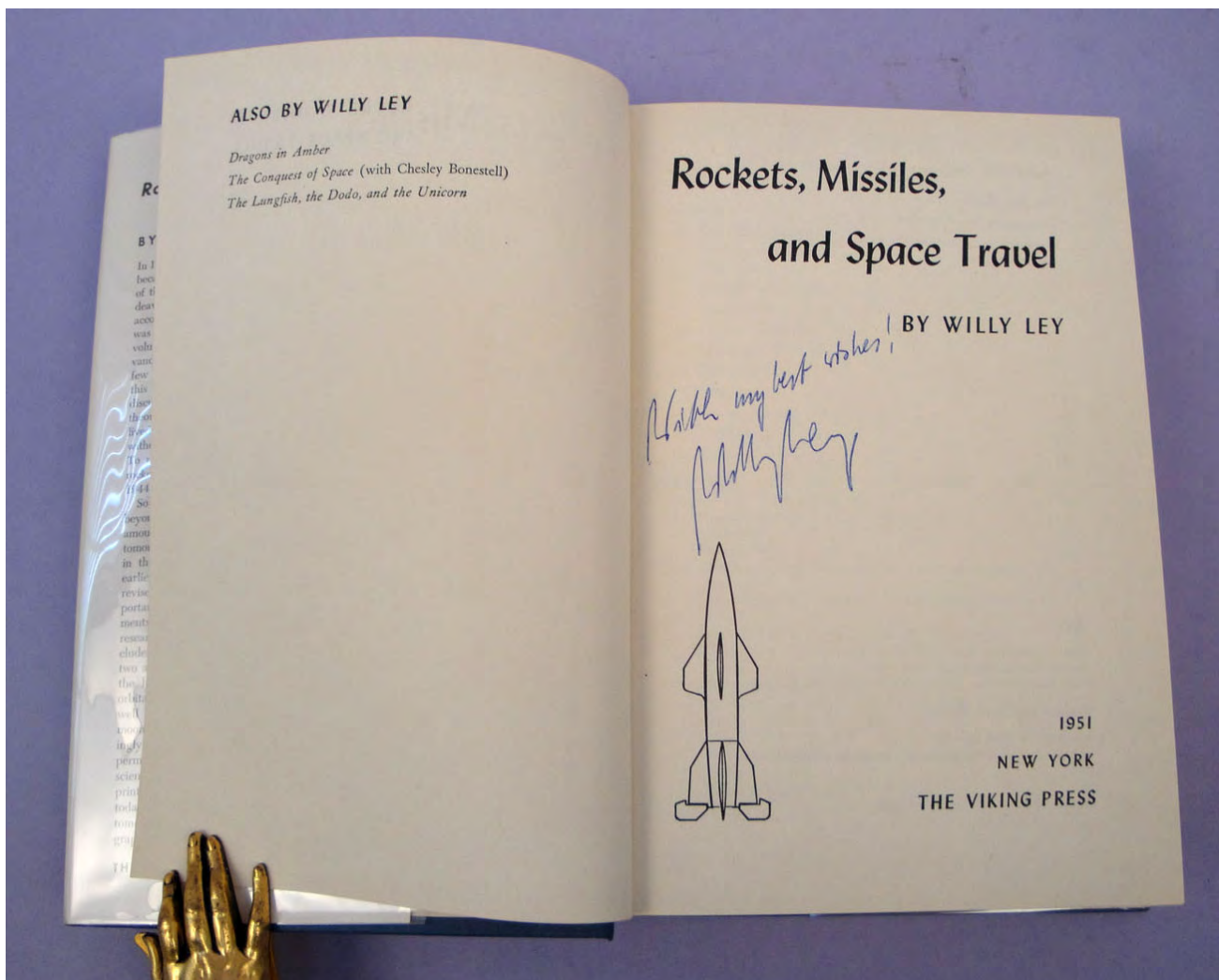
apparatus were drawn and engraved by Lavoisier's wife, who had studied under the French artist David. The one-volume first issue is so rare as to be virtually unobtainable; the second issue contains 95 pages of additional material, including the "Tables à l'usage des chimistes" (pp. 559–591), the "Table des matières" (pp. 592–619) and various approvals of the work (pp. 620–653). Horblit 64. *Printing and the Mind of Man* 238. Duveen & Klickstein 154. Norman 1295. 41534



27. [**Le Loyer, Pierre** (1550–1634).] A treatise of specters or straunge sights, visions and apparitions appearing sensibly unto men . . . Newly done out of French into English [by Z. Jones]. 4to. [8], 145, [1, errata]ff. London: Val. S. for Mathew Lownes, 1605. 184 x 131 mm. Calf ca. 1605, rebacked, minor rubbing. Minor staining, a few marginal annotations, but an unusually fine copy. \$3750

**First Edition in English**, state without the translator's name at the end of the dedication. Le Loyer, a French lawyer, scholar and demonologist, defined a specter or apparition as "an Imagination of a substance without a Bodie, the which presenteth itselfe sensibly unto men, against the order and course of nature, and maketh them afraid" (f. 1), and attempted to classify a variety of specters and supernatural experiences. He identified women, children and the elderly as those most susceptible to "false imaginations and phantoms," due to the weakness

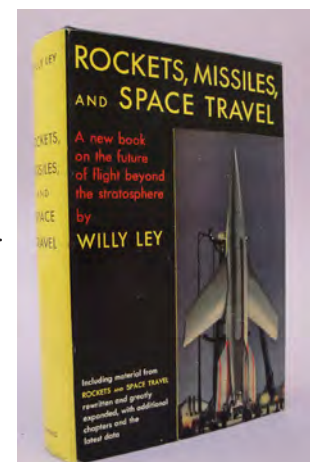
of their intellects. The first four books of Le Loyer's work were originally published in French in 1586; the complete edition, with eight books, appeared in 1605 and was translated into English the same year. Numerous modern scholars of 17th-century English literature and thought have cited the English edition of Le Loyer's *Treatise*, in particular students of Shakespeare (who was writing *Macbeth* around the time the English Le Loyer was published). STC 15448. Porter, Christina. "Treatise of Specters." Folger Shakespeare Library. Web. 13 July 2011. 41541



**28. Ley, Willy** (1906–69). *Rockets, missiles and space travel*. 8vo. xii, 436pp. 6 plate leaves, folding plate tipped to inside back cover, text illustrations. New York: Viking Press, 1951. 213 x 143 mm. Original cloth, dust-jacket (almost unnoticeable wear at extremities) with art by Chesley Bonestell. Fine copy, inscribed by Ley on the title: “With my best wishes! Willy Ley.” \$750

**First Edition** under this title. Ley helped to found the German Rocket Society in 1927. He became an important player in rocketry experimentation in pre-war Germany, and influenced Wernher von Braun’s formative years as a rocket scientist. During this period he published an important anthology on rocket science and issued perhaps the earliest history of rocketry. In 1934 Ley emigrated to the United States where he became a popularizer of space exploration and travel, publishing his first book in English on the subject, *Rockets*, in 1944. In 1948 Ley published a substantially revised version of this work under the title *Rockets and Space Travel*, and

in 1951 he issued *Rockets, Missiles and Space Travel*, which was so much altered and updated from its predecessors as to amount to a new work. Among the topics discussed are the launching of artificial satellites and the establishment of a permanent research center on the moon. Included is a bibliography of works on rocketry and space travel published up to the time of writing. This was the first relatively comprehensive annotated bibliography of the subject, and it remains a very readable and useful guide to the early literature. The artwork in this book shows the influence of the A-4 (V-2) and A-9 rockets on mid-century American thought and imagination. 41280



## *Electron Theory of Matter*

**29. Lorentz, Hendrik Antoon** (1853–1928). Versuch einer Theorie der electrischen und optischen Erscheinungen in bewegten Körpern. 8vo. [4] 138 [2]pp. Leiden: E. J. Brill, 1895. 235 x 156 mm. Original printed wrappers, a few minor chips to edges repaired, spine restored. Occasional very minor foxing, but a very good copy. Boxed. \$8500

**First Edition.** In applying Maxwell's electromagnetic theories to moving bodies Lorentz made the fundamentally new assumption that the behavior of light and matter could be understood in terms of charged particles. Maxwell (1864) had argued that radiation was produced by the oscillation of electric charges, and in 1887 Hertz had shown this to be true for radio waves, which he formed by causing electric charges to oscillate. But if light was an electromagnetic radiation after the fashion of radio waves, where were the electric charges that did the oscillating?

By 1890 it seemed quite likely that electric current was made up of charged particles, and Lorentz thought it quite possible that atoms of matter might also consist of charged particles. He hypothesized that visible light was produced by the oscillation of charged particles within the atom; if this was so, then placing a light in a strong magnetic field ought to affect the nature of the oscillations—and there-

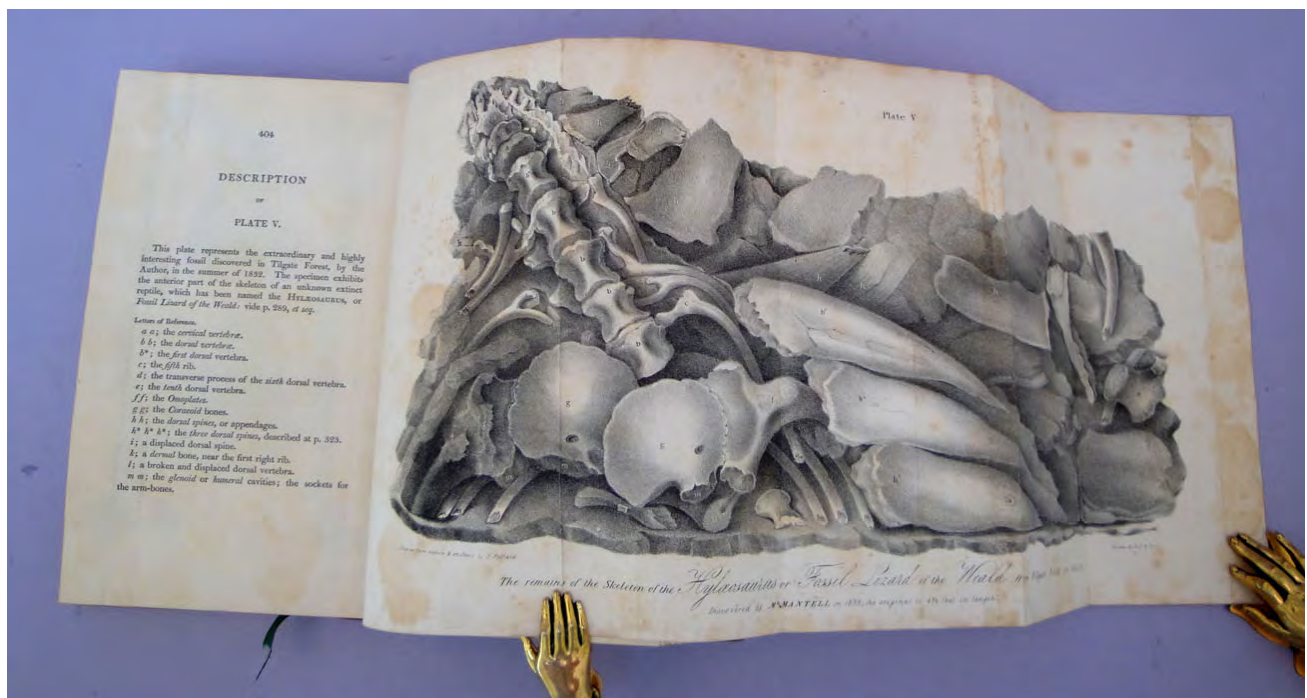
fore the wavelength—of the light emitted. In 1896 Lorentz's hypothesis was demonstrated experimentally by his pupil Pieter Zeeman, who shared the Nobel Prize with Lorentz in 1902.

Lorentz also postulated that there are contractions of length with motion, and that the mass of a charged particle such as an electron depends upon its volume—the smaller the volume, the greater the mass. Arguing that mass increases with velocity led to the conclusion that the velocity of light in a vacuum is the greatest velocity at which any object can travel. Lorentz's equation describing how mass varies with velocity was adopted by Einstein in his *Special Theory of Relativity* (1905), in which he showed that the Lorentz mass-increase with velocity holds not only for charged particles but for all objects, charged or uncharged. *Printing and the Mind of Man* 378b. Magill, *The Nobel Prize Winners: Physics*, pp. 35–42. 41145

To  
Capt. Cautley  
as a mark of the  
high respect of the author  
for his important researches  
in Paleontology, & in gratitude  
for Captain Cautley's valuable  
addition to the Author's  
Museum.  
Brighton Feby. 14. 1837

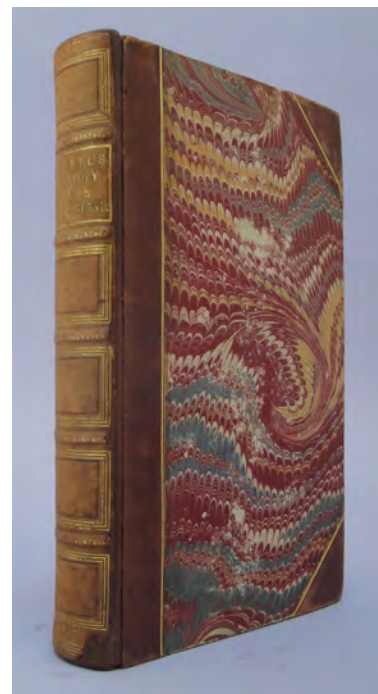
*Inscribed to Capt. Cautley*

**30. Mantell, Gideon** (1790-1852). The geology of the south-east of England. [iii]-xix, 415pp., lacking half-title. Lithographed frontispiece and 5 plates (1 folding), folding colored map, text illustrations. London: Longman, Rees, Orne, Brown, Green & Longman, 1833. 213 x 132 mm. 19th century half calf, marbled boards, all edges gilt, rebacked preserving original spine, light edgewear. Plates somewhat foxed, map backed with linen, otherwise very good. Presentation copy, with Mantell's autograph inscription to Capt. [Proby Thomas] Cautley (1802-71) bound in before the frontispiece: "To Capt. Cautley as a mark of the high respect of the author for his important researches in Paleontology, & in gratitude for Captain Cautley's valuable addition to the Author's Museum. Brighton Feby. 14, 1837." 19th century bookplates. \$2750

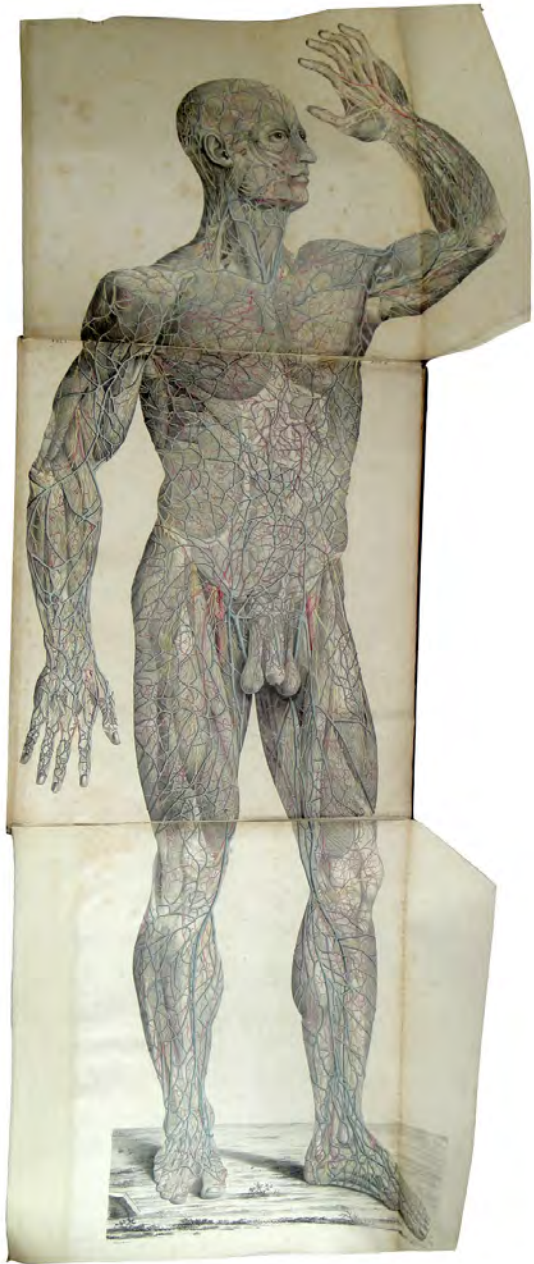


**First Edition.** Announcing the discovery of Hylaeosaurus, the third dinosaur specimen to be discovered, and the first known specimen of the Ankylosauria. Mantell, a British obstetrician and enthusiastic amateur paleontologist, had discovered the first true dinosaur, the Iguanadon, in 1822 in the British county of Sussex. “In 1832 Mantell discovered the first strongly armored group of dinosaurs. He described this fossil, which he named Hylaeosaurus, in *The Geology of the South-east of England*. . . . Meanwhile, Buckland in 1824 had described the remains of the large carnivorous dinosaur Megalosaurus from the Jurassic near Oxford. Thus the first three dinosaurs to be known, the Iguanadon, the Megalosaurus, and the Hylaeosaurus, each belonged to a quite distinct group, later called Ornithopoda, Theropoda, and Ankylosauria, respectively” (*Dictionary of Scientific Biography*).

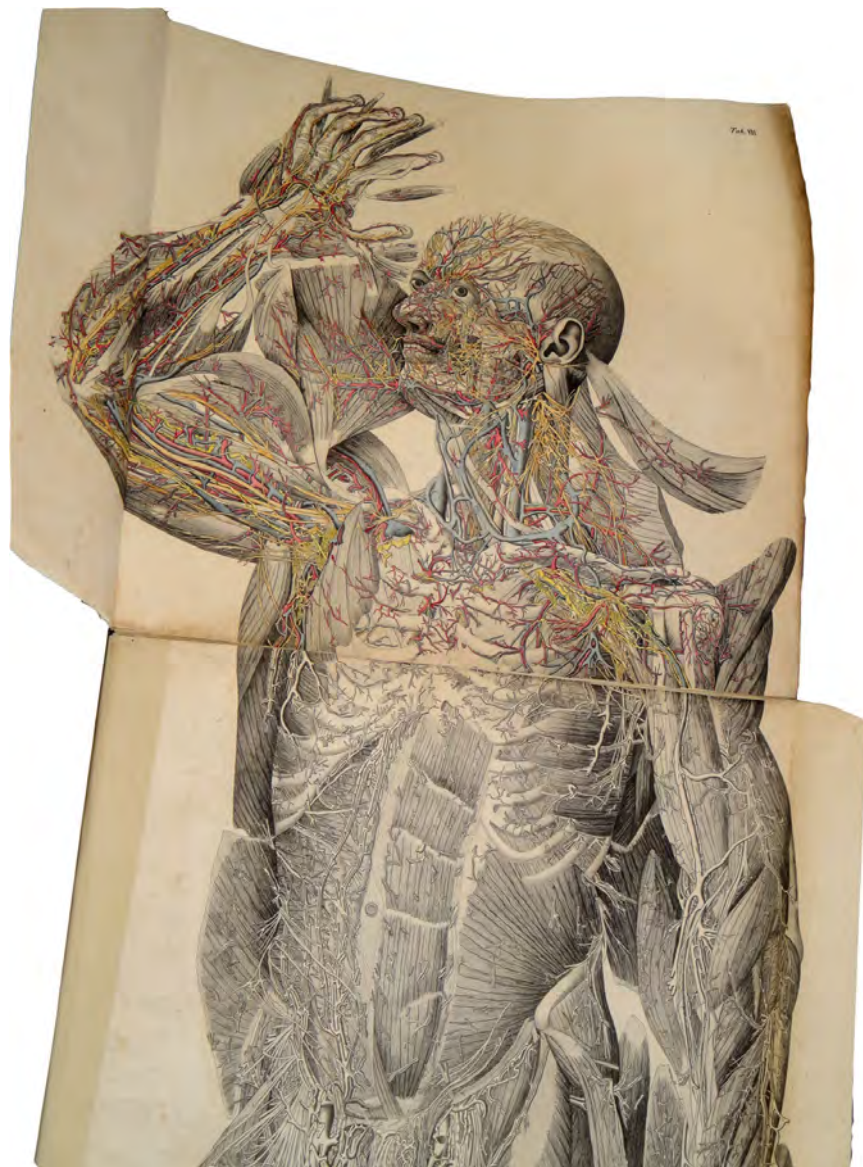
Mantell presented this copy of his *Geology of the South-east of England* to Proby Thomas Cautley, a British engineer and paleontologist who spent most of his career in India. Cautley was the first to find fossils in the Siwalik range of the Himalayas and, together with Hugh Falconer, he amassed and classified an enormous collection of sub-Himalayan fossils that he later presented to the British Museum. Cautley had



evidently contributed a fossil specimen to Mantell’s own museum, which he had established in his house in Brighton (the museum took over Mantell’s entire residence, and his wife and children were forced to seek housing elsewhere!). 41171



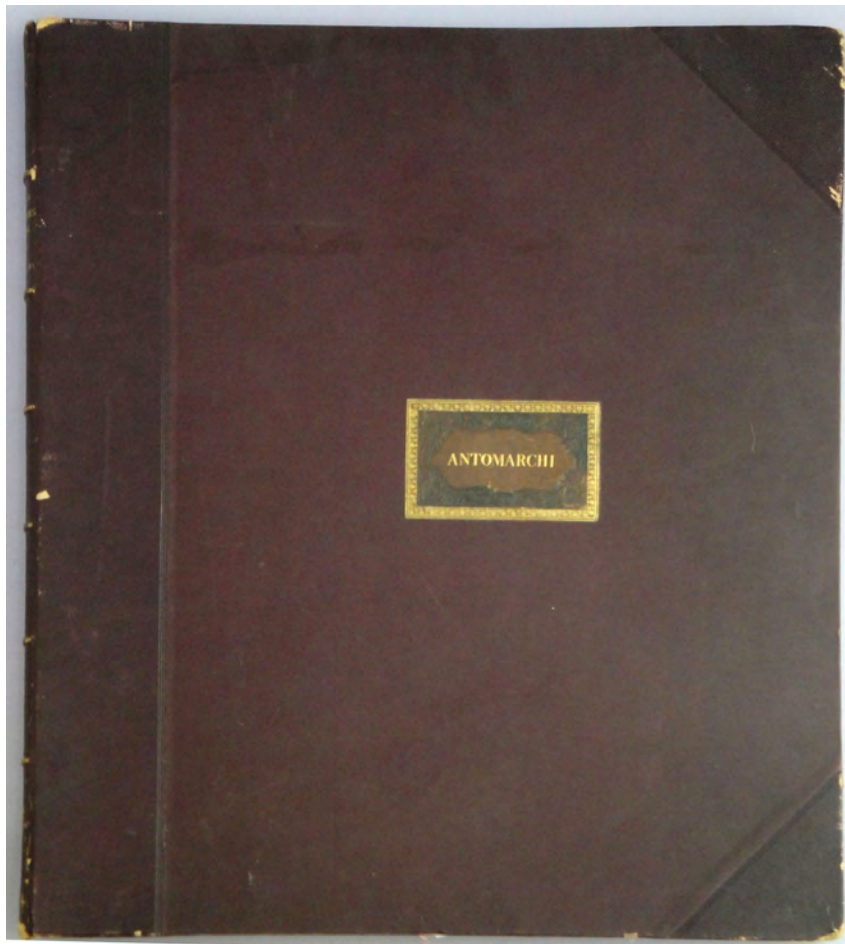
31. [Mascagni, Paolo (1755-1815).] **Antommarchi, Francesco** (1789-1838). [Planches anatomiques du corps humain exécutées d'après les dimensions naturelles. . .] Plates I-IV plus outline plates (8 plates in all) only of 96 plates total (48 plates plus 48 outline plates). Life-size folding lithograph plates, backed in linen, partially hand-colored, by Charles Philibert, Comte de Lasteyrie (1759-1849) after Haincelin and C. A. Racinet. [Paris: Impr. lithographique de C. Lasteyrie, 1823.] Plates measure approx. 190 cm. in length when unfolded, 69 x 71 cm. when folded. Bound in 19th century half morocco, cloth boards, leather label on front cover, light rubbing and wear. Light to moderate spotting, some plate margins reinforced not affecting images, but very good. Bookplates of the Liverpool Library and the Brooklyn Academy of Medicine; typewritten note indicating that the Brooklyn Academy of Medicine had received these plates from the Liverpool Library in exchange for another work. \$8500



This is an opportunity to acquire some of the most significant plates from Antommarchi's *Planches anatomiques du corps humain*, the pirated lithograph edition of Mascagni's *Anatomia universa* (Pisa, 1823-32). These remarkable life-size plates consist of two complete frontal and two complete back views of a standing male figure with the blood vessels and lymphatics partially hand-colored. The complete atlas, consisting of 48 plates and 48 outline plates, was issued in 15 parts between 1823 and 1826 by the lithographic press of the Comte de Lasteyrie, one of the two founders of lithography in France (the companion text volume, entitled *Explication des planches anatomiques du corps humain*, appeared in 1826). The first part of the pirated lithograph edition appeared before that of the official engraved edition, thus the first few plates of the pirated edition (includ-

ing presumably our plates I-IV) are actually the **First Editions** of these images. OCLC and RLIN cite four complete copies of the *Planches anatomiques* in North America: University of Chicago (which also has an incomplete copy), NLM, University of Minnesota and the College of Physicians of Philadelphia. Because of the rarity of these plates, they are virtually never available separately.

Paolo Mascagni, the great Italian anatomist, spent a great deal of his time, energy and money in the production of his *Anatomia universa*, which required meticulous engraving of very large copperplates for the work's life-size images. At his death Mascagni left three unfinished projects: the *Anatomia universa*, for which plates had already been engraved by Antonio Serantoni; an illustrated anatomy for sculptors and painters; and a treatise on the tissues of animals and



plants intended as an introduction or “Prodromo” to the *Anatomia universa*. The artists’ anatomy (1816) and the *Prodromo* (1819) were both issued by Mascagni’s heirs within a few years of Mascagni’s death; both works were edited by Francesco Antommarchi, who had been Mascagni’s pupil and colleague. However, Mascagni’s heirs quarreled with Antommarchi over money, and by early 1819 he had left Italy to become Napoleon’s physician at St. Helena, taking with him copies of the *Prodromo* and impressions of about thirty plates of the *Anatomia universa*. In 1822, a year after Napoleon’s death, Antommarchi went to Paris, most likely for the purpose of publishing the Mascagni plates. According to Roberts and Tomlinson,

[Antommarchi] met with the Comte de Lasteyrie, and together they decided to reproduce the *Universal Anatomy* in lithography, copying the figures from the impressions Antommarchi had taken when he left for St. Helena. The work proceeded quickly, for they knew from a prospectus that the official *Universal Anatomy* was to start publication, as it did, the next year,

1823. . . Remarkably, the first of a total of fifteen parts was ready in Paris also in 1823, demonstrating the clear advantage of lithography in terms of speed—an engraver making new plates would have completed the task in years, not months. The first part of the Parisian edition was for sale actually earlier than that of the Pisan edition, and the former completed publication by 1826, while the latter was not complete until 1832. The plates in the two editions are not exactly the same, since in both changes had been made to the original designs; Antommarchi had prepared a few entirely new plates. The size of the pages and images in the two editions was similar (Roberts & Tomlinson, pp. 391–92).

The first four plates of the lithographed edition show the figures standing on a landscape ground in the Vesalian tradition—a notable feature not present in the engraved edition. Roberts & Tomlinson, pp. 384–96. Twyman, *Lithography 1800–1850*, pp. 50–52. 39534

VIII. *A Dynamical Theory of the Electromagnetic Field.* By J. CLERK MAXWELL, F.R.S.

Received October 27,—Read December 8, 1864.

## PART I.—INTRODUCTORY.

(1) THE most obvious mechanical phenomenon in electrical and magnetical experiments is the mutual action by which bodies in certain states set each other in motion while still at a sensible distance from each other. The first step, therefore, in reducing these phenomena into scientific form, is to ascertain the magnitude and direction of the force acting between the bodies, and when it is found that this force depends in a certain way upon the relative position of the bodies and on their electric or magnetic condition, it seems at first sight natural to explain the facts by assuming the existence of something either at rest or in motion in each body, constituting its electric or magnetic state, and capable of acting at a distance according to mathematical laws.

In this way mathematical theories of statical electricity, of magnetism, of the mechanical action between conductors carrying currents, and of the induction of currents have been formed. In these theories the force acting between the two bodies is treated with reference only to the condition of the bodies and their relative position, and without any express consideration of the surrounding medium.

These theories assume, more or less explicitly, the existence of substances the particles of which have the property of acting on one another at a distance by attraction or repulsion. The most complete development of a theory of this kind is that of M. W. WEBER\*, who has made the same theory include electrostatic and electromagnetic phenomena.

In doing so, however, he has found it necessary to assume that the force between two electric particles depends on their relative velocity, as well as on their distance.

This theory, as developed by MM. W. WEBER and C. NEUMANN†, is exceedingly ingenious, and wonderfully comprehensive in its application to the phenomena of statical electricity, electromagnetic attractions, induction of currents and diamagnetic phenomena; and it comes to us with the more authority, as it has served to guide the speculations of one who has made so great an advance in the practical part of electric science, both by introducing a consistent system of units in electrical measurement, and by actually determining electrical quantities with an accuracy hitherto unknown.

\* *Electrodynamische Massbestimmungen.* Leipzig Trans. vol. i. 1849, and TAYLOR'S Scientific Memoirs, vol. v. art. xiv.

† "Explicare tentatur quomodo fiat ut lucis planum polarizationis per vires electricas vel magneticas declinetur."—*Halis Saxoniæ*, 1858.

MDCCLXV.

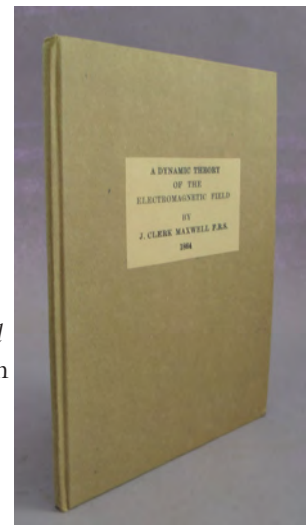
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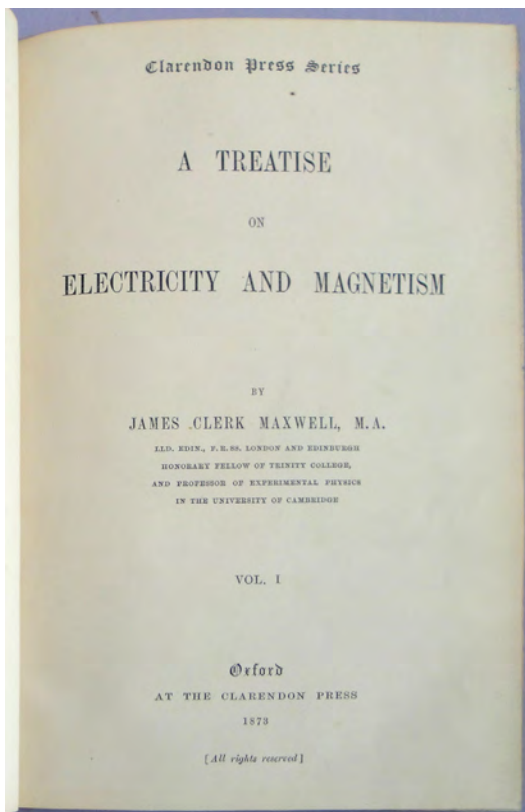
## Maxwell's Field Equations for Electromagnetism

**32. Maxwell, James Clerk** (1831–1879). A dynamical theory of the electromagnetic field. Extract from *Philosophical Transactions* 155, part I (1865): 459–512. 290 x 214 mm. Modern boards, paper label on front cover. Fine copy. \$5000

**First Edition.** In this culminating paper on the foundations of electromagnetic theory Maxwell developed twenty field equations of electromagnetism. "A dynamical theory of the electromagnetic field" clinched the theory that light was a form of electricity. Maxwell had already found in 1862 a link of a purely phenomenological kind between electromagnetic quantities and the velocity of light, but the present paper provided a new theoretical framework for the subject, based on experiment and a few general dynam-

ical principles, from which the propagation of electromagnetic waves through space followed without special assumptions about molecular vortices or forces between electrical particles. "A generation later, Einstein's work on relativity was founded directly upon Maxwell's electromagnetic theory: it was this that led him to equate Faraday with Galileo and Maxwell with Newton" (*Printing and the Mind of Man* 355). Dibner 68. Norman 1465. 41464





**33. Maxwell, James Clerk** (1831-79). A treatise on electricity and magnetism. 2 vols., 8vo. xxix, [3], 425, [1]; xxiii, [1], 444pp. 21 lith. plates. Oxford: Clarendon Press, 1873. 216 x 138 mm. Prize binding ca. 1877 of calf gilt, marbled edges, gilt arms of Aberdeen University on the front covers; presented by the University to William Chree (1858-1936). Bound before Vol. I half-title is a lithograph leaf with insignia of Aberdeen University, dated 1877, completed in ms. with the recipient's name and honors. Fine.

\$6500

**First Edition**, second issue, with errata leaves. Maxwell's *Treatise* extended his ideas beyond the scope of his earlier work in many directions, producing a highly fruitful demonstration of the special importance of electricity to physics as a whole. He began the investigation of moving frames of reference, which in Einstein's hands were to revolutionize physics; gave proofs of the existence of electromagnetic waves that paved the way for Hertz's discovery of radio waves; worked out connections between the electrical and optical qualities of bodies that would lead to modern solid-state physics; and applied Tait's quaternion for-

mulae to the field equations, out of which Heaviside and Gibbs would develop vector analysis.

This copy was awarded as a prize in physics by Aberdeen University to Scottish lawyer William Chree, who graduated from the University with first class mathematical honors. Chree's intellectual achievements are recorded in Galton and Schuster's *Noteworthy Families*: "In addition to prizes in mathematics and physics at Aberdeen, [Chree] obtained also prizes in Latin, natural history, and moral philosophy" (p. 14). Horblit 72. Norman 1466. 41468



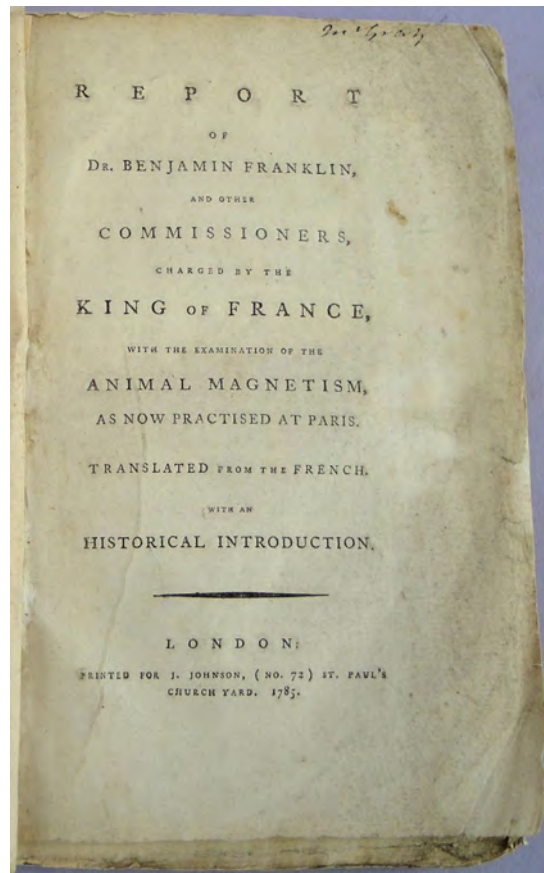
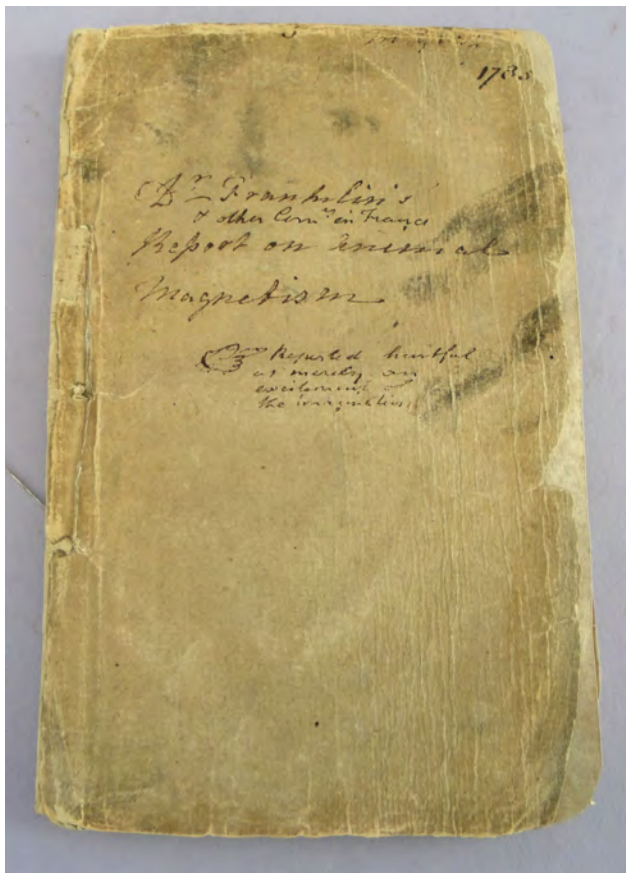
## *Animal Magnetism*

**34.** [Mesmer, Franz Anton (1734–1815).] (1) Lettre de M. Mesmer aux auteurs du *Journal*. Du 14 Février 1784. Extract from *Journal de Paris*, no. 48 (17 February 1784): 217–18. (2) Lettre de M. Mesmer aux auteurs du *Journal*. Le 17 Février 1784. Extract from *Journal de Paris*, no. 49 (18 February 1784): 224. 250 x 184 mm. The two mounted on a single leaf (recto and verso). Bound in one volume with 9 other works on mesmerism published in 1784 and 1785; complete listing available. Quarter calf gilt, paste paper boards c. 1785, light wear and small splits at head of spine, minor rubbing. Occasional minor foxing, one loose leaf in last item in the volume, but fine overall. Stenciled half-title and title and manuscript table of contents presumably by the original owner of this volume, who also numbered all the volume's pages consecutively. \$9500

**First Editions.** On the eve of the French Revolution F.A. Mesmer, a recent émigré from Vienna, captured the imagination of the Parisian public with his remarkable ability to effect cures by throwing his patients into “mesmeric” trances. As much a social movement as a medical practice, mesmerism spread quickly throughout Europe and America, and became such a mania in pre-Revolutionary France that between 1779 and 1789 more literature was generated on mesmerism than on any other single topic. Critics of mesmerism eventually called for scientific investigations, resulting in critical reports by two royal commissions, one made up of scientists, including Lavoisier and Franklin, and the other of members of the Société royale de Médecine. A dissenting report by Antoine-Laurent Jussieu was also published and numerous other authors weighed in on the controversy. The volume we are offering contains the three

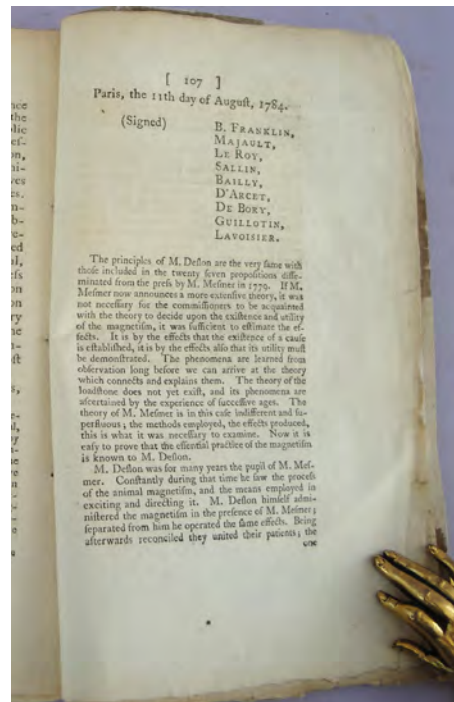
reports mentioned above, as well as several important works on mesmerism issued in 1784 and 1785, the period in which the French public's obsession with mesmerism peaked. The two items listed in the first paragraph are letters Mesmer wrote to the editor of the *Journal de Paris* in February 1784. The first letter, dated 14 February, outlines Mesmer's plan to reveal his doctrine; the second letter, dated three days later, criticizes as inaccurate an explanation of animal magnetism published in the *Journal* by Montjoie. All of the publications in this volume are rare.

The evolution of Mesmer's ideas and practices of “animal magnetism” led directly to the development of hypnosis by James Braid in 1842. Since its advent, hypnosis has been used widely for anesthesia and pain management and has been the subject of a number of clinical studies demonstrating its effectiveness. Norman M98.6 and M98.7 (Mesmer letters). 41467



35. [Mesmer, Franz Anton (1733-1815). Report of Dr. Benjamin Franklin, and other commissions charged by the King of France, with the examination of animal magnetism, as now practised at Paris. xx, 108pp. London: J. Johnson, 1785. 227 x 145 mm. (uncut). Original wrappers, worn, spine and margins repaired; preserved in a cloth case. Some fraying (repaired on last leaf), but very good. \$4500

**First Edition in English** of the Lavoisier / Franklin Académie royale des sciences report of 1784, which attributed the power of mesmerism to the “imagination” and was influential in eventually driving Mesmer from Paris. Included in this translation is a useful historical introduction and a translation of Thouret’s “Recherches et doutes sur le magnétisme animal” (1784), which contains interesting background material on Mesmer’s discovery of animal magnetism. 41460



Copy  
 Wash: Ap. 19. 1844

Sir

I have the honor to report that in conformity with instructions from the Depart. under date of Ap. 8. inst. I advertised for proposals to furnish 500 chesnut posts. Six persons sent in their proposals, and the lowest bid is Mr David Burbank's of Baltimore who will furnish them for .98 ninety eight cents a piece. As I shall require but 400 posts, as well also to experiment on the durability of different kinds of timber I have drawn up the enclosed Contract in conformity with these views and submit it for the approval of the Dept. -

Very Respectfully  
 Wm Morse  
 SFBM  
 Sup. &c

Wm  
 per John C. Spencer  
 Secretary of the  
 Treasury  
 of United States

- 36. Morse, Samuel F. B.** (1791-1872). Group of documents relating to Morse's construction of the first electromagnetic telegraph line, as follows: (1) Spencer, John C. (1788-1855). L.s. from Spencer, secretary of the Treasury, to Morse. [Washington, DC], April 8, 1844. 1 page, plus integral leaf bearing Morse's autograph docketing on the verso: "Approval of / Secretary to proposals / for obtaining chesnut [sic] / posts to Baltimore & drawing / wire from pipe. — / April 8, 1844." 255 x 203 mm. (2) Morse, A.L. to Spencer, signed with Morse's initials "SFBM," marked "Copy" in Morse's hand in the upper left corner. Washington, D.C., April 19, 1844. 1 page. Docketed on verso in Morse's hand: "Copy / To the Sec'y Treasury / Apr. 19, 1844 / Submitting contract for / 400 posts." 331 x 202 mm. (3) Spencer. L.s. from Spencer to Morse. [Washington, DC], April 22, 1844. 1 page, plus integral leaf bearing Morse's autograph docketing on the verso: "Instructions / Sec'y of Treasury / Approval of Contract / with David Burbank / for Posts for Telegraph." 255 x 203 mm. (4) Burbank, David. Autograph document signed, headed "Sales of old Lead pipe on a/c of Professor S. F. B. Morse." Baltimore, October 11, 1844. 1 page. Docketed on verso: "Voucher no. 770. / D. Burbank / nett proceeds of sales / of Lead pipe." 167 x 196 mm. \$25,000

Samuel Morse built a prototype telegraph device in 1835, and in 1837, after going into partnership with Leonard Gale and Alfred Vail, he took out his first patent. On March 3, 1843, nearly twelve years after Morse first conceived the idea for his electric telegraph, Congress approved a bill appropriating \$30,000 for the construction of a test telegraph line between Washington, DC, and Baltimore. The telegraph appropriation was administered by Treasury Secretary John C. Spencer, with Morse, as the newly appointed superintendent of United States Telegraphs, acting as general contractor. Construction of the line began later that year. Morse's original plan had called for laying the telegraph wires underground in lead pipes, in accordance with a method proposed by the British engineer Charles Wheatstone, a co-inventor of the telegraph. However, after spending a large portion of his budget on wire and lead pipe, Morse found that the underground method would not work: the wires were not properly insulated, and had a tendency to ground out. At this low point in the project, Morse's partner Alfred Vail read in a British journal of an alternative method devised by Wheatstone, that of stringing the wire above ground on poles. Vail persuaded Morse to adopt this plan, and Morse began ordering poles in February 1844. The new method proved to be quite satisfactory: construction of the overhead lines was completed in May, and on May 24, 1844, Morse telegraphed his famous message: "What hath God wrought!"

On April 8, 1844—six and one-half weeks before the telegraph was completed—Treasury Secretary Spencer sent Morse no. (1) above, in which he stated that

the Department is gratified to learn by your report of the 6th Instant of the successful result of the plan adopted, of suspending the conductors for the Electromagnetic Telegraph above ground on Posts

and granted Morse permission to install telegraph poles between the town of Bettsville, Maryland, and Baltimore:

. . . authority is accordingly given you to invite proposals through the public prints for the supply of Five hundred chesnut [sic] posts, and to contract for the same with the lowest bidder. Permission is also given as proposed by you, to withdraw from the leaden pipe on hand sufficient wire to make the connection between Bettsville and Baltimore.

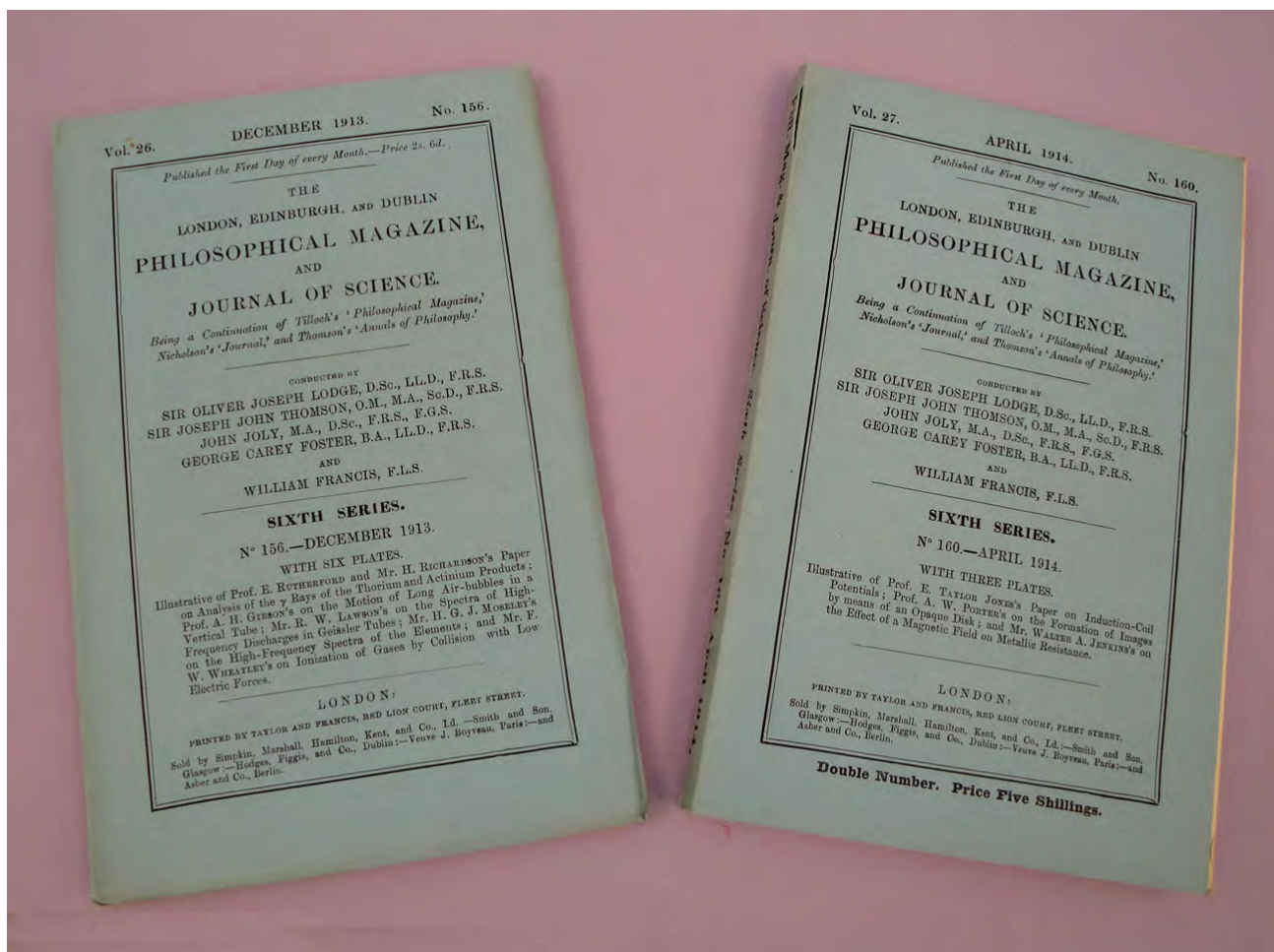
No. (2) is an autograph copy, made for his own records, of Morse's reply of April 19:

I have the honor to report that in conformity with instruction from the Depart. under date of Apr. 8 inst. I advertised for proposals to furnish 500 chesnut [sic] posts. Six persons sent in their proposals, and the lowest bid is Mr. David Burbank's of Baltimore who will furnish them for .98 (ninety-eight) cents a piece. As I shall require but 400 posts, [and] wish also to experiment on the durability of different kinds of timber I have drawn up the enclosed contract in conformity with these views and submit it for the approval of the Dept.

On April 22, Spencer responded with no. (3):

It appearing by your letter of the 19th Instant that Mr. David Burbank's bid is the lowest under the proposals invited by you for furnishing Five hundred Chesnut [sic] posts for the use of the Electromagnetic Telegraph, you are authorized to contract with Mr. Burbank for supplying Four hundred posts (which number you state will be sufficient) at the rate of ninety eight cents a piece. With the view, as state, of testing the durability of different kinds of timber, there is no objection to you substituting seventy five posts of other kinds of wood in the place of that number of Chesnut [sic] wood.

*Origins of Cyberspace* 178. 39141



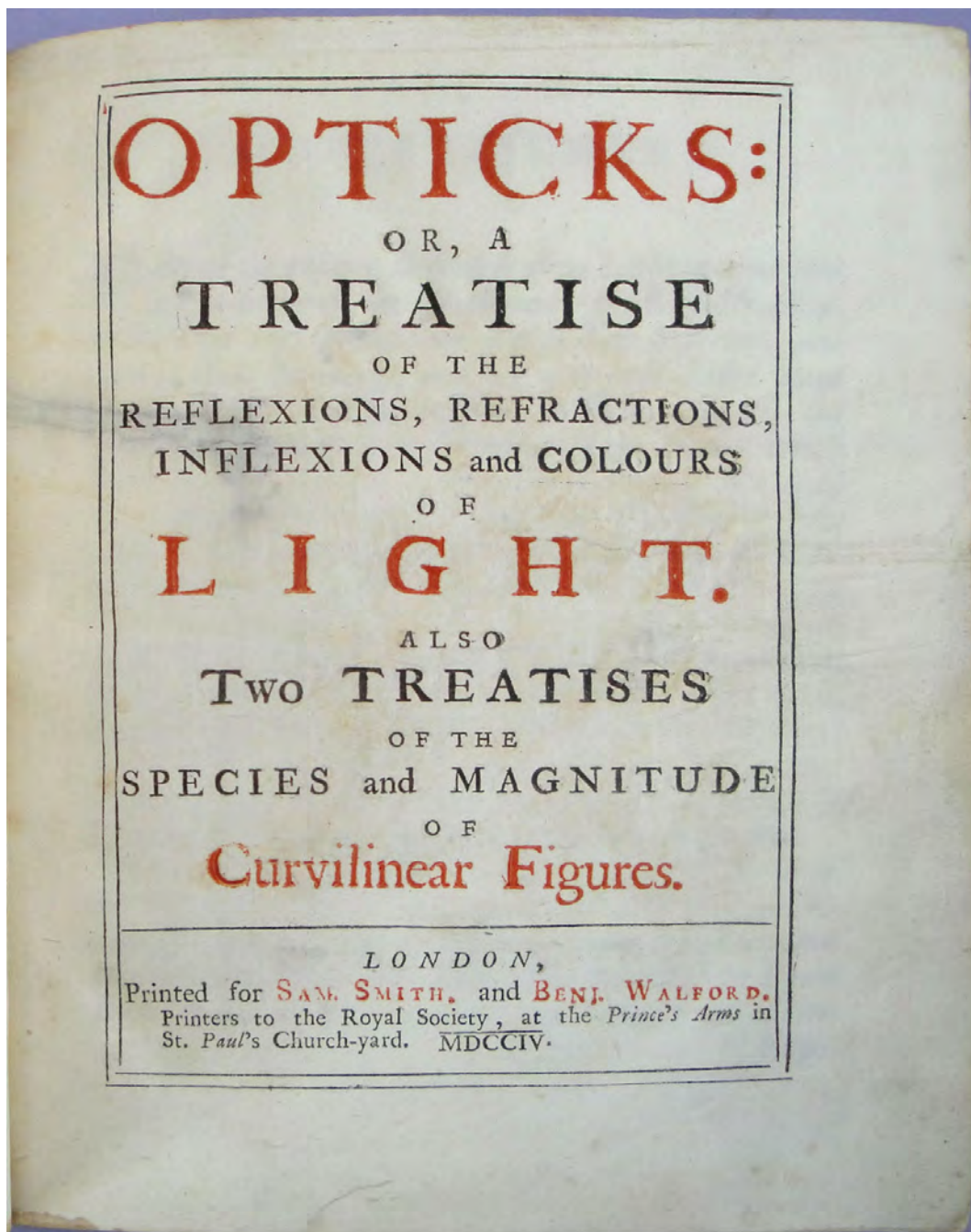
## Moseley's Law in X-Ray Spectra

**37. Moseley, Henry G. J.** (1887-1915). The high-frequency spectra of the elements. In: *Philosophical Magazine* 26 (1913): 1024-34; 27 (1914): 703-13. 1 plate. The complete nos. 156 & 160, 8vo. London: Taylor & Francis, 1913-14. 227 x 146 mm., uncut & unopened. Original printed wrappers, tiny split in hinge of front wrapper in no. 160, otherwise very fine. \$5000

**First Edition.** Moseley's outstanding contribution to physics was the justification from physical laws of the previous empirical and chemical concept of the atomic number. This stemmed from his development of Moseley's Law concerning the characteristic x-rays that are emitted by atoms published in his paper of 1913.

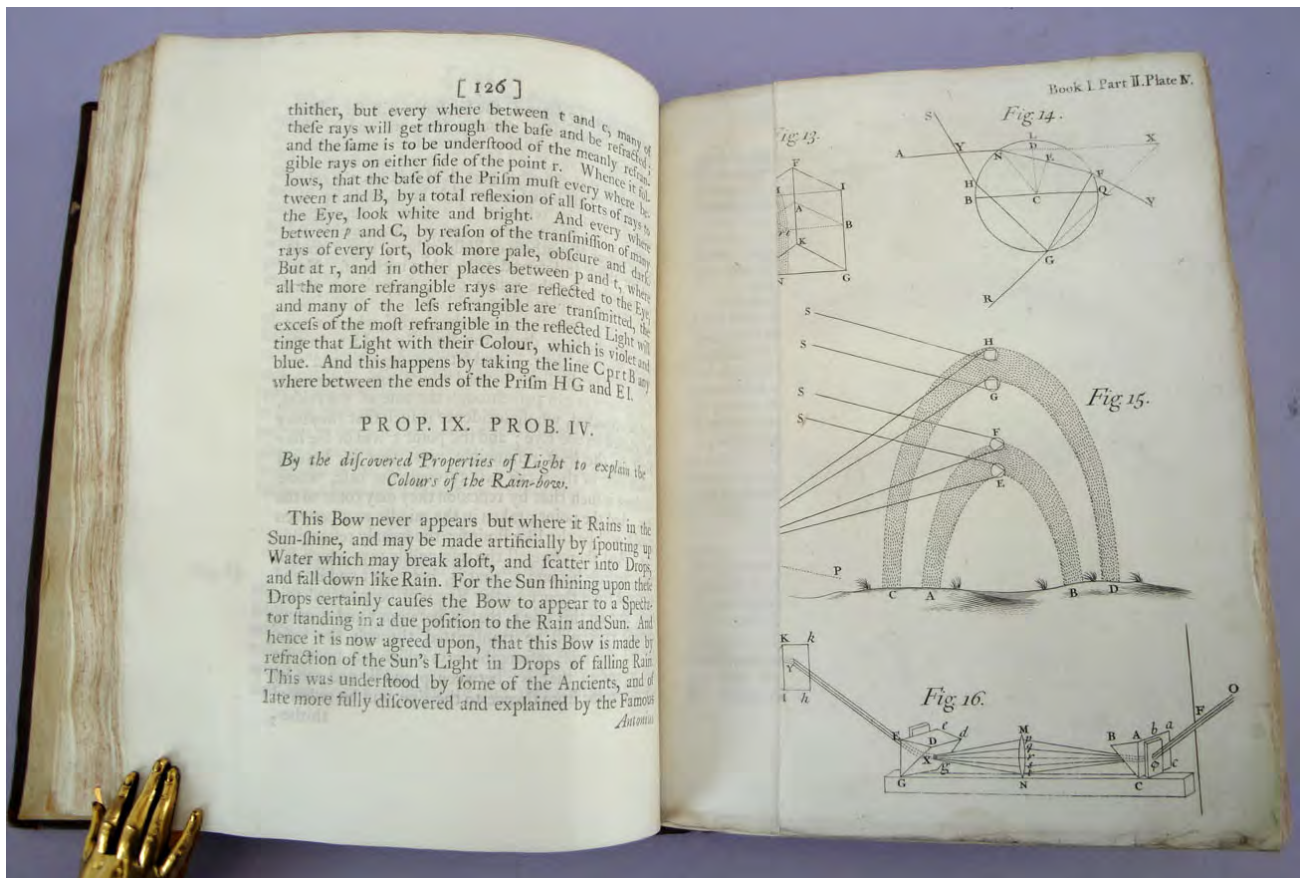
When World War I broke out Moseley left his research work at the University of Oxford to volunteer for the Royal Engineers of the British Army. He

was assigned to the fighting force that invaded the region of Gallipoli, Turkey, in April 1915, as a tele-communications officer. During the Battle of Gallipoli on August 10, 1915 Moseley was shot and killed at the age of 27. Some prominent authorities have speculated that Moseley would have been deserving of the Nobel Prize in Physics in 1916—which went unawarded—if he had not died in the service of the British Army. *Printing and the Mind of Man* 407. 414-51



*Optics and Color Theory*

**38. Newton, Sir Isaac** (1642-1727). *Opticks*. . . . 4to. [4], 144, 211, [1]pp. 19 engraved plates. London: printed for Sam. Smith, and Benjamin Walford, 1704. 247 x 191 mm. Paneled calf, gilt spine c. 1704, spine repaired, label restored, endpapers renewed (endpaper sheets watermarked with date 1802). Insignificant worming in gutter margin of last few leaves, minor stain on verso of title where a bookplate might have been removed, but a very good to fine, clean, crisp copy, preserved in a quarter morocco drop-back box. \$60,000

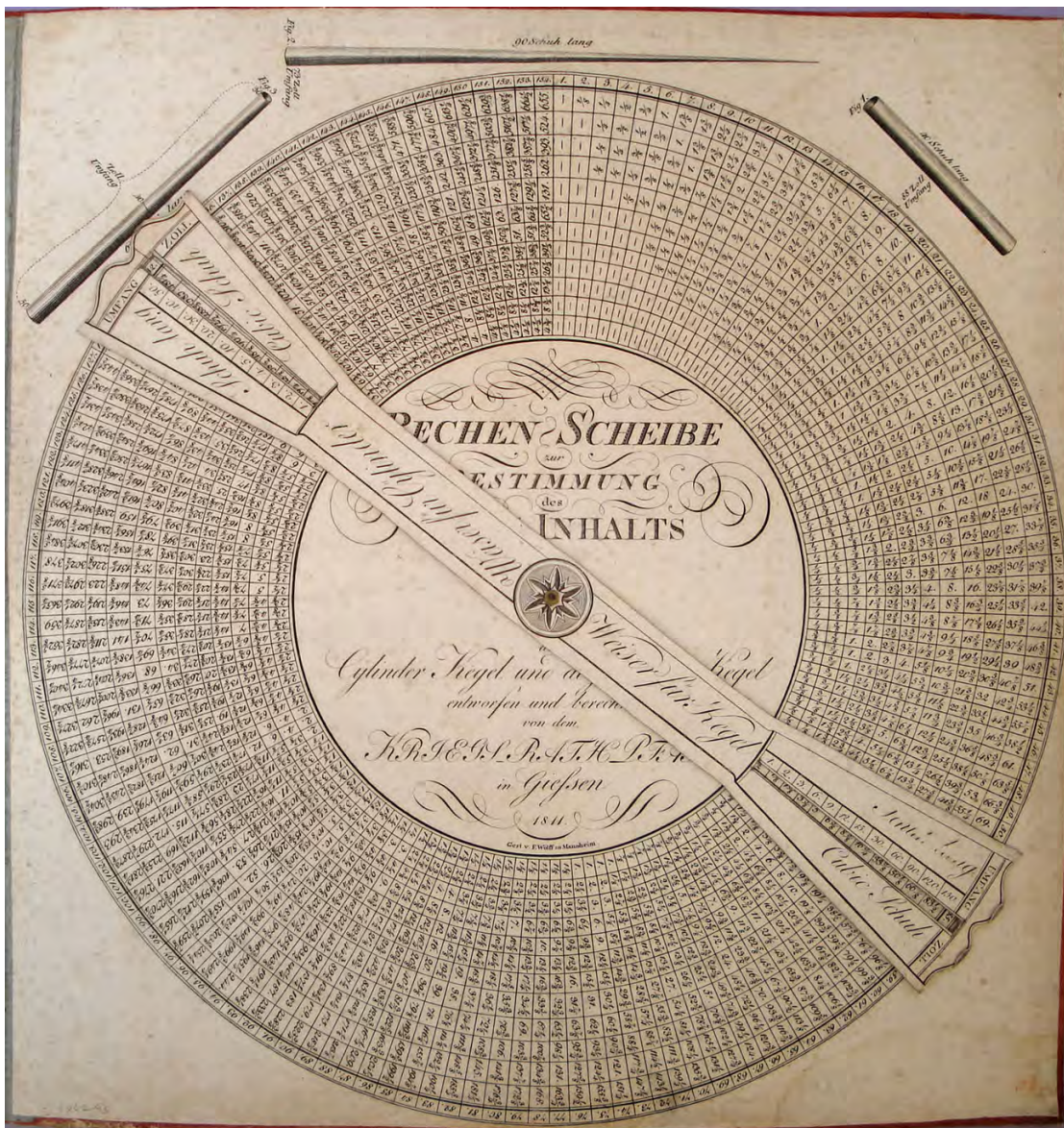


**First Edition** of the most famous book on optics ever written in the English language; **First Issue**, without Newton's name on the title and with the two additional mathematical treatises. The *Opticks* expounds the corpuscular theory of light developed by Newton, which was the dominant theory until modern times when it was combined with the wave theory developed by Newton's contemporary Huygens. The *Opticks* also contains a full explanation for the rainbow, an explanation of "Newton's rings," and consideration of double refraction in Iceland spar. In color theory, the *Opticks* provides the starting point for modern concepts. Newton proved experimentally that all colors are contained in white light and devised the first organized color

circle to show his concept of seven primary colors. The color circle, illustrated in fig. 11, pl. 3, Bk. 1, pt. 2, has been made use of in virtually all later treatises on color theory.

Unlike most of Newton's works, *Opticks* was originally published in English, with the Latin version following in 1706. As an appendix to the *Opticks* are two mathematical treatises in Latin which Newton issued in response to Leibniz relative to their dispute over priority in the invention of the calculus. These are Newton's first published works in mathematics. Boyer, *The Rainbow* (1959) 233-68. Birren, *History of Color in Painting* (1965) 21ff., 139. Horblit 79b. Dibner 148. *Printing and the Mind of Man* 172. Norman 1588. Babson 132. 41426

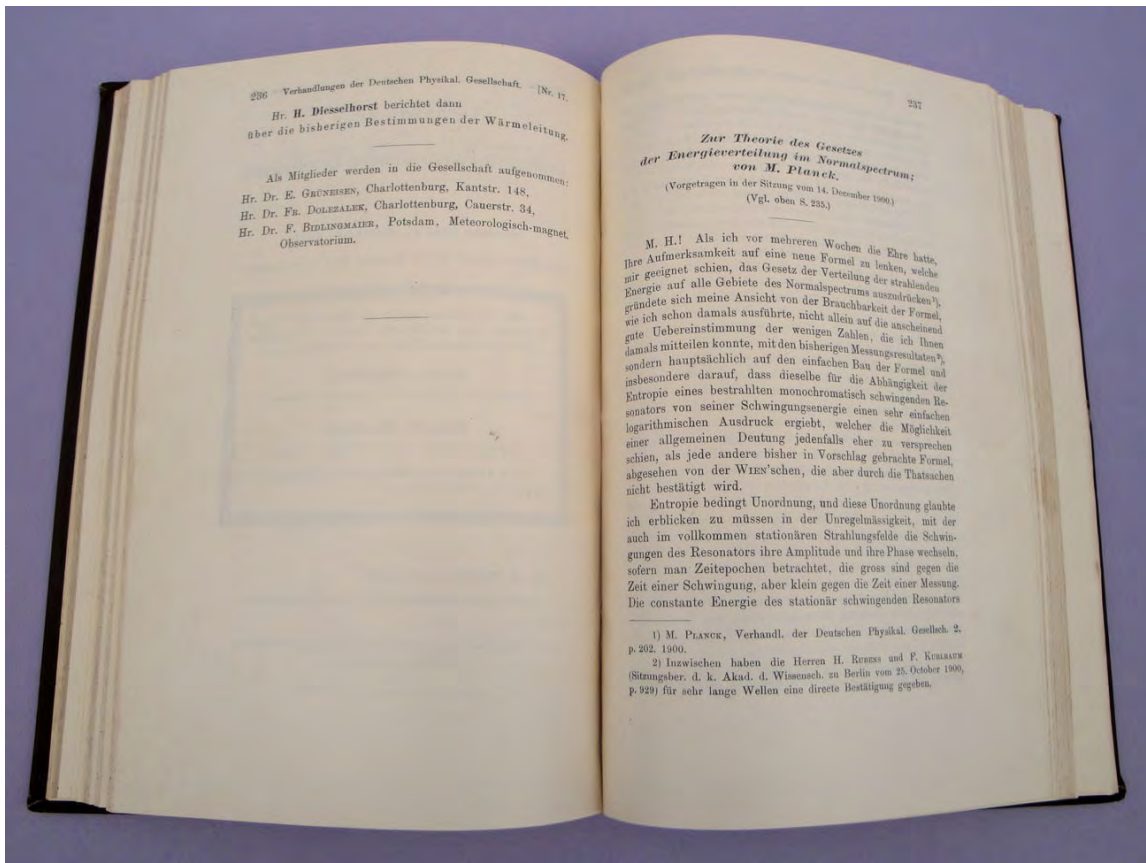




39. Pfaff, Heinrich Wilhelm (1738–1812). Rechen-Scheibe zur Bestimmung des cubic Inhalts der Cylinder Kegel und abgekürzten Kegel. Mannheim: F. Wolff, 1811. Engraved table and calculating wheel with moving arm and brass mount. 400 x 370 mm. (wheel diameter 370 mm.). Original paste-paper boards. \$1500

**First Edition.** Pfaff, a master of military materiel at Giessen, wrote at least two works on finding the volume of cylinders and spheres—useful knowledge for one professionally concerned with cannonballs and bullets. This extremely rare engraved calculating wheel, of which only two copies are cited in OCLC (both in German libraries), was apparently

intended to accompany Pfaff's equally rare *Beschreibung einer Rechen-Scheibe zur Bestimmung des cubic Inhalts der Cylinder . . .* [Description of a calculating wheel for determining the volume of a cylinder. . .] (1811), of which OCLC cites one copy (at the British Library). Poggendorff 1970, 2, col. 424. *Origins of Cyberspace* 354. 39287

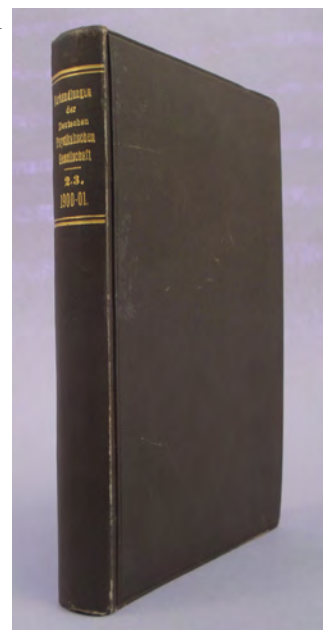


## Quantum Physics

**40. Planck, Max** (1858–1947). *Zur Theorie des Gesetzes der Energieverteilung im Normalspectrum*. In: *Verhandlungen der deutschen physikalischen Gesellschaft* 2 (1900), pp. 237–45. Whole volume, 8vo. vi, 260pp. Text illustrations. Leipzig: J. A. Barth, 1900. 222 x 148 mm. Bound with Vol. 3 of the *Verhandlungen* in cloth ca. 1900 (probably original publisher's binding), slight wear along edges and hinges. Minor foxing on title but a fine copy. \$17,500

**First Edition** of Planck's epochal paper on quantum theory, which marks the dividing line between classical and modern physics. "[Planck] applied Boltzmann's equation from the theory of gases (relating entropy and probability) to a set of resonators, the energy of which, he hypothesized, occurred only in discrete multiples of  $e$ . From Wien's displacement law he reasoned that the entropy was a function of  $E/v$  (energy/frequency). He was then led to the famous relation between a quantum of energy and the frequency, and to the introduction of the constant named after him:  $E = hv$ " (Weber, *Pioneers of Science*,

p. 58). Planck's radiation law agreed with all the experimental data, and played a decisive role in Einstein's explanation of the photoelectric effect (1905), as well as his derivation of a more satisfactory theory of specific heats (1906). This volume also contains Planck's two papers prefiguring his final formulation of the quantum theory: "Ueber eine Verbesserung der Wien'schen Spectralgleichung" (pp. 202–4) and "Ein vermeintlicher Widerspruch des magneto-optischen Faradayeffekts mit der Thermodynamik" (pp. 206–10). Horblit 26a. Dibner 166. Norman 1713. *Printing and the Mind of Man* 391a. 41429



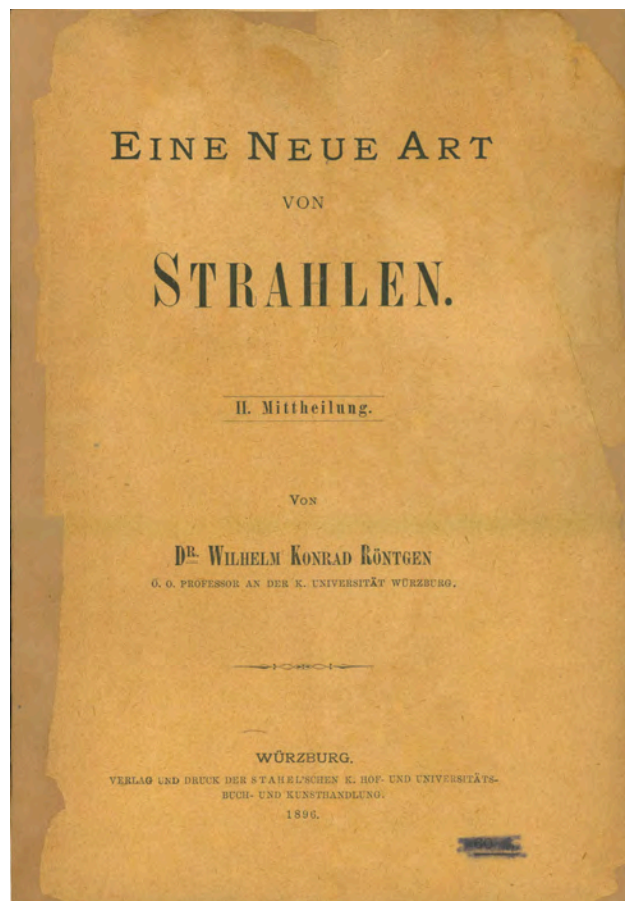


**41. Reid, Thomas** (1710–96). *Essays on the active powers of man*. 4to. vii, 493, [I, adverts.]pp. Edinburgh: John Bell; London: G. G. J. & J. Robinson, 1788. 267 x 211 mm. Calf c. 1788, gilt spine, joints cracked. Occasional fox-marks, but very good. Bookplate and signature (dated Glasgow College, 1793) of George Palmes (1766–1851), who is identified in a later pencil annotation as a student of Reid.

\$4750

**First Edition.** Reid, who succeeded Adam Smith as professor of moral philosophy at the University of Glasgow, originated the School of Common Sense Realism, which taught that “every person had ordinary experiences that provided intuitively certain assurance of a) the existence of the self; b) the existence of real objects that could be seen and felt; and c) certain “first principles” upon which sound morality and religious beliefs could be established” (Wikipedia). Reid’s approach was a response to the idealist philosophies of Hume and Berkeley, who had argued that our concept of the external world is a product of ideas in the mind. Reid wrote three major philosophical works, of which *Active Powers* was the last. “The organizing theme of Reid’s *Essays on the Active Powers*

concerns the nature of human agency—whether human agents are endowed with an active power, what constitutes its exercise, and so forth. There is, however, an important subtheme woven through the text, one that concerns the objectivity of morality, or what we nowadays call “moral realism” (Cuneo, p. 243). The volume contains an armorial bookplate of “Thos Reid”; however we have been advised that the author of this work did not have a personal bookplate. The copy also bears the bookplate of George Palmes, who attended the University of Glasgow in 1793–94 and is identified in a later pencil annotation as a student of Reid. Cuneo, “Reid’s moral philosophy,” in Cuneo and van Woudenberg, *The Cambridge Companion to Thomas Reid* (2004), pp. 243–264. 41535



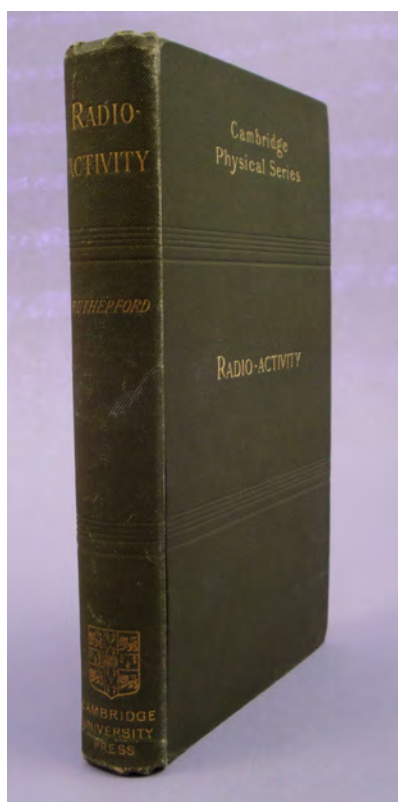
## X-Rays

**42. Röntgen, Wilhelm Konrad** (1845–1923). 1. Ueber eine neue Art von Strahlen. (Vorläufige Mittheilung.) Offprint from *Sitzb. Würzb. Phys.-med. Gesells.* (1895), no. 9, 132–41. 8vo. 10pp. Würzburg: Stahl, 1895. 229 x 151 mm. Original wrappers, a little stained and chipped, expertly restored. Slight foxing. 2. Eine neue Art von Strahlen. II. Mittheilung. Offprint from *Sitzb. Würzb. Phys.-med. Gesells.* (1896) nos. 1–2, 11–19. 8vo. 9, [3]pp. (adverts.). 218 x 152 mm. Original wrappers, somewhat chipped, expertly repaired. Text a little browned & chipped. *Ibid.*, 1896. Together 2 offprints, in a cloth case. Very good. 1895–96.

\$19,500

**1. First Separate Edition** of Röntgen's original communication of the discovery of the X-ray. G-M 2683. Dibner 162. Horblit 90. PMM 380. The most important contribution to medical diagnosis in a century, and the key to modern physics, Röntgen's paper was in immediate demand; there were five separate printings, in six issues, in the space of two months.

**2. First and Only Separate Edition** of Röntgen's follow-up communication, published in March of 1896, in which he introduced a scale for measuring X-ray intensity and an improved tube. These original papers are extremely difficult to obtain today. Garrison–Morton 2683. Dibner 162. Horblit 90. *Printing and the Mind of Man* 380. 38525

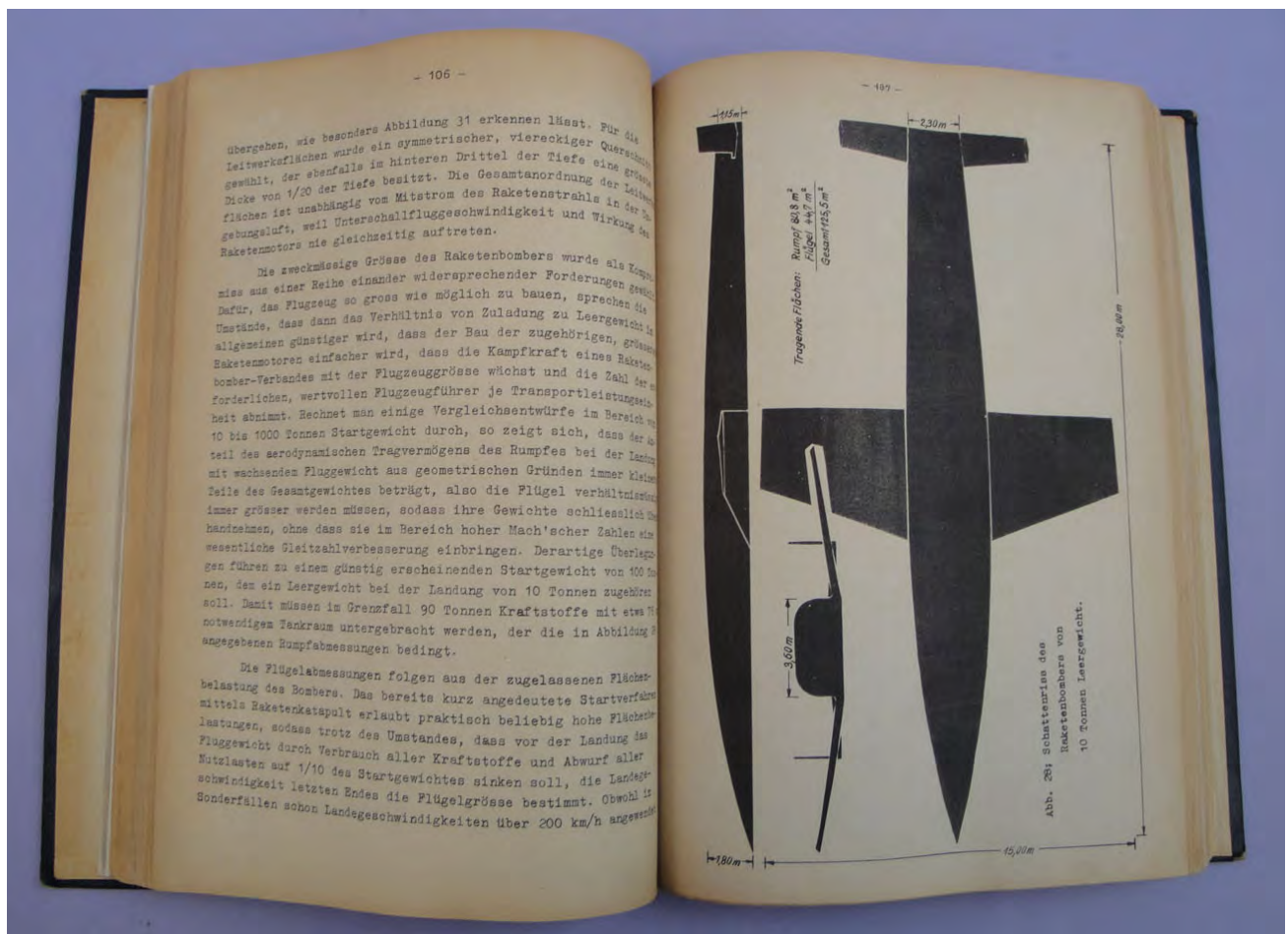


*First Textbook of Radioactivity—C. T. R. Wilson's Copy*

**43. Rutherford, Ernest** (1871–1937). Radio-activity. 8vo. [12, incl. first blank], 399 [1]pp. Half-tone plate, text illustrations. Cambridge: at the University Press, 1904. 220 x 138 mm. Original cloth, slightly worn, endpapers a little foxed. Fine copy, from the library of Charles T. R. Wilson (1869–1959), inventor of the cloud chamber, with his signature on the front free endpaper. \$3000

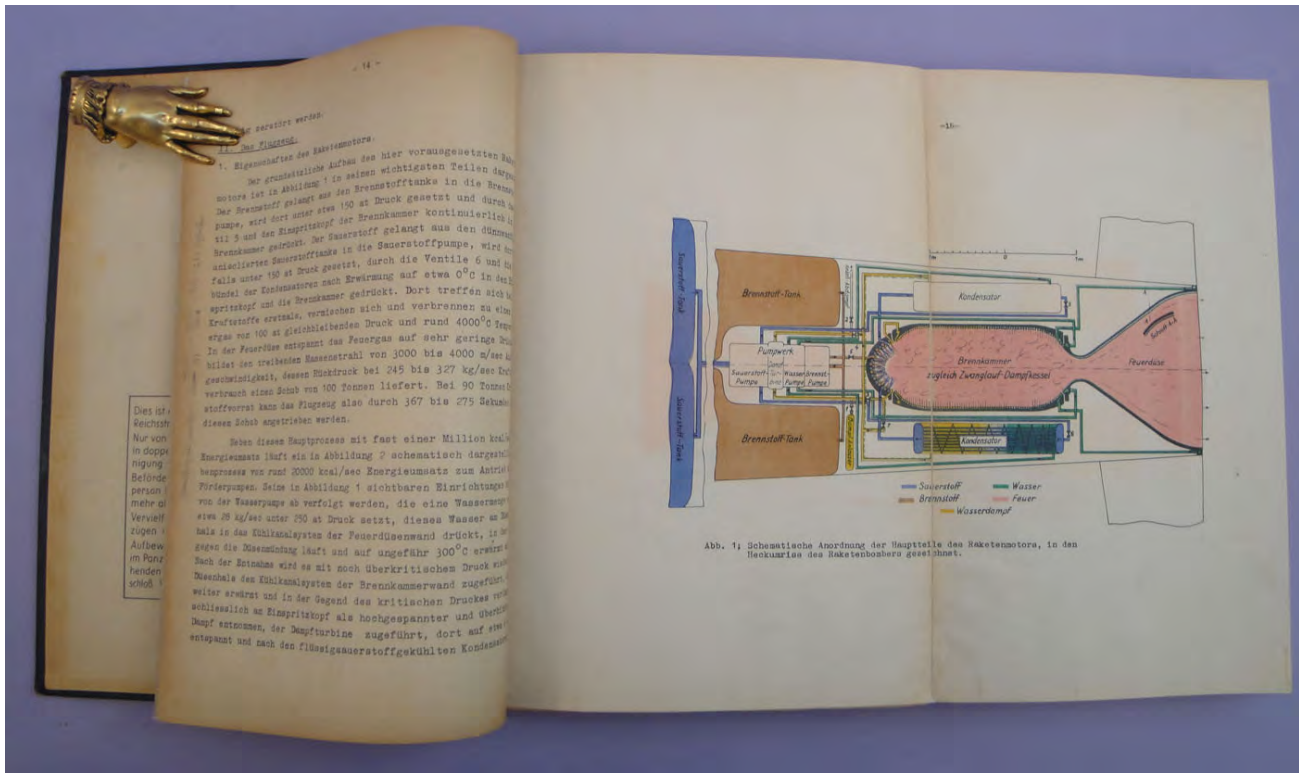
**First Edition** of the first textbook of radio-activity, surveying contemporary knowledge of the entire field. Research in this area progressed so rapidly that the second edition, published only a year later, had to be enlarged by fifty percent. The book includes a discussion of Rutherford's revolutionary transformation theory, developed during the period from 1902 to 1903, which states that radioactivity is a by-product of the transmutation of one element into another. Rutherford received the Nobel Prize for chemistry in 1908 for "his investigations into the disintegration of the elements, and the chemistry of radioactive substances."

This copy is from the library of British physicist C. T. R. Wilson, who received a share of the 1927 Nobel Prize for physics for his invention of the cloud chamber, which makes visible the tracks of ionizing particles. Rutherford called Wilson's device "the most original apparatus in the whole history of physics" (quoted in Magill, p. 344). Dibner 51. *Dictionary of Scientific Biography*. Horblit 91. Magill, *The Nobel Prize Winners: Physics*. Norman 1870. 41452



*Sänger's Copy of His Top Secret Nazi Report on a Rocket Drive for a Long Range Bomber, Which Included Plans to Bomb Manhattan*

**44. Sänger, Eugen** (1905-64) and Bredt, Irene. Über einen Raketenantrieb für Fernbomber. Offset typescript. 376pp., including folding plates (one in color) and 12 original photographs. Text illustrations and diagrams. Airring: Zentrale für wissenschaftliches Berichtswesen der Luftfahrtforschung, 1944. 290 x 207 mm. Original boards, rebaked, slightly worn; boxed. Paper deacidified, with a few expert repairs, moderately browned. De-acidification was required to stabilize and protect this report printed on poor quality wood pulp paper. Classified notice in German on front free endpaper. **Sänger's copy**, with his signature, partly rubbed out, in upper left corner of the upper cover, his autograph manuscript notes throughout, and his name and address written in pencil in another hand on the front cover. Laid in are the following: (1) a typed letter signed from Frederick C. Durant III (1916- ) to Willy Ley (1906-69), dated 2 April 1969, with Ley's typed and signed response on the same sheet; (2) Ley's typed translation of the "Vorwort" (foreword) of another Sänger work accompanied by photocopy of the German version; (3) autograph Christmas postcard signed from Irene Sänger and the Sängers' son, Hartmut, to Durant, postmarked December 10, 1978; and (4) mimeographed classified notice in German. \$65,000

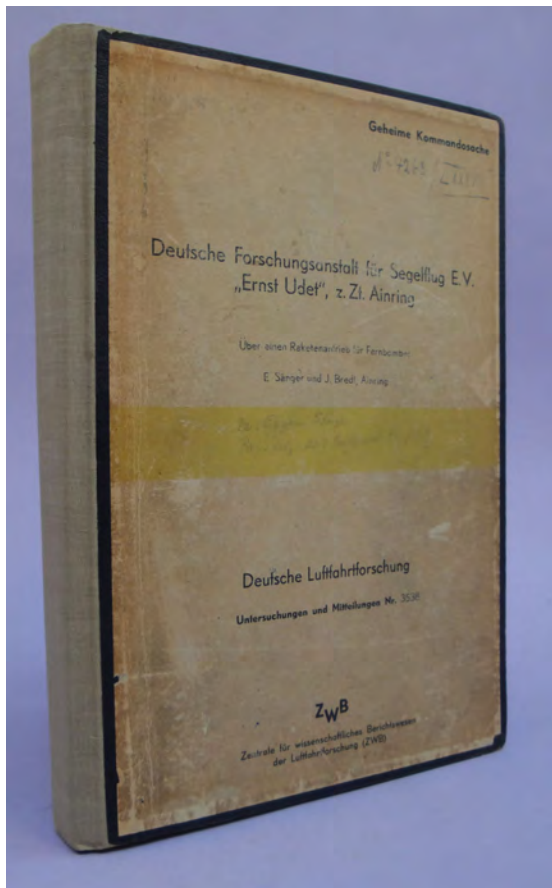


**Extremely Rare First Edition** of Sänger and Bredt's *Über einen Raketenantrieb für Fernbomber* [A rocket drive for long range bombers], a top secret report prepared for the Nazi German State Ministry for Aviation and issued in only 100 copies. The distribution list on pp. 375–76 shows that 70 copies were sent to various German institutions and individuals, including Wernher von Braun at Peenemünde, Willy Messerschmitt at Messerschmitt AG, and the Bavarian Motor Works (BMW); the remaining 30 copies were held in reserve. OCLC records only three copies, held by the Fachhochschule Nordwestschweiz in Switzerland, the University of Stuttgart and the Smithsonian. We are offering Sänger's own copy of the report, which he annotated throughout. Sänger later gave this copy to Frederick C. Durant III, assistant director of the National Air and Space Museum and head of the museum's astronautics department from 1964 to 1980.

Sänger and Bredt's report was originally intended to form part of the second volume of Sänger's revolutionary *Raketenflugtechnik* (1933), the first study leading to the development of a reusable human-piloted rocket-powered space vehicle. Sänger's "Silverbird" concept, which he and Bredt (who later became his

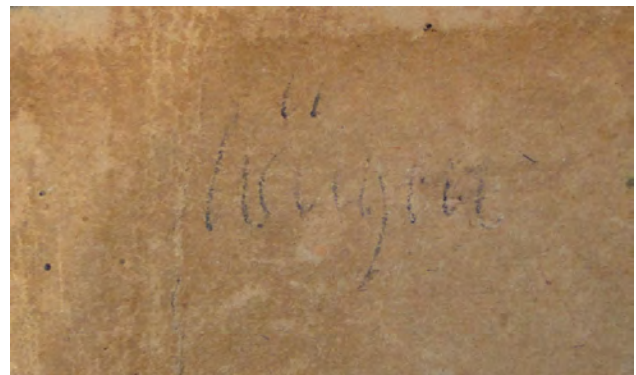
wife) worked on during the 1930s, is a direct ancestor of the X-plane and the space shuttle; it was conceived of as a reusable winged vehicle "propelled by a rocket engine burning liquid oxygen and kerosene, capable of reaching Mach 10.0 at altitudes in excess of 100 miles" (Jenkins, *Space Shuttle*, p. 1). In order to realize his concept of a reusable rocket engine, Sänger had to solve the major problem of how to cool the engine; this he accomplished by designing a "regeneratively cooled" engine cooled by its own fuel circulating around the combustion chamber. "Between 1932 and 1934, [Sänger] performed a series of pioneering experiments with reinforced cooled liquid rocket motors capable of burning mixtures of gas-oil and liquid oxygen (LOX), achieving thrust levels up to 30kp, pressures up to 50 bars, and exhaust velocities of about 3,000 m/s" (Sänger & Szames, "From the Silverbird to interstellar voyages," p. 2).

With the advent of World War II Sänger and Bredt's space vehicle project had to be repurposed for military use if it was to survive. A preliminary report on space vehicles, prepared by the two in 1941, had been rejected by the German Research Institute for Aviation; Sänger and Bredt reworked this into a report on a rocket propulsion engine for long range bombers,



issued as the GRIA's "Secret Command Report" UM 3538. "Thus, Sänger's former rocket-powered civilian space transport airplane project now evolved into an Earth-orbiting, single-stage, rocket-powered intercontinental bombing machine with a launch weight of 100 tons . . . It would be propelled by a rocket engine using highly efficient fuels with liquid oxygen used as an oxidizer in a combustion chamber at a pressure of 100 atmospheres and creating 100 tons of thrust" (Myrha, p. 78). This rocket-powered bomber was designed to attack strategic targets in the United States: New York City, Washington DC, Chicago and the steel-refining plants in Pittsburgh. Page 339 of Sänger and Bredt's report shows a map of lower Manhattan superimposed with a bull's-eye and containing calculations of the expected destruction pattern.

After World War II Sänger emigrated from Germany to France where he worked for the *Arsénal de l'Aéronautique*. During his time in France "he was the subject of a botched attempt by Soviet agents to win him over. Joseph Stalin had become intrigued by reports of the *Silvertogel* design and sent his son, Vasily, and scientist Grigori Tokaty to convince [Sänger] to come to the Soviet Union, but they failed to do

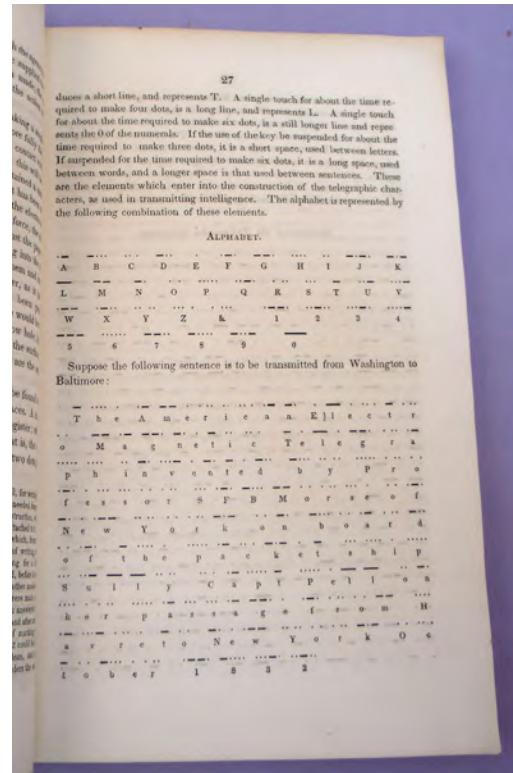
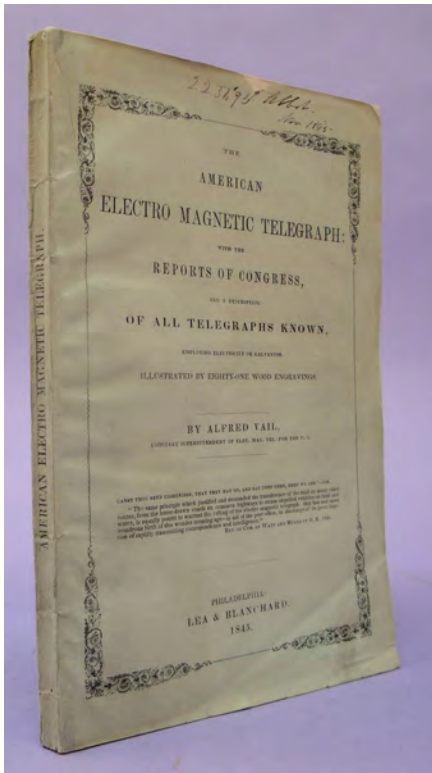


so. It has also been reported that Stalin instructed the NKVD to kidnap him" (Wikipedia). In 1954 Sänger returned to Germany, where he founded a research center in Stuttgart and earned unwelcome notoriety through his involvement with Egypt's military buildup in the early 1960s. From 1963 until his death, he was a professor of aeronautic technologies at the technical university in Berlin.

As noted above, Sänger and Bredt's report was top secret. The warning notice printed on the inside front cover translates as follows:

This is a state secret within the meaning of §88 of the Reich Criminal Code (amended on 24 April 1934). Transfer only from hand to hand, or in a personally addressed receipted double envelope. Transport by courier or trusted postal delivery person, under declaration of value of more than RM. 1000, is possible. Reproduction or duplication of any kind is prohibited. The recipient is responsible for storing in a safe in a permanently guarded room, or in exceptional cases in a steel case with combination lock. Violations against this lead to severe penalties.

An English translation of the Sänger-Bredt report, prepared by the Technical Information Branch of U.S. Navy's Bureau of Aeronautics in 1946, was also limited to a small number of copies. Sänger-Bredt, "The Silver Bird story: A memoir," in Hall, ed., *Essays on the History of Rocketry and Astronautics*, Vol. 1 (1977), pp. 195-228. I. Sänger & R. Engel, "The development of regeneratively cooled liquid rocket engines in Austria and Germany, 1926-42," in Durant & James, eds., *First Steps toward Space* (Washington DC: Smithsonian Institution Press, 1974), pp. 217-46. Myrha, *Sänger: Germany's Orbital Rocket Bomber in World War II* (2002), passim. 41149



## Morse Code

**45. Vail, Alfred** (1807–59). *The American electro magnetic telegraph: With the reports of Congress, and a description of all telegraphs known, employing electricity or galvanism.* viii, [9]–208pp. 81 wood-engraved text illustrations. Philadelphia: Lea & Blanchard, 1845. 228 x 148 mm. Original printed wrappers, spine expertly repaired, small chip in upper margin of front wrapper. A few pencil marks in the margins, but a fine copy. 19th century ownership signature of J. Abbot, dated Nov. 1845, on front wrapper.

\$2750

**First Edition.** Vail first met Samuel F. B. Morse at the University of the City of New York, where he was a student and Morse a professor. On September 2, 1837 Vail saw Morse give one of the first demonstrations of his electric telegraph, and his imagination was immediately fired by the possibilities of Morse's invention. Vail was a skilled mechanic and he offered his services to Morse in exchange for a partnership share, promising at the same time to obtain financial backing from his family for Morse's venture. Morse, who was in great need of both mechanical and financial assistance, accepted Vail's offer and a contract was drawn up between the two on September 23, 1837. Vail was to construct a complete set of telegraph instruments and to secure both the United States and foreign patent rights at his own expense; in return he would receive a quarter interest in the American rights and a half interest in the overseas rights.

Vail and another partner, Leonard Gale, made several improvements to Morse's apparatus, and on January

6, 1838 this new telegraph was demonstrated successfully, using an early version of the dot-and-dash Morse code. When Congress approved the construction of an experimental telegraph line between Baltimore and Washington in 1843, Vail acted as Morse's chief assistant and received Morse's "What hath God wrought" message on May 24, 1844. The following year Vail published two accounts of the telegraph: a 24-page pamphlet and this far more comprehensive 208-page book. Both the book and the pamphlet contain some of the earliest printings of the 1844 revision of Morse's telegraphic code, which under the name "American Morse" became the standard code for use within the United States and Canada (Mabee, *The American Leonardo: The Life of Samuel F. B. Morse* [1944], 202–3). The Morse code was the first widely adopted electronic data code. Howes V-4. Sabin 98290. 41159



ANDREAE VESALII  
BRUXELLENSIS, INVI-  
ctissimi CAROLI V. Imperatoris  
medici, de Humani corporis  
fabrica Libri septem.

CPM CAESARAE  
Majest. Galliarum regis, ac Sinatus Pensis gratia et  
privilegio, ut in diplomatis continetur.

BASILEAE, PER IOANNEM OPORINUM



**46. Vesalius, Andreas** (1514-64). *De humani corporis fabrica libri septem*. Folio. [I2], 824, [48] pp. **Lacking leaf ii** (pp. 85-86; this is a leaf of text with no illustrations). Woodcut title, portrait, 2 woodcut folding plates, text woodcuts. Basel: Oporinus, 1555. 420 x 275 mm. Rebound in period style alum-tawed blindstamped pigskin, red-stained edges, by Bernard Middleton. Washed, title-leaf remargined, stain in upper corner of title, dedication leaf soiled, minor dampstaining in upper margins of first 40pp., tears on folding plates repaired and the plates backed on linen, corners of leaves Bb5 – Ee5 skillfully repaired with no loss of text. Despite these flaws a good to very good copy, with large margins, and containing all of the woodcut illustrations. Boxed. \$30,000

Second edition of the founding work of modern anatomy, containing the most famous illustrations in the history of medicine, attributed the school of Titian. The 1555 edition was printed on heavier paper with larger type “with only 49 instead of 57 lines to the page, thus necessitating the recutting of all the small initial letters so that they would now fit seven lines of the new type. Indeed, an entirely new wood-block was cut for the frontispiece . . .

“Vesalius made some definite improvements in the text which have been cited by Garrison, such as concern the ethnic

aspects of craniology, but more particularly in connection with his physiological observations in the last chapter, viz., (i) the effect of nerve section [p. 810, lines 22-34], (ii) persistence of life after splenectomy [p. 820, lines 26-31], (iii) collapse of the lungs on puncture of the chest [p. 821, lines 25-31], (iv) aphonia from section of the laryngeal nerve [p. 823, lines 25-31], (v) prolongation of life by artificial intratracheal inflation of collapsed lungs [p. 824, lines 8-14]” (Cushing, pp. 90-92). Cushing, *Bio-Bibliography of Andreas Vesalius*, VI.A.-3. 41477



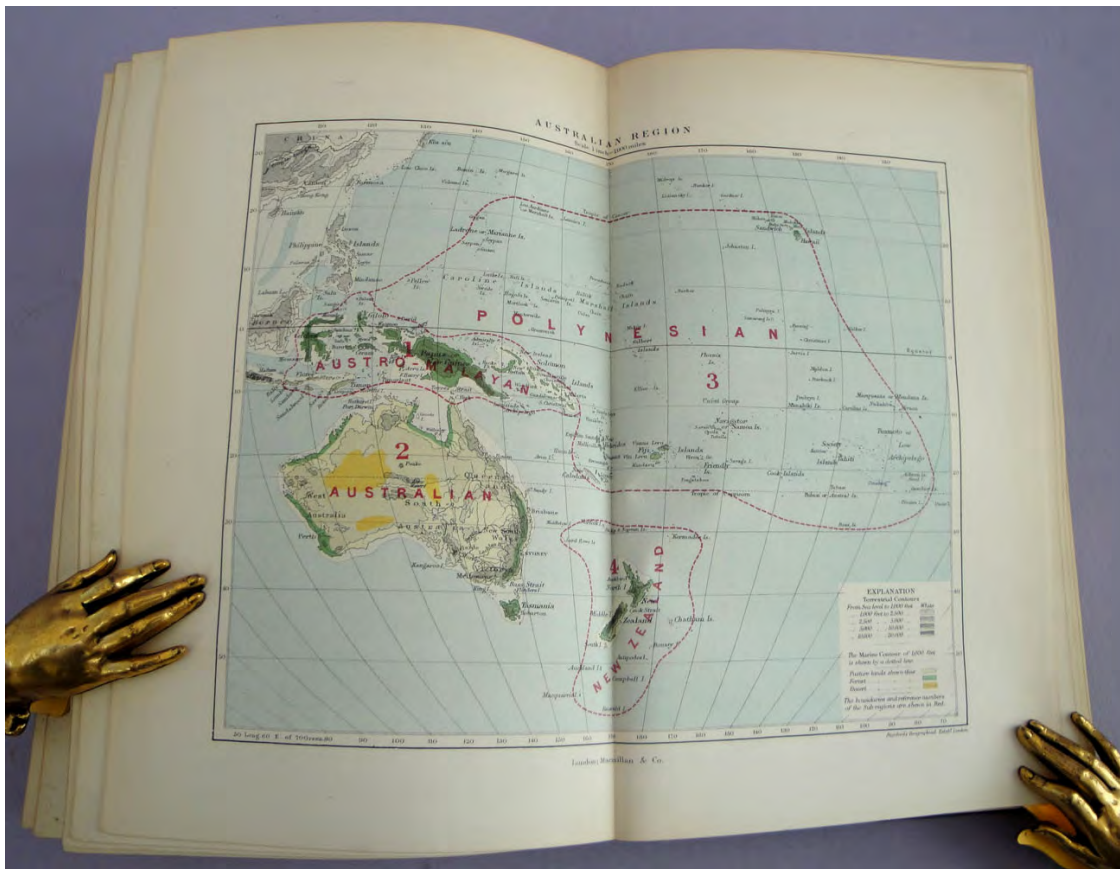


*From the Original Woodblocks*

**47. Vesalius, Andreas** (1514-64). Anatomische Erklärung der Original-Figuren . . . samt einer Anwendung der Winslowischen Zergliederungslehre in sieben Büchern [edited by] Heinrich Palmaz Leveling (1742-98). Folio. [22] 328pp. Frontispiece republishing the original woodcut title to the 1543 *Fabrica*, 2 full-page woodcuts from the *Epitome* (1543) on inserted leaves, and over 200 text woodcuts (many full-page). Copperplate portrait of Leveling on title. Ingolstadt: Attenkhauer, 1783. 420 x 277 mm. Original paste paper boards, red paper spine label, worn at spine and edges. Some browning & marginal dampstaining, occasional light foxing, but very good. Small tear in 1 woodcut repaired. 18th century owner's name on verso front free endpaper, modern bookplate. \$6000

Second and usual issue of the last edition of Vesalius to be printed from the original woodblocks of the *Fabrica* and *Epitome* prior to the Bremer Presse edition of 1934-35 and the blocks' subsequent loss in World War II. For this edition, the distinguished Bavarian anatomist and surgeon H. P. Leveling prepared a German translation of Vesalius's brief explanation of each of the woodcuts together with the original text immediately following each chapter heading in the *Fabrica*, revising the text throughout

according to the work of Jakob Winslow (1669-1760). The book was issued to subscribers in fascicles between 1781 and 1783. Cushing was able to locate only two copies of an extremely rare first issue dated 1781 (Cushing VI.A-14). Some copies contain either a short list of subscribers issued with the first fascicle or a longer list issued with the last; neither list is present in our copy. Cushing VI.A-15. Waller 5752. Osler 573. Wellcome III, p. 508. 33374



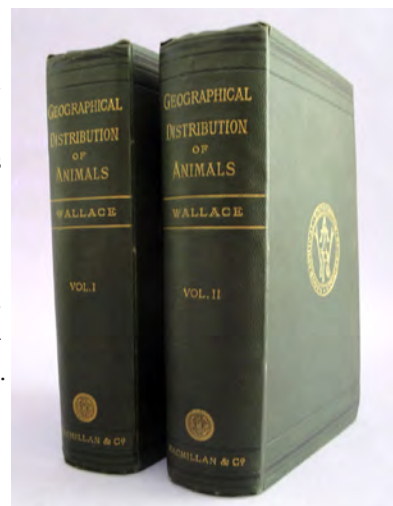
*“Rock-Solid Factual Basis for Evolutionary Biology”*

**48. Wallace, Alfred Russel** (1823–1913). The geographical distribution of animals. With a study of the relations of living and extinct faunas as elucidating the past changes of the earth’s surface. 2 vols. xxi, [3], 503; viii, [4], 607pp. 7 colored maps (some folding) and 20 plates. London: Macmillan and Co., 1876. 225 x 150 mm. Original leather-grain green cloth stamped in gilt and black, a little worn. Light foxing, title of Vol. I a bit soiled, stamp on title of Vol. II and versos of plates, but a very good set. Bookplate of British geographer Robert Brown (1842–95). \$3000

**First Edition** of the foundation work of evolutionary zoogeography. Wallace’s investigations made it clear that zoogeography should be based on a wide range of geographical and geological facts interpreted by evolutionary doctrines. He was also one of the few early zoogeographers to rely on a statistical approach.

Two binding variants have been noted (no priority established): one in leather-grain cloth as above, with the

initial M of the spine imprint “Macmillan & Co.” taller than the rest of the letters; and another in fine-diaper green cloth with all the letters of the spine imprint of uniform height. This copy is from the library of Robert Brown, who first charted the interior of Vancouver Island in 1864; his name is commemorated in several locations on Vancouver Island and in the European Arctic. Garrison–Morton 145.60. Norman 2178. 41544



## *Continental Drift*

**49. Wegener, Alfred** (1880–1930). *Die Entstehung der Kontinente*. In: Dr. A. Petermanns Mitteilung aus Justus Perthes' geographischer Anstalt 58 (1912): 185–195; 253–256; 305–309. Together three numbers. 280 x 231 mm. Original brown printed wrappers, spines restored, minor chipping. Occasional foxing, but very good to fine. Preserved in a cloth drop-back box. \$3750

**First Edition.** Wegener originated the theory of continental drift in this paper on the origin of continents, which he conceived after being struck by the apparent correspondence in the shapes of the coastlines on the west and east sides of the Atlantic, and supported with extensive research on the geological and paleontological correspondences between the two sides. He postulated that 200 million years ago there existed a supercontinent (“Pangaea”), which began to break up during the Mesozoic era due to the cumulative effects of the “Eötvös force,” which drives continents towards the equator, and the tidal attraction of the sun and moon, which drags the earth's crust westward with respect to its interior. Wegener's theory attracted little interest until 1919, when he published the second edition of his treatise

*Die Entstehung der Kontinente und Ozeane*. Between 1919 and 1928 continental drift was the focus of much controversy and debate. Later the theory fell into obscurity because Wegener's drift mechanism was shown to be untenable. Wegener died at the early age of 50 on an arctic expedition at Eismitte in Greenland.

With the discovery of new paleomagnetic evidence in the 1950s, and especially with the discovery of plate tectonics in the 1960s, Wegener's theory of continental drift eventually became widely accepted. Wegener's paper is rare and very difficult to find in the original three separate journal issues in their original printed wrappers. Norman 2192. *Dictionary of Scientific Biography*. 41526



*In a Spectacular Binding by Michael Wilcox*

**50.** [Wilcox, Michael, binder.] Joyce, James (1882–1941). *Ulysses*. 2 vols., folio, printed on Johannot mould-made paper. 838pp. 40 etchings by Robert Motherwell. 324 x 248 mm. (12¾ x 9¾ inches). San Francisco: Arion Press, 1988. No. 65 of 150 copies produced for sale, signed by the artist. Bound by Michael Wilcox in full dark green morocco tooled in gilt and blind, with colored onlays, as described below; preserved in cloth velvet-lined drop-back boxes. Included are the Arion Press's prospectus and promotional brochure for *Ulysses*, together with a typed letter signed from Wilcox, dated 10 January 1992, explaining his binding design. Very fine. \$30,000

The magnificent Arion Press edition of Joyce's masterwork illustrated by Robert Motherwell, in a superb designer binding by Michael Wilcox. The binding is accompanied by a letter from Wilcox explaining his design process, and the meaning of his symbolism in this binding. Wilcox's letter is addressed to Jeremy Norman, who commissioned the binding.

Also accompanying this copy is a typed letter signed to a former owner from Richard Ellman (1918–87), whose biography of Joyce (rev. ed. 1982) has been called "the greatest literary biography of the century." 41488