

CATALOGUE 44  
*Mostly New Acquisitions*



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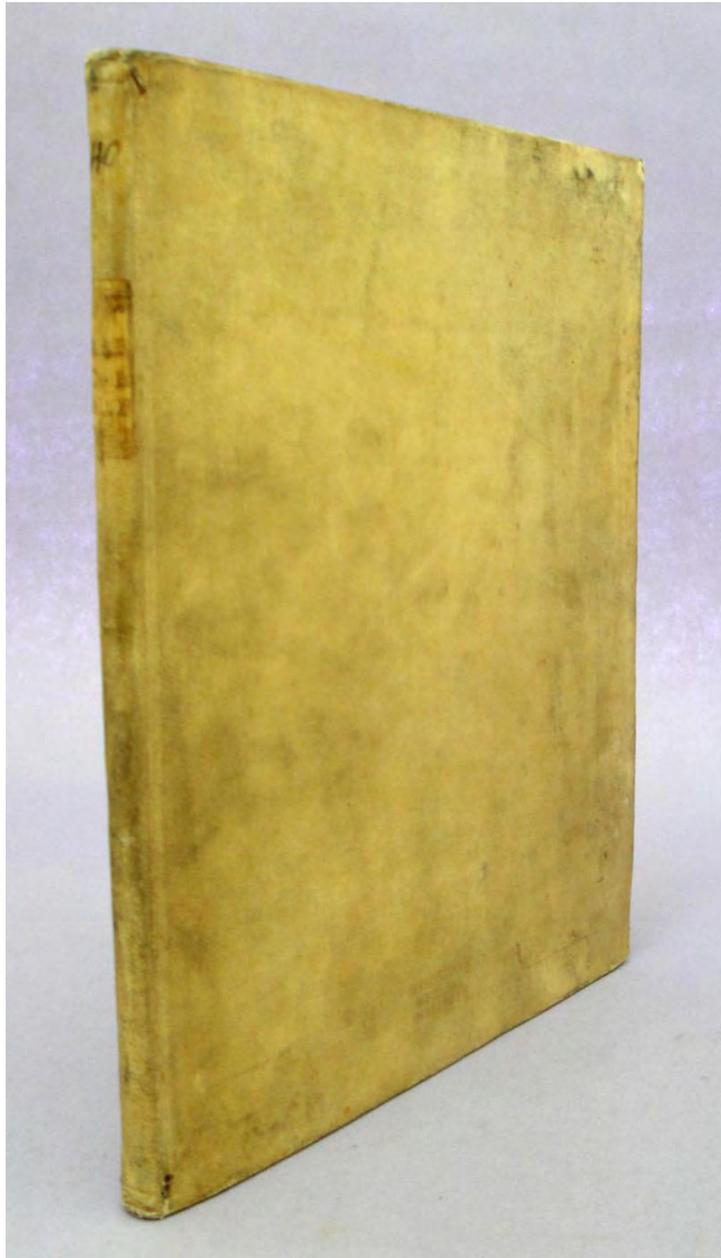


### *The First Medical Illustrations Printed by Three-Color Process*

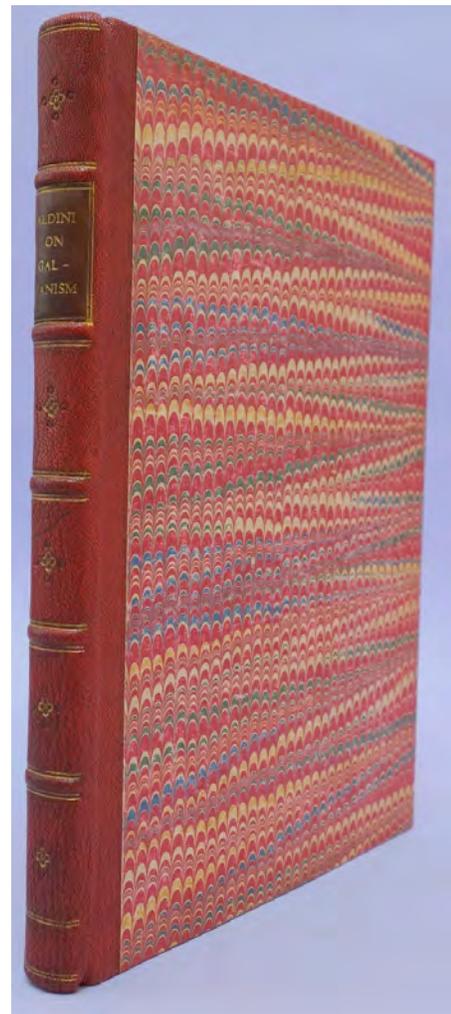
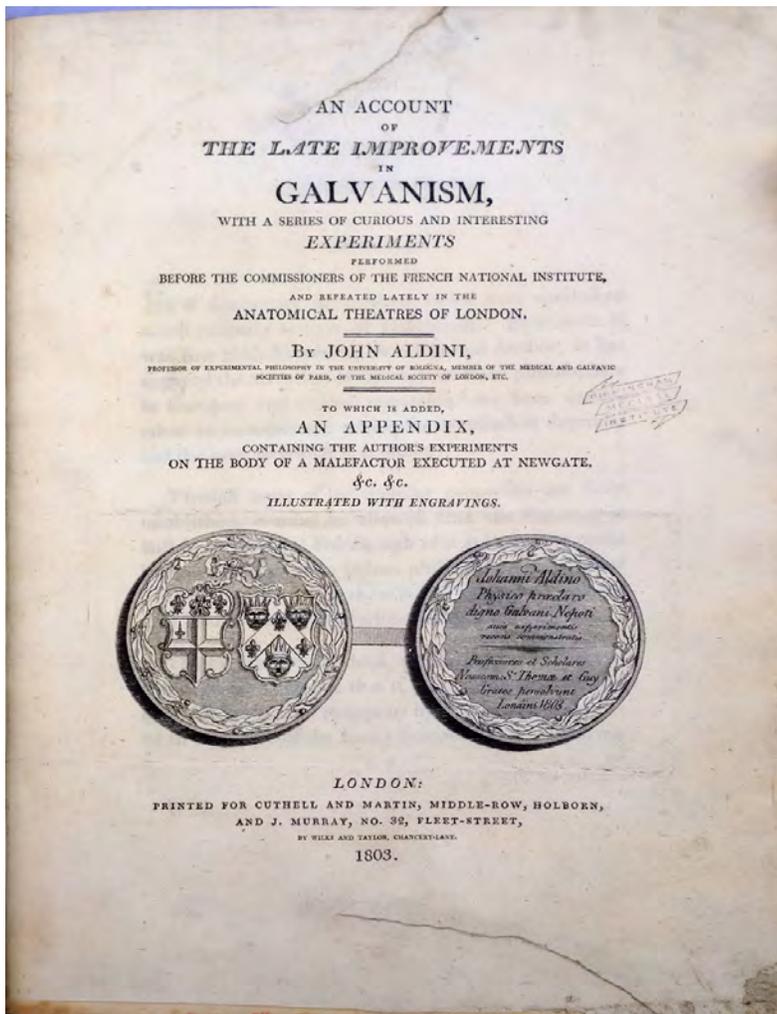
**I. Albinus, Bernhard Siegfried** (1697-1770). *Dissertatio secunda de sede et causa coloris aethiopum et caeterorum hominum*. 4to. 16, [2]pp. Folding plate with tipped-on color mezzotint by **Jan Ladmiral** (1698-1773). Leiden: apud Theodorum Haak; Amsterdam: apud Jacobum Graal, & Henricum de Leth, 1737. 256 x 203 mm. Vellum ca. 1737, gilt-lettered spine, library stamp of the Birmingham Medical Institute in gilt on front cover; preserved in a cloth slipcase. Moderate foxing and toning, faint library stamps on title and margin of plate mount, but very good. \$12,500

**First Edition** of Albinus's treatise on the "seat and cause" of human skin color. This extremely rare pamphlet contains the second of six remarkable three-color anatomical mezzotints produced by Jan Ladmiral for Albinus between 1736 and 1741 to illustrate pamphlets by Albinus on different specialized subjects in anatomy. These plates represent the *first application of the three-color printing process to medical book illustration*. The three-color process, which uses three separate plates inked in red, yellow and blue, was invented by German artist Jacob Christoph le Blon, but it was Ladmiral who was responsible for developing the process for the purpose of anatomical illustration (only one anatomical three-color plate produced by le Blon is known: a separate plate of the male genitalia issued in 1721 which is virtually impossible to find.)

Ladmiral's plate for the *Dissertatio secunda* contains three figures illustrating Albinus' preparations of two dissected portions of skin and a thumbnail, all taken from an African woman. The first figure shows Albinus' division of the skin into two layers, the superficial *epidermis* and the deeper *reticulum*. Albinus found that the reticulum was



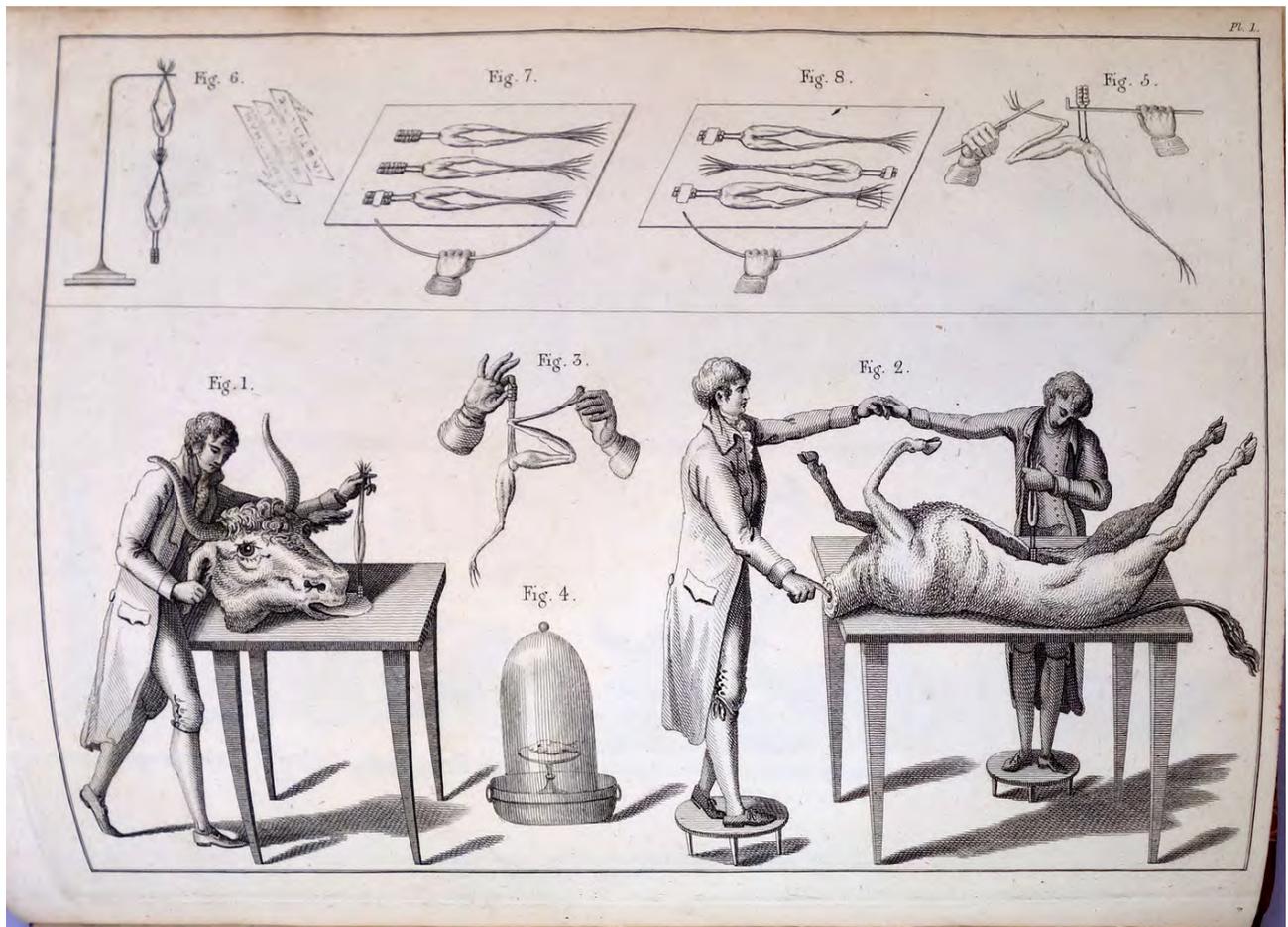
the source of human skin color, but also noted that the epidermis, although of lesser brightness, was colored in proportion to the intensity of coloration in the reticulum. He viewed the human nail as “a continuation of the epidermis, with the reticulum beneath it in the area of transition” (Punt, *Bernhard Siegfried Albinus (1697-1770): On “Human Nature,”* p. 89). Albinus also speculated on the historical causes of the colors of the various human races, citing both ancient and scriptural authorities. Choulant, *History and Bibliography of Anatomic Illustration* (tr. Frank), p. 268. Meijer, Miriam C. “Albinus, Bernard Siegfried (1697-1770).” *PetrusCamper.com*, 12 Aug. 2009. Web. 25 May 2012. 42505



## Medical Electricity and “Frankenstein”

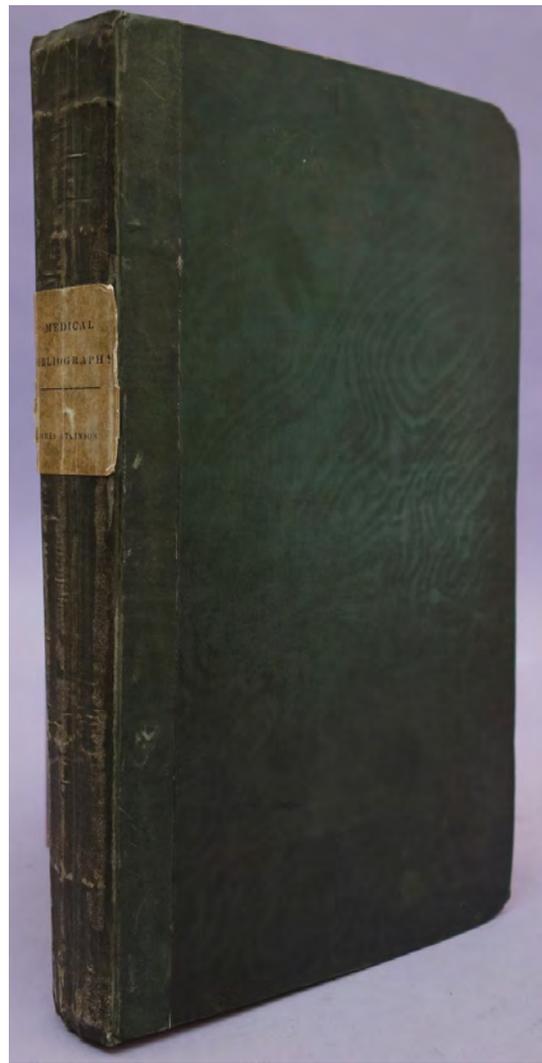
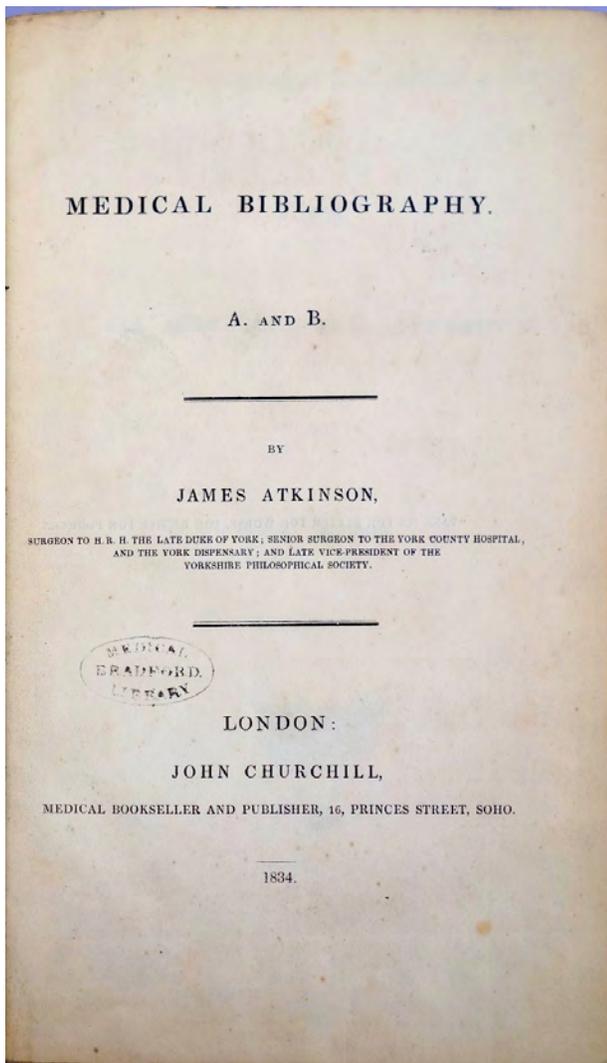
**2. Aldini, Giovanni** (1762–1834). An account of the late improvements in galvanism, with a series of curious and interesting experiments performed before the commissioners of the French National Institute, and repeated lately in the anatomical theatres of London . . . to which is added, an appendix containing the author’s experiments on the body of a malefactor executed at Newgate. 4to. xi [I], 221 [3, incl. adverts. leaf]pp. 4 engraved plates, engraved vignette on title illustrating the medal struck in Aldini’s honor by the faculties of Guy’s and St. Thomas’s Hospitals. London: Cuthell and Martin; J. Murray, 1803. 278 x 202 mm. Quarter morocco, marbled boards in period style. Tears in title repaired, unobtrusive library stamps on title and plates, otherwise very good. \$7500

**First Edition**, including the **First Editions in English** of Aldini’s *Dissertationes duae* (1794). Aldini, the nephew of Galvani, was the premier apologist for his uncle’s theories of animal electricity. His *Account of the Late Improvements* represents his first book-length treatment of galvanism; it was translated from his original French manuscript, and included supplements taken from his previous short papers in Latin, as well as an account of Aldini’s sensational galvanic experiments performed on executed criminals. This work, which is rare on the market, is in many ways the most dramatic of all the early works on medical electricity.



Aldini's book was the outcome of a successful tour of England, during which he demonstrated aspects of galvanism at hospitals and on the body of a murderer, George Foster, who had been executed at Newgate Prison on 18 January 1803. This last demonstration, during which "the jaw began to quiver, the adjoining muscles were horribly contorted and the left eye actually opened" (p. 193), seized the imagination of the British public and remained an enduring theme in popular culture. Mary Shelley, who knew of Aldini's work, used the idea of galvanic reanimation to brilliant effect in her classic novel *Frankenstein: or The Modern Prometheus* (1818).

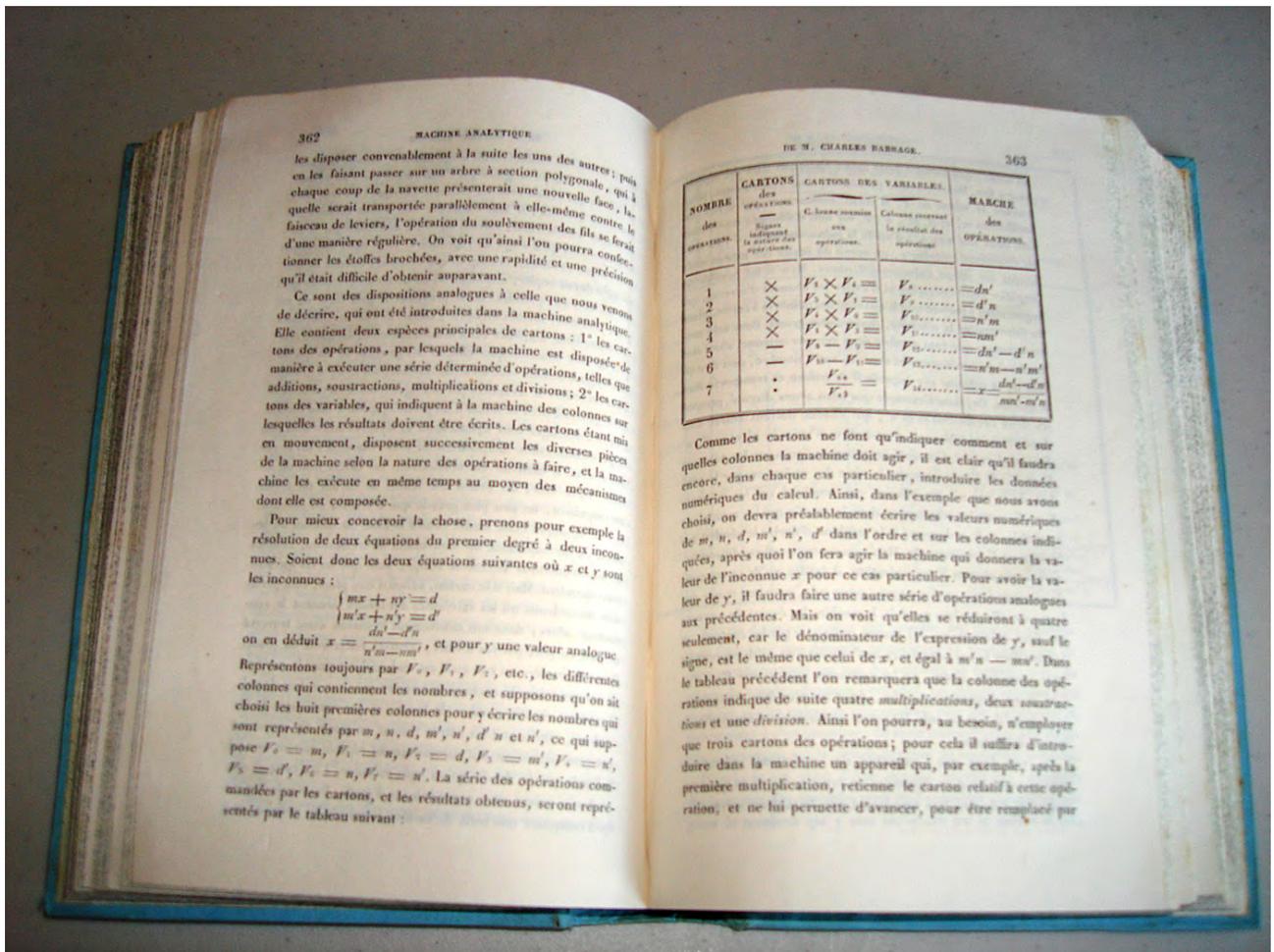
Aldini's experiments on cadavers were important for the development of cardiac electrostimulation, while his successful treatment of "melancholy madness" (schizophrenia) with electricity anticipated modern electroshock therapy. Aldini performed his Newgate experiments with the help of Joseph Carpue, who published the first English book on medical electricity later that same year (Garrison-Morton 1989). Garrison-Morton 1989.1. Schechter, "Background of clinical cardiac electrostimulation," *N.Y. State J. Med.* (1971-72), p. 2578. Licht, "History of electrotherapy," *Ther. Elect. & Ultraviolet Rad.* (1967), pp. 25-26. Dibner, *Galvani-Volta*, pp. 21-24. Fulton & Cushing, *A Bibliographical Study of the Galvani and the Aldini Writings on Animal Electricity* (1936) No. 26. 42640



*Possibly the Only Humorous Bibliography in Science*

**3. Atkinson, James** (1759–1839). *Medical bibliography. A. and B.* [all published]. 8vo. [2] iv, 379 [1], vii [1]pp. Lithographed dedication leaf. London: John Churchill, 1834. 250 x 154 mm. Original moiré boards, cloth backstrip with later paper label, corners a little worn. Minor foxing & soiling, but a fine copy. \$1000

**First Edition.** Atkinson “is chiefly known by his ‘Medical Bibliography,’ of which the dedication is thus worded: ‘To all idle medical students in Great Britain sit—,’ with a picture of that part of the human spinal column known as the ‘sacrum.’ The author’s reason for attempting the work was: ‘Wanting better amusement, and through mere accident, I stumbled upon the dry, dusty, tedious, accursed, hateful bibliography’ (see p. 365). The subject undoubtedly deserves all these epithets, but Atkinson managed to write a book to which none of them can be truly applied. It is full of anecdote, humour and out-of-the-way information” (*Dictionary of National Biography*). Atkinson was a friend of Laurence Sterne, author of *Tristram Shandy*, whose style Atkinson “unconsciously imitated” (Ruhräh, p. 200). Atkinson published his work when he was 74, and probably never intended to continue it beyond the letter B. Some copies of the *Medical Bibliography* show the imprint “York: printed at the Gazette Office”; however, most copies were issued with a cancel title bearing the Churchill imprint as above. Garrison–Morton 6754.1. Ruhräh, “James Atkinson and his Medical Bibliography,” *Ann. Med. Hist.* 6 (1924): 200–221. Osler 6874. 26413

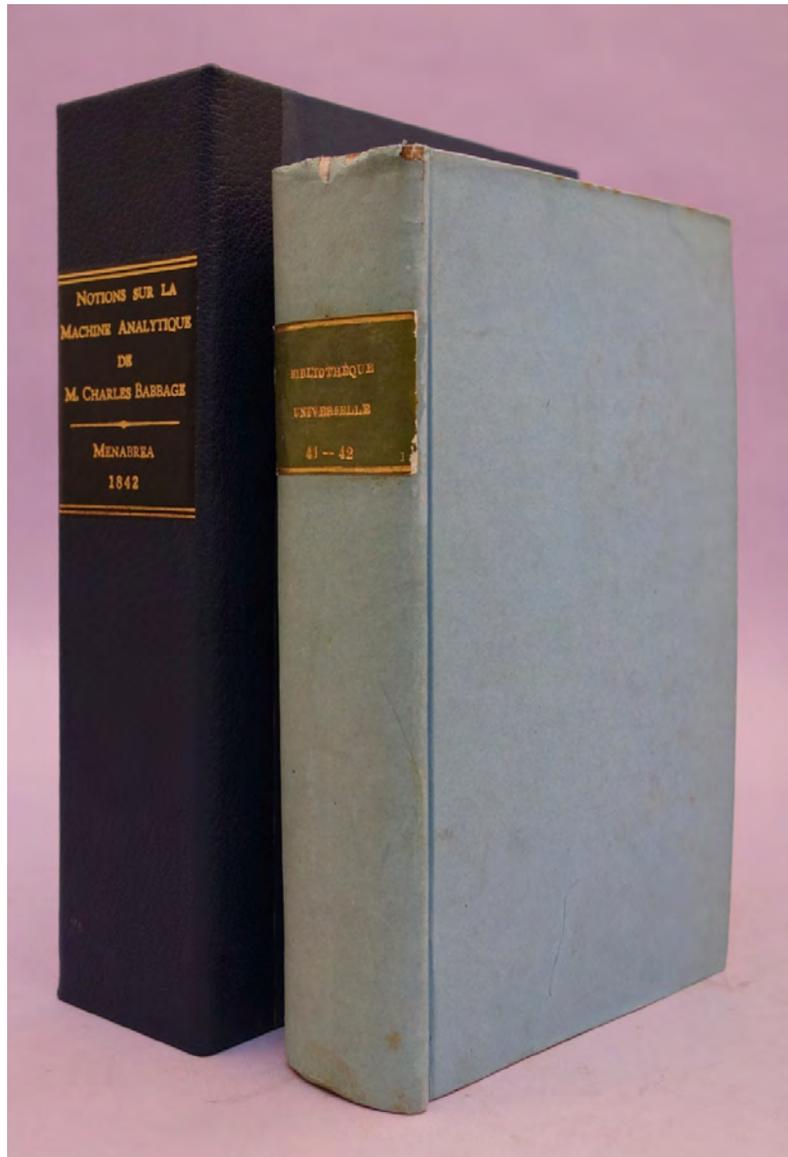


## The First Computer Programs

4. [Babbage, Charles (1791-1871).] Menabrea, Luigi Federico (1809-96). Notions sur la machine analytique de M. Charles Babbage. In *Bibliothèque universelle de Genève*, nouvelle série 41 (1842): 352-76. Whole volume, 8vo. 424pp. Folding table, plate. 210 x 137 mm. Blue boards, leather spine label, upper extremity of spine a bit worn, circa 1842. Fine copy. 19<sup>th</sup> cent. library stamps and markings on title and front free endpaper. Preserved in a quarter morocco folding box. \$25,000

**First Edition** of the first computer programs. Menabrea's paper is also the first published account of Babbage's Analytical Engine and the first account of its logical design. As is well known, Babbage's conception and design of his Analytical Engine—the first general purpose programmable digital computer—were so far ahead of the imagination of his mathematical and scientific colleagues that few expressed much curiosity regarding it. The only presentation that Babbage made concerning the design and operation of the Analytical Engine was to a group of Italian scientists.

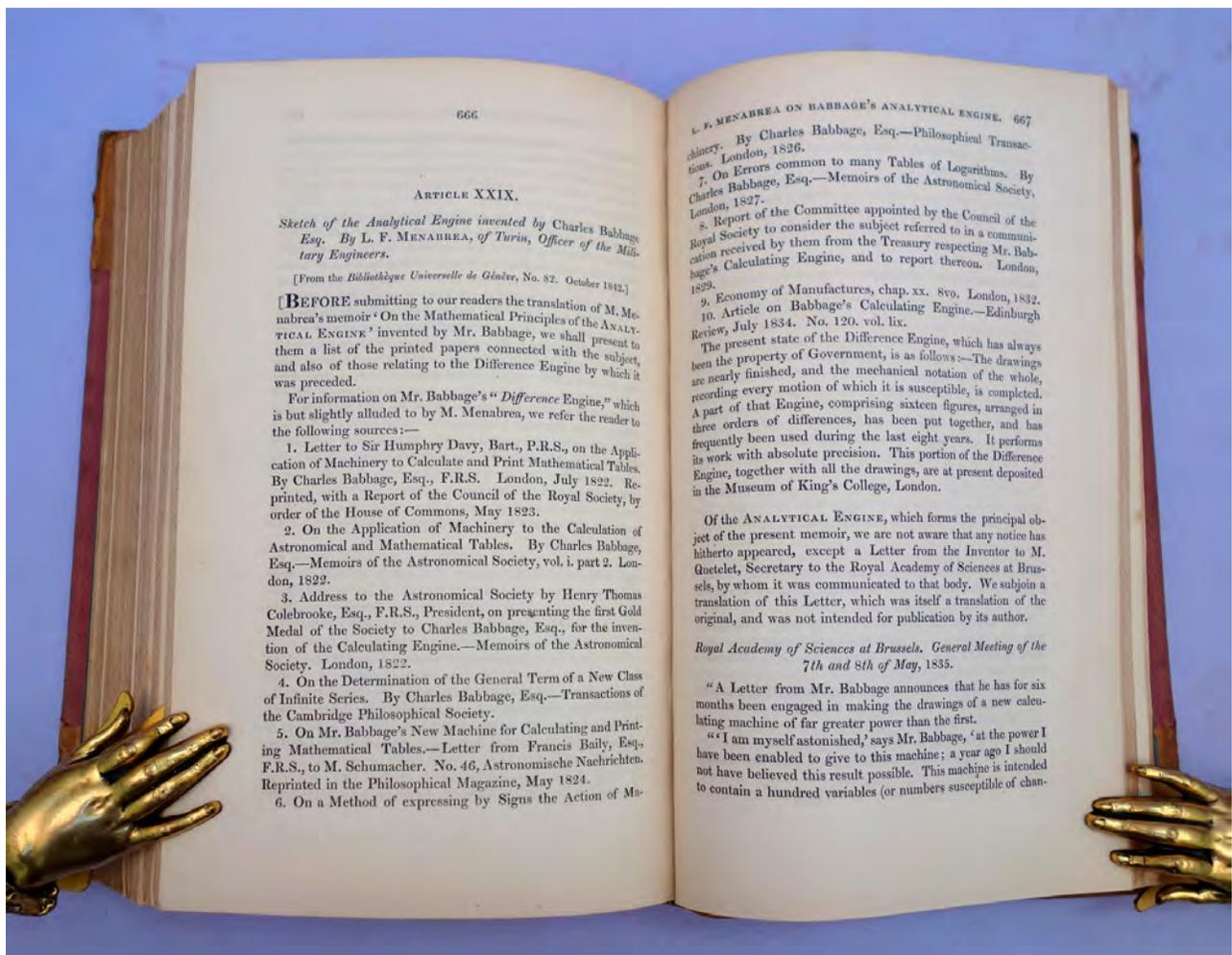
In 1840 Babbage traveled to Torino to make a presentation on the Analytical Engine. Babbage's talk, complete with charts, drawings, models, and mechanical notations, emphasized the Engine's signal feature: its ability to guide its own operations—what we call conditional branching. In attendance at Babbage's lecture was the young Italian mathematician Luigi Federico Menabrea (later prime minister of Italy), who prepared from his notes an account of the principles of the Analytical Engine. Reflecting a lack of urgency regarding radical innovation unimaginable to us today, Menabrea did not get around to publishing his paper until two years after



Babbage made his presentation, and when he did so he published it in French in a Swiss journal. Shortly after Menabrea's paper appeared Babbage was refused government funding for construction of the machine.

In keeping with the more general nature and immaterial status of the Analytical Engine, Menabrea's account dealt little with mechanical details. Instead he described the functional organization and mathematical operation of this more flexible and powerful invention. To illustrate its capabilities, he presented several charts or tables of the steps through which the machine would be directed to go in performing calculations and finding numerical solutions to algebraic equations. These steps were the instructions the engine's operator would punch in coded form on cards to be fed into the machine; hence, the charts constituted the **first computer programs** [emphasis ours]. Menabrea's charts were taken from those Babbage brought to Torino to illustrate his talks there (Stein, *Ada: A Life and Legacy*, p. 92).

No offprints of Menabrea's paper are recorded, and this volume is extremely rare on the market. This is the second copy we have handled in more than forty years of trading. The previous copy was rebound. *Origins of Cyberspace* 60. 40364

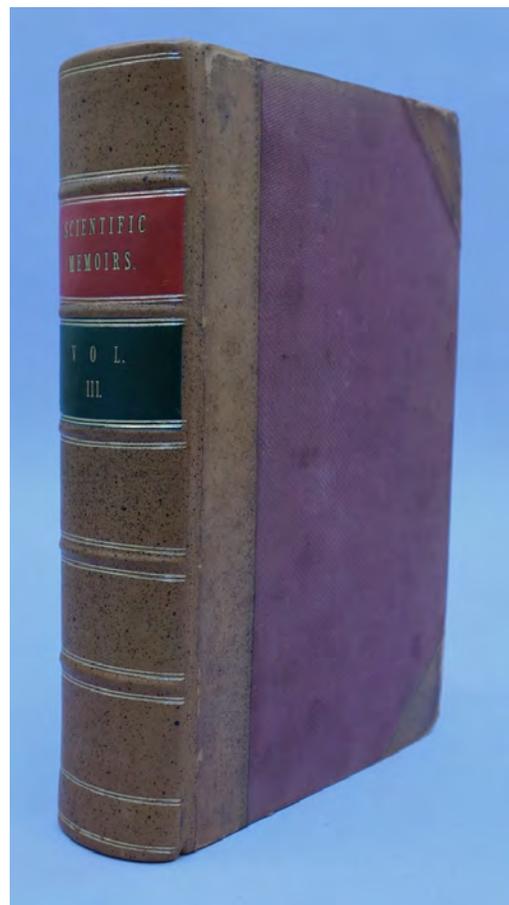
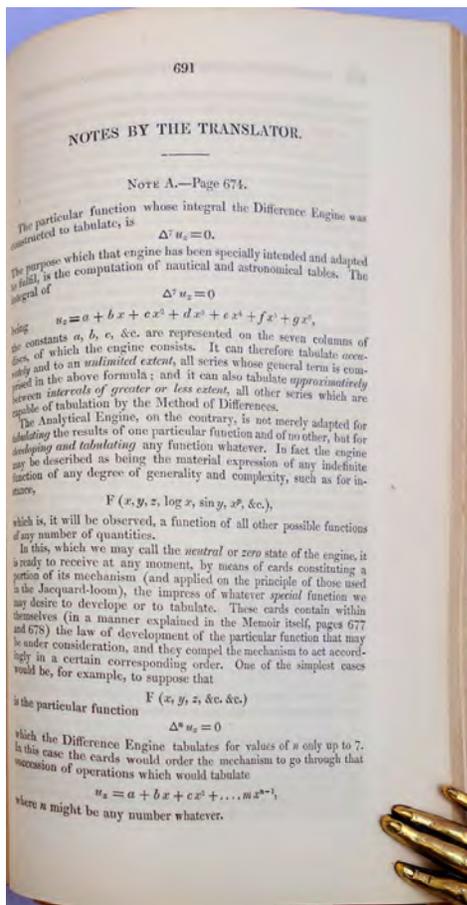


*Translated & Annotated by Ada Lovelace, Daughter of Lord Byron*

5. [Babbage, Charles (1791–1871).] Menabrea, Luigi Federico (1809–96). Sketch of the Analytical Engine invented by Charles Babbage . . . with notes by the translator [Augusta Ada King, Countess of Lovelace (1815–52)]. In *Scientific Memoirs, Selected from the Transactions of Foreign Academies of Science and Learned Societies* 3 (1843): 666–731, plus folding chart. Whole volume, 8vo. [6], 734pp., 10 plates. 214 x 135 mm. 19th cent. half calf, cloth boards, rebaked, endpapers renewed. Light toning, otherwise fine. Library shelf-mark on title. \$35,000

**First Edition in English.** Menabrea's paper was translated into English by Babbage's close friend Ada, Countess of Lovelace, daughter of the poet Byron and a talented mathematician in her own right. At Babbage's suggestion, Lady Lovelace added seven explanatory notes to her translation, which run about three times the length of the original. Her annotated translation has been called "**the most important paper in the history of digital computing before modern times**" (Bromley, "Introduction" in Babbage, Henry Prevost, *Babbage's Calculating Engines*, xv). As Babbage never published a detailed description of the Analytical Engine, Ada's translation of Menabrea's paper, with its lengthy explanatory notes, represents the most complete contemporary account in English of this much-misunderstood machine.

Babbage supplied Ada with algorithms for the solution of various problems, which she illustrated in her notes in the form of charts detailing the stepwise sequence of events as the machine progressed through a string of instructions input from punched cards (Swade, *The Cogwheel Brain*, 165). This was the first published example

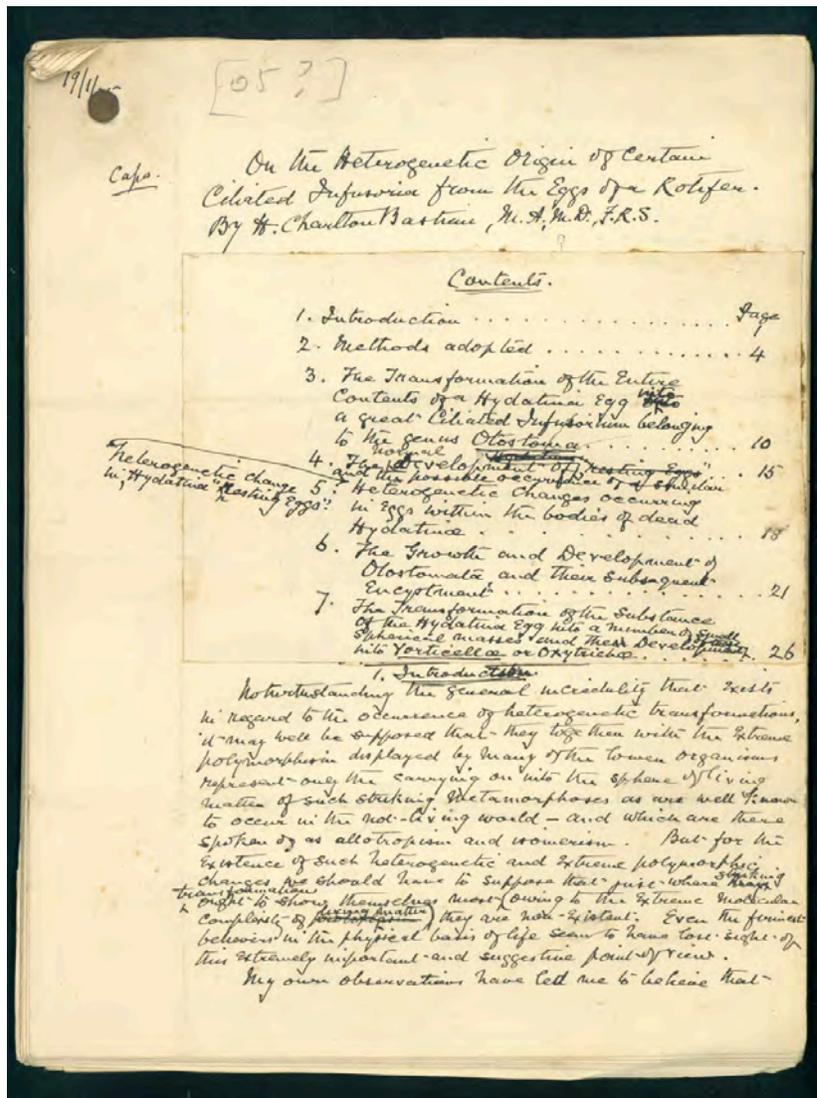


of a computer “program,” though neither Ada nor Babbage used this term. She also expanded upon Babbage’s general views of the Analytical Engine as a symbol-manipulating device rather than a mere processor of numbers, suggesting that it

might act upon other things besides *number*, were objects found whose mutual fundamental relations could be expressed by those of the abstract science of operations. . . . Supposing, for instance, that the fundamental relations of pitched sounds in the science of harmony and of musical composition were susceptible of such expression and adaptations, the engine might compose elaborate and scientific pieces of music of any degree of complexity or extent (p. 694) . . . Many persons who are not conversant with mathematical studies, imagine that because the business of the engine is to give its results in *numerical notation*, the *nature of its processes* must consequently be *arithmetical* and *numerical*, rather than *algebraical* and *analytical*. This is an error. The engine can arrange and combine its numerical quantities exactly as if they were *letters* or any other *general symbols*; and in fact it might bring out its results in *algebraical notation*, were provisions made accordingly (p. 713).

Much has been written concerning what mathematical abilities Ada may have possessed. Study of the published correspondence between her and Babbage (see Toole 1992) is not especially flattering either to her personality or mathematical talents: it shows that while Ada was personally enamored of her own mathematical prowess, she was in reality no more than a talented novice who at times required Babbage’s coaching. Their genuine friendship aside, Babbage’s motives for encouraging Ada’s involvement in his work are not hard to discern. As Lord Byron’s only legitimate child, Ada was an extraordinary celebrity, and as the wife of a prominent aristocrat she was in a position to act as patron to Babbage and his engines (though she never in fact did so).

Ada Lovelace’s translation of Menabrea’s paper was published in the *Scientific Memoirs*, a journal edited by the printer and naturalist Richard Taylor (1781–1858), and devoted entirely to the publication of English translations of important scientific papers. DSB. *Origins of Cyberspace* 61. Randell, *Origins of Digital Computers* (3rd ed.), p. 489. 40255



## Archive on the Origin of Life

**6. Bastian, Henry Charlton** (1837-1915). Archive consisting of approximately 650 documents, including manuscript and typed letters to and from Bastian (many with the original stamped covers); the autograph manuscript of Bastian's "On the heterogenetic origin of certain ciliated infusoria"; off-prints or journal issue copies of papers by Bastian; Bastian's notes and correspondence with publishers concerning several of his publications on abiogenesis and neurology; original photographs, including photomicrographs of microorganisms; a small folder containing Bastian's original ink drawings of nematodes; Bastian's medical diploma of 1863, etc. Ca. 1863-1925. Some dust-soiling and creasing, but on the whole very good. Complete listing of the documents in the archive can be supplied on request. \$25,000

A large and unique collection of documents by and about Henry Charlton Bastian, one of the pioneers of British neuroscience, and a pioneer writer and researcher on theories of the origins of life.

Bastian published several classic works on aphasia (see Garrison-Morton 4622, 4629); "had he accomplished nothing else, these would have established him as a pioneer in neurology" (Haymaker & Schiller, *Founders of Neurology* [2<sup>nd</sup> ed.], p. 407). He was the first to demonstrate "Bastian's law": that complete section of the upper spinal cord abolishes reflexes and muscular tone below the level of the lesion. He also made the first

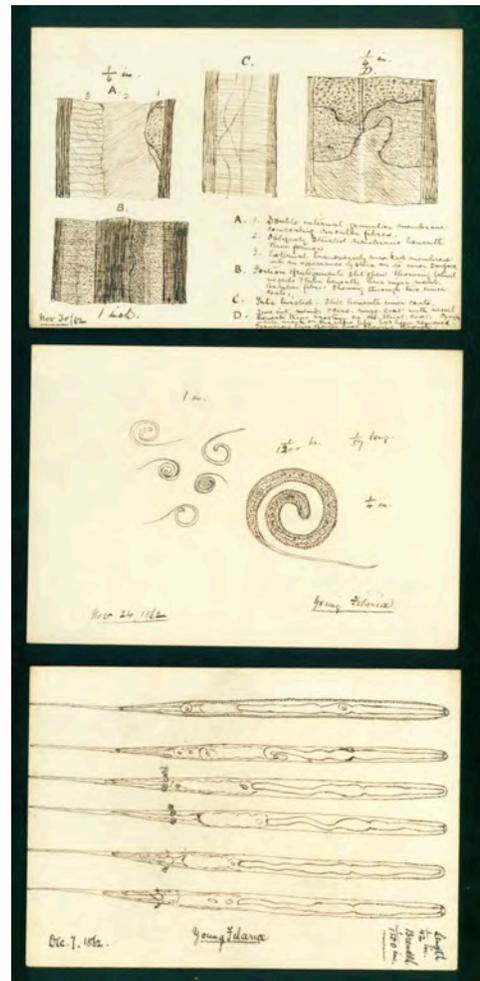
observation of the anterior spinocerebellar tract of the spinal cord (now known as “Gowers’ tract”), published several works on paralyses, and coined the term “kinesthesia” to describe the sense of body motion. A number of documents in this archive relate to Bastian’s neurological work, among them an autograph letter signed from **Hughlings Jackson** (1835–1911), and a group of materials relating to the publication of Bastian’s *The Brain as an Organ of Mind* (described by Haymaker and Schiller as “an outstanding contribution” [p. 405]).

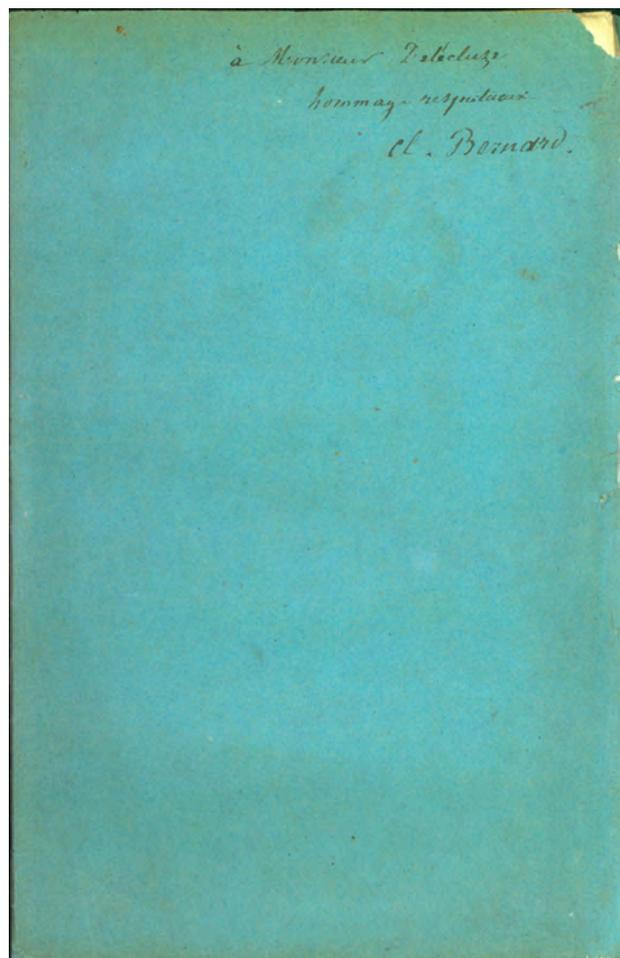
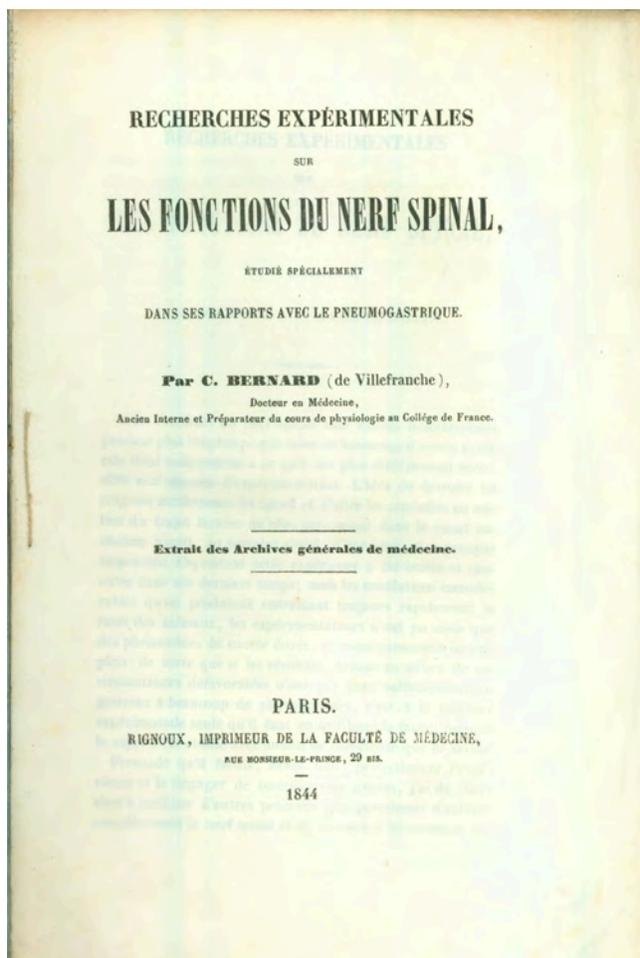
Bastian is probably best known for his defense of the doctrine of abiogenesis, more commonly (and less accurately) known as spontaneous generation. In opposition to Darwin, Huxley, Pasteur, Koch, Tyndall and other 19<sup>th</sup> century scientists grappling with the question of life’s origins, Bastian argued that there was no fixed boundary between living organic and nonliving inorganic matter, and that the processes that generated life in an earlier stage of the earth’s history could still be operating in the present one. He can thus be seen as one of the first to consider the question of the origins of life from a scientific standpoint. Some of Bastian’s experimental work in support of his views on abiogenesis (contrary to his intent) ended up advancing the progress of bacteriology: It was Bastian, for example, who showed that boiling did not destroy all bacteria, a finding that led to the discovery of heat-resistant spores. Materials in this archive relating to Bastian’s work on abiogenesis include his autograph manuscripts of two papers, “On the heterogenic origin of certain ciliated infusoria” (1905) and “The importance of tyrosine as an aid in the demonstration of the present-day *de novo* origin of living organisms” (1915); a collection of photomicrographs in an envelope labeled “Photos for blocks needed—if any / New edition of ‘Nature and Origin of Living Matter’”; and correspondence with publishers and journal editors regarding the publication of his works on abiogenesis.

Other items of interest include the following:

- Autograph or typed letters signed from **Thomas Huxley** (1825–95), Nobel Laureate **Charles Richet** (1850–1935), **Grace Osler** (1854–1928), physicist **Joseph Larmor** (1857–1942), publisher **Félix Alcan** (1841–1925), chemist **Edward Frankland** (1825–99), neurologist **Pierre Marie** (1853–1940), **Otto Rosenheim** (1871–1955; see Garrison–Morton 1058.1), anatomist **Francis Sibson** (1814–76) and other prominent scientists;
- A small portfolio of drawings by Bastian relating to his earliest scientific work, which consisted of investigations of guinea worms and other nematodes;
- Bastian’s 1863 Bachelor of Medicine diploma from University College, London, and honorary degree certificates from the Reale Accademia di Medicina di Torino (1883), the Societas Gynaecologica Bostoniensis (1885) and the Royal University of Ireland (1887).

A complete listing of the archive can be supplied upon request. 42636





7. **Bernard, Claude** (1813–78). *Recherches expérimentales sur les fonctions du nerf spinal*. Offprint from *Arch. gén. Méd.* IV & V (1844) 379–426, 51–93pp. 8vo. 75, [1]pp. Paris: Rignoux, 1844. 230 x 147 mm. Original wrappers, uncut & unopened, spine restored. Fine copy, in a half morocco drop-back box. \$2750

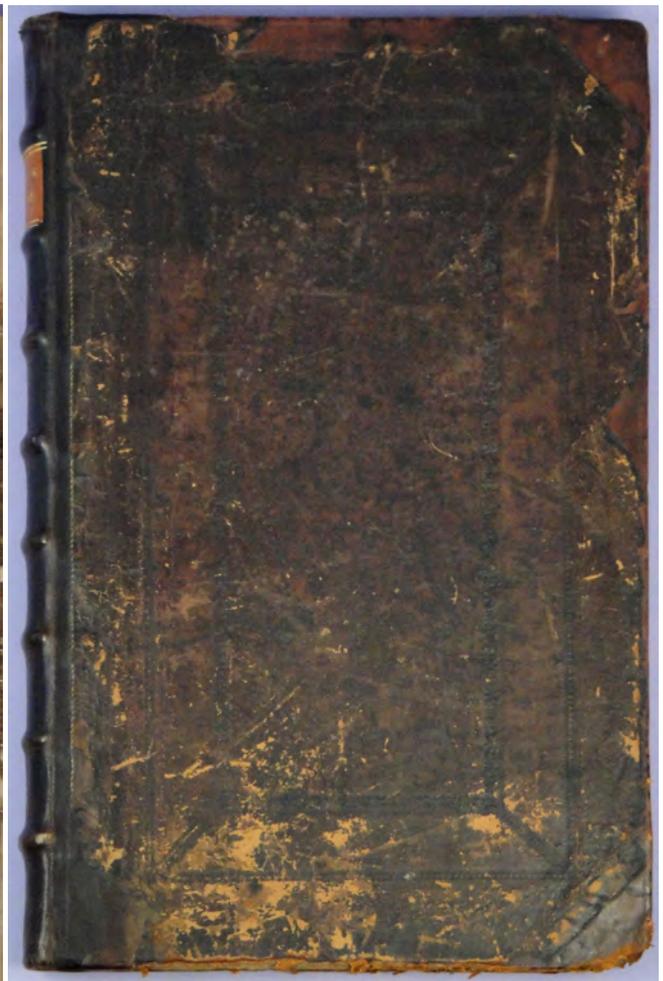
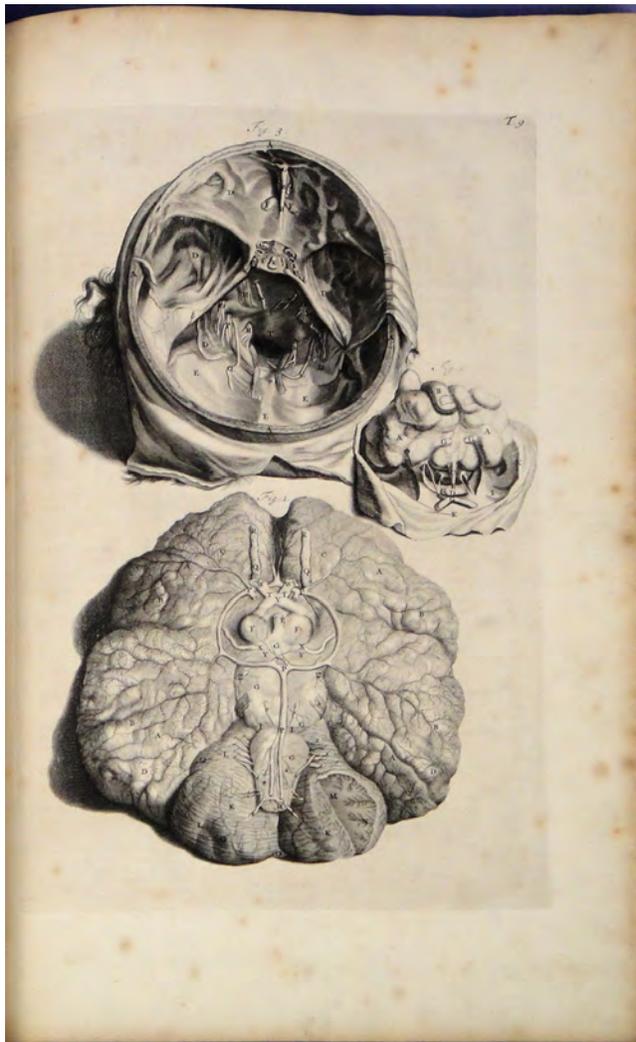
**First Edition, Inscribed By Bernard** on front wrapper: “. . . Monsieur Delécluze / hommage respectueux / Cl. Bernard.” A few pencil corrections to text probably Bernard’s. An extremely rare presentation copy of the separate offprint recording Bernard’s destruction experiments on the spinal and vagus nerves and innervation of the vocal chords. Garrison–Morton 1264. Spillane 161. 11499



## Baroque Anatomy

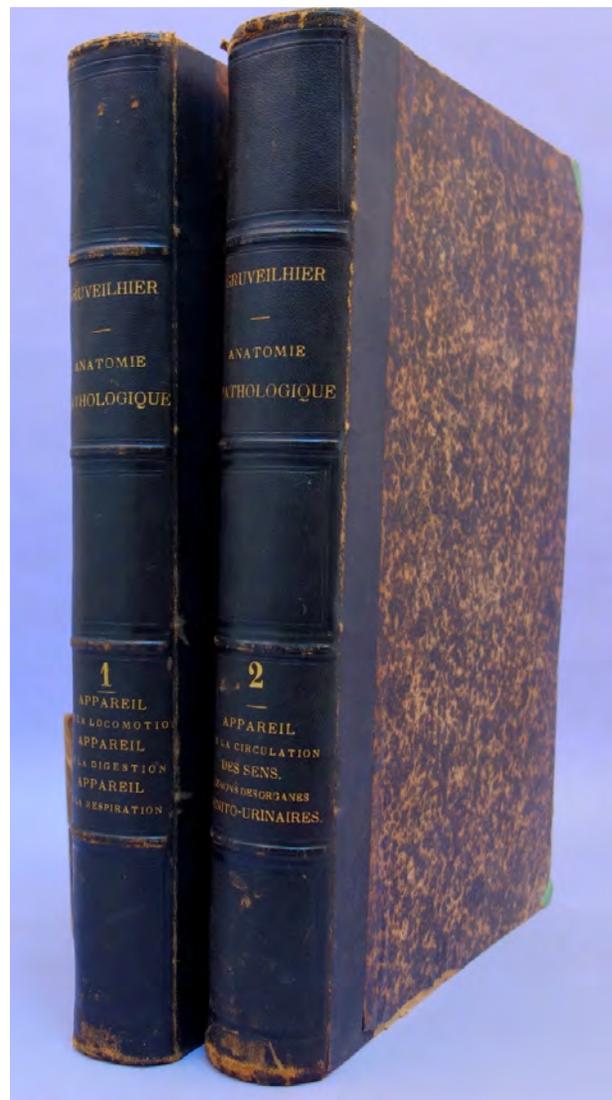
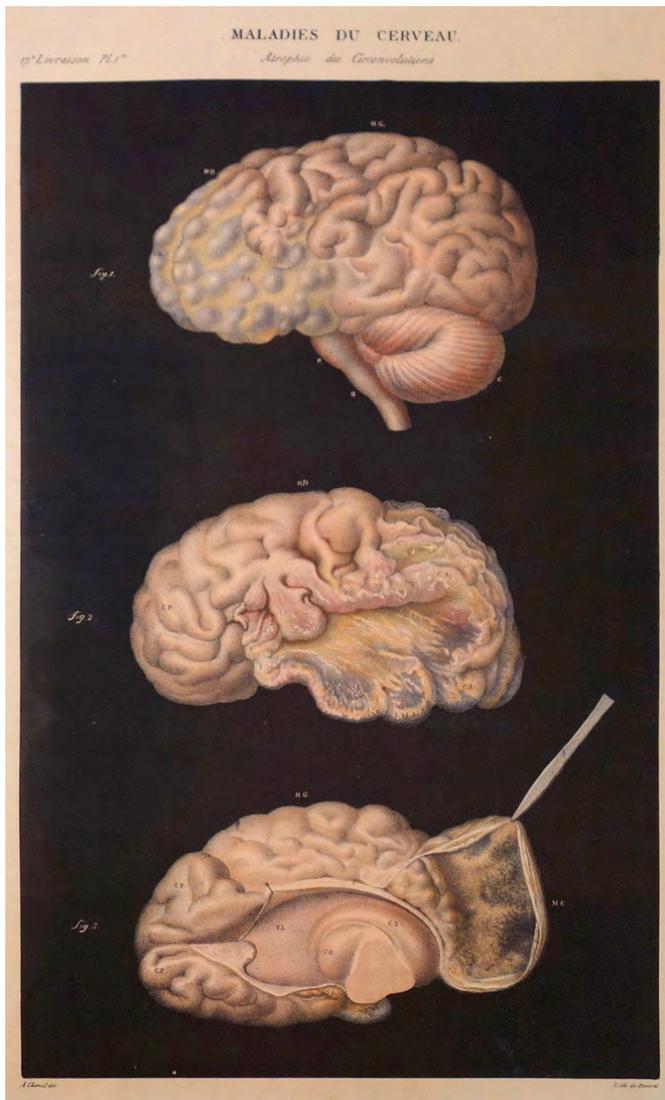
**8. Cowper, William** (1666–1709). *The anatomy of humane bodies. . . .* Folio. [72]ff. including mezzotint portrait by Smith after Closterman, allegorical engraved title attributed to **Abraham Bloteling** (1640–90) with pasted-on English title in cartouche as usual, second engraved title with vignette by Sturt. 114 plates (2 folding), 105 designed by **Gérard de Lairesse** [1640–1711] & probably engraved by Bloteling, 9 mostly drawn & engraved by M. van der Gucht. London: Sam. Smith & Benj. Walford, 1698 [printed at the Sheldonian Theater, Oxford]. 568 × 357 mm. Paneled calf ca. 1698, worn, rebacked, corners repaired, endpapers renewed. Portrait, which is often missing, trimmed & mounted as always. First few leaves frayed, portrait soiled and with tears repaired, folding plates partially backed in paper to repair tears, tears in a few other plates, light foxing & spotting as in virtually all copies due to mineral deposits in the paper. Good to very good copy. Early ownership inscription on front endpaper. \$12,500

**First Edition in English** of the original plates designed for **Govard Bidloo** by Gérard de Lairesse, a painter who rivaled Rembrandt in popularity in his time. G-M 385 cites the original issue of the plates with Latin text by Bidloo in 1685. Bidloo's text, however, was widely criticized, and because of this Cowper arranged to supply an entirely new text in English to accompany a reissue of the original engravings. This reissue was



limited to 300 copies. The new English text was clearly superior, and the basis for later Latin editions. Cowper, however, did not acknowledge Bidloo, even going so far as to paste over Bidloo's name with his own in the cartouche on the engraved allegorical title. This action resulted in a bitter plagiarism dispute between the two, one of the most famous in medical history. In 1700 Bidloo went so far as to publish his *Gulielmus Cowper, criminalis literari citatus, coram tribunali* attacking Cowper in considerable detail.

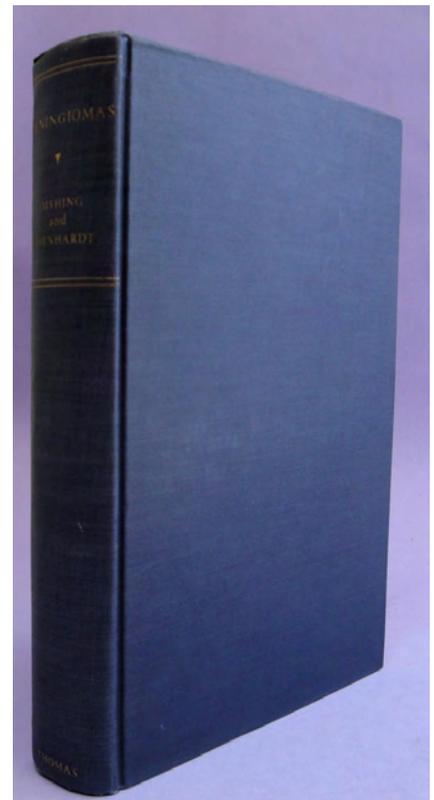
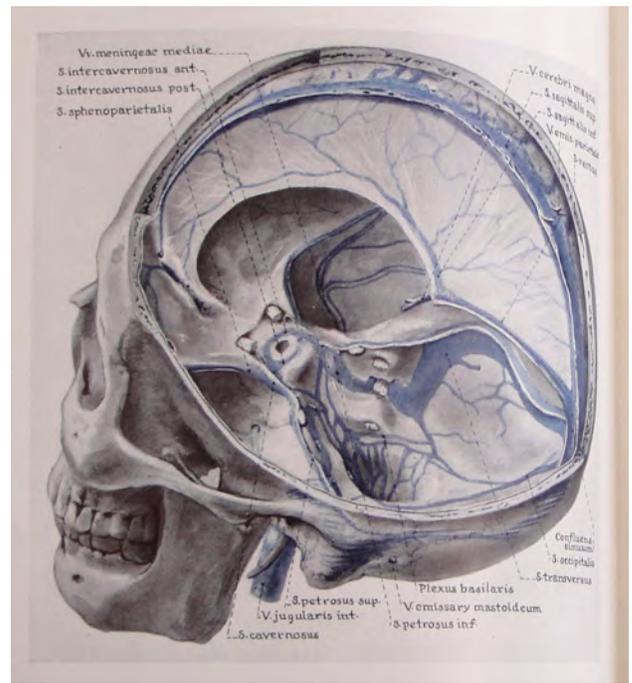
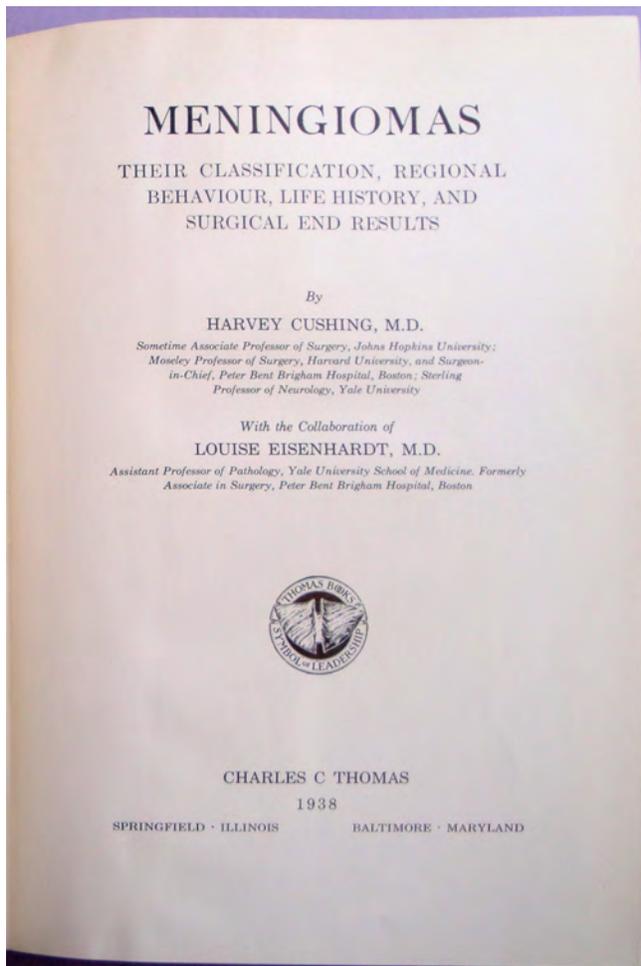
"Elegantly done and artistically perfect" (Choulant / Frank 250), the atlas is considered the finest of the Baroque period, and one of the greatest artistic anatomies of all time. Despite imperfections from the point of view of dissection, the anatomical studies reflect much that is good, including early depictions of skin and hair from observation with a microscope. Dumaitre, *Gérard de Lairesse* (1982). Hofer 146. *Enc. World Art* IV 753, V 436, VII 661. Russell 211. 41921



## Beautiful Atlas of Pathology

**9. Cruveilhier, Jean** (1791–1874). *Anatomie pathologique du corps humain*. 2 vols., large folio. Bound up from the original parts, with each part separately paginated. 233 superb mostly hand-colored plates after drawings by A. Chazal, drawn on stone by Bernard. List of subscribers in vol. 1. Paris: Baillière, 1829–42. 480 x 322 mm. Quarter morocco, mottled boards ca. 1842, light wear. Some foxing as in all copies, but very good. Bookplate. \$12,500

**First Edition.** Cruveilhier, a protégé of Dupuytren, was the first to occupy the chair of pathology established by Dupuytren at the Faculté de Médecine in Paris. He obtained his vast autopsy material in the deadhouse at the Salpêtrière and the Musée Dupuytren. Among the discoveries first published in Cruveilhier's work are: (1) the first description of disseminated sclerosis; (2) an early description of "Cruveilhier's palsy"; and (3) the first description of hypertrophic pyloric stenosis and ulceration of the stomach due to hyperacidity (both have been called "Cruveilhier's disease"). The atlas also contains "remarkable plates of several views of a cerebellopontine angle tumor and falx meningioma, as well as splendid examples of spinal cord pathology" (McHenry, *Garrison's History of Neurology*, pp. 254–55). Goldschmid, pp. 137–39. Norman 538. 41821



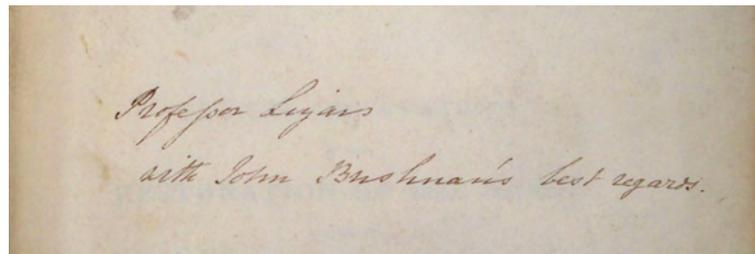
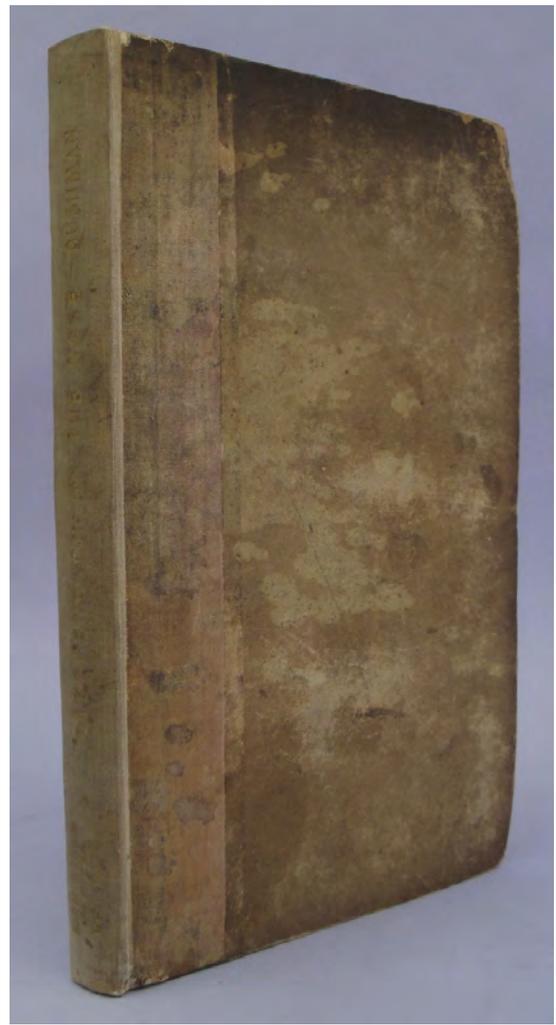
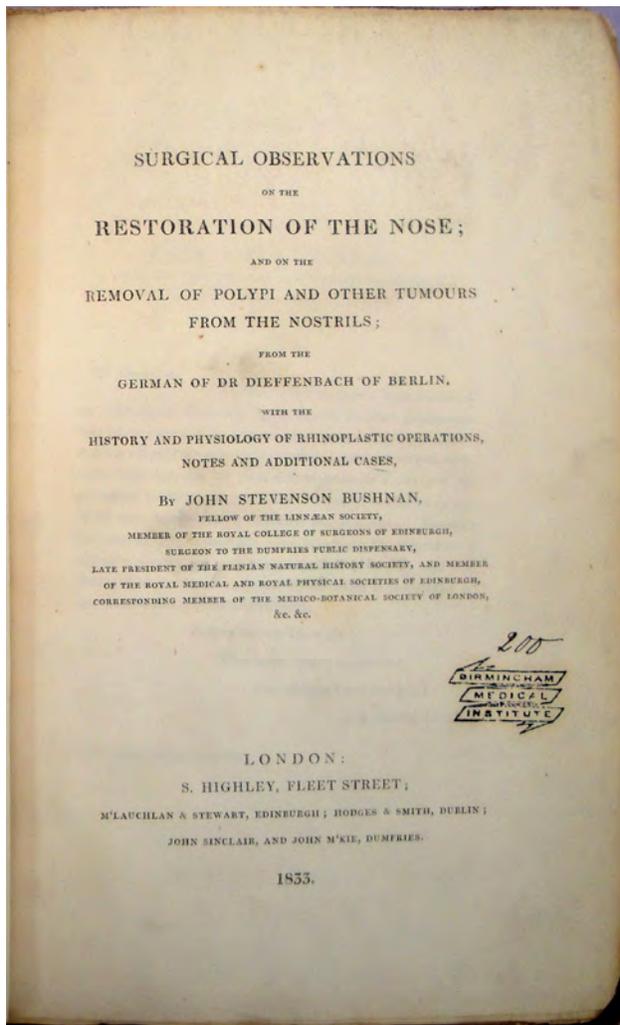
**10. Cushing, Harvey (1879-1939) & Louise Eisenhardt (1891-1967).** Meningiomas: Their classification, regional behavior, life history, and surgical end results. xiv, 785, [3]pp. Text illustrations. Springfield, IL: Charles C Thomas, 1938. 256 x 171 mm. Original blue cloth. Bookplate and signature of Bertram Feinstein (d. 1978). \$1250

**First Edition.** Cushing's last and greatest clinical monograph, the culmination of nearly twenty-five years of work on tumors of the brain. 1765 copies were printed. Eisenhardt, Cushing's protégée and longtime associate, was one of the world's foremost neuropathologists. *Bibliography of the Writings of Harvey Cushing* 24. Garrison-Morton 4612; 4909.01. 42486



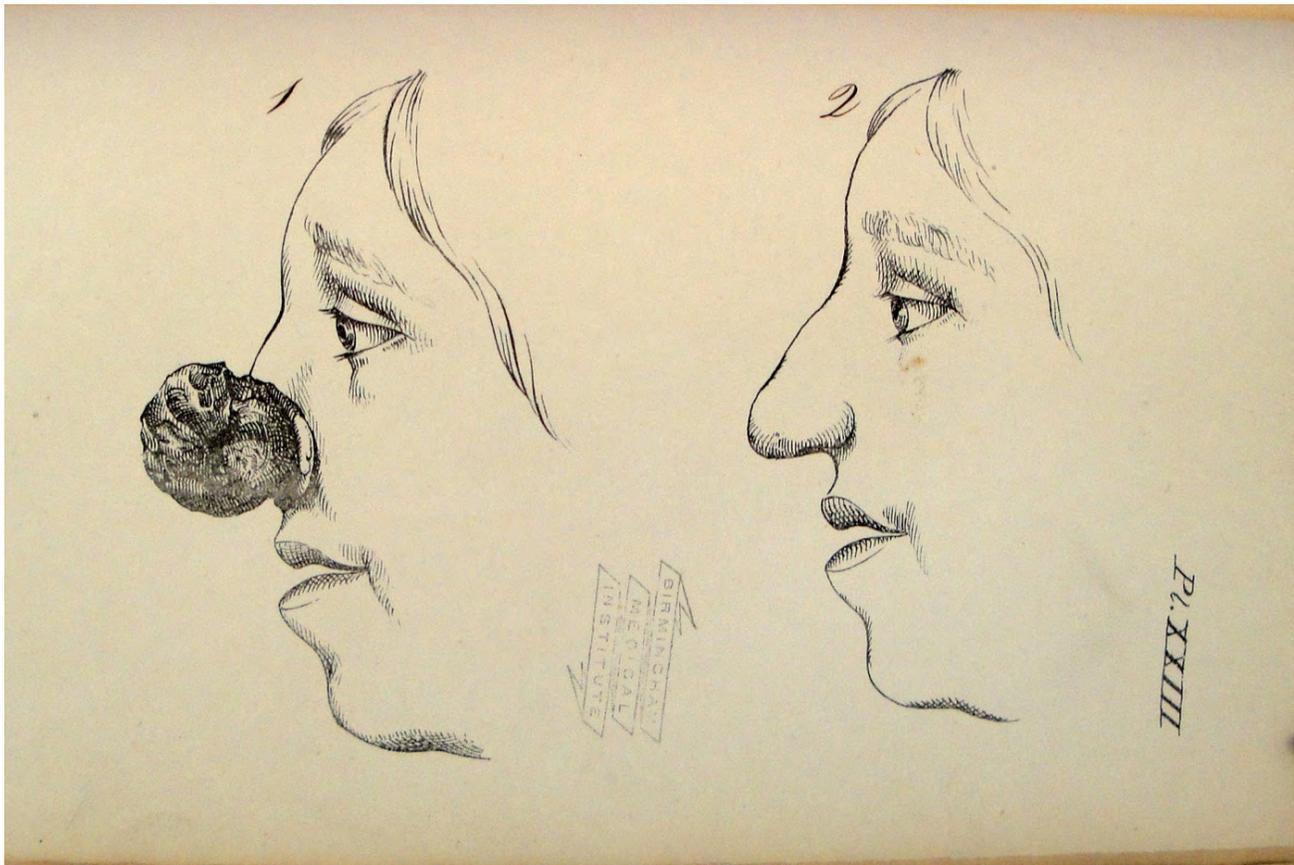
**II.** [Darwin, Charles (1809-82).] Part of Tierra del Fuego from H. M. S. Beagle 1834. Engraved map by J. & C. Walker. London: Henry Colburn, 1839. 360 x 525 mm. Two or three tiny tears along folds, faint foxing, light browning along folds but very good. \$750

**First Edition.** This detailed map of Tierra del Fuego, at the southern tip of the South American continent, was one of two charts inserted loose in pockets in the second volume of the *Narrative of the Surveying Voyages of His Majesty's Ships Adventure and Beagle* (3 vols., London, 1839), edited by Captain Robert Fitzroy. As is well known, Charles Darwin's *Journal and Remarks* (now known as *The Voyage of the Beagle*) formed the third volume of the *Narrative*. See Freeman 10. 42665



*Probably the Greatest Association Copy—Inscribed to John Lizars and Later in the Library of Lawson Tait*

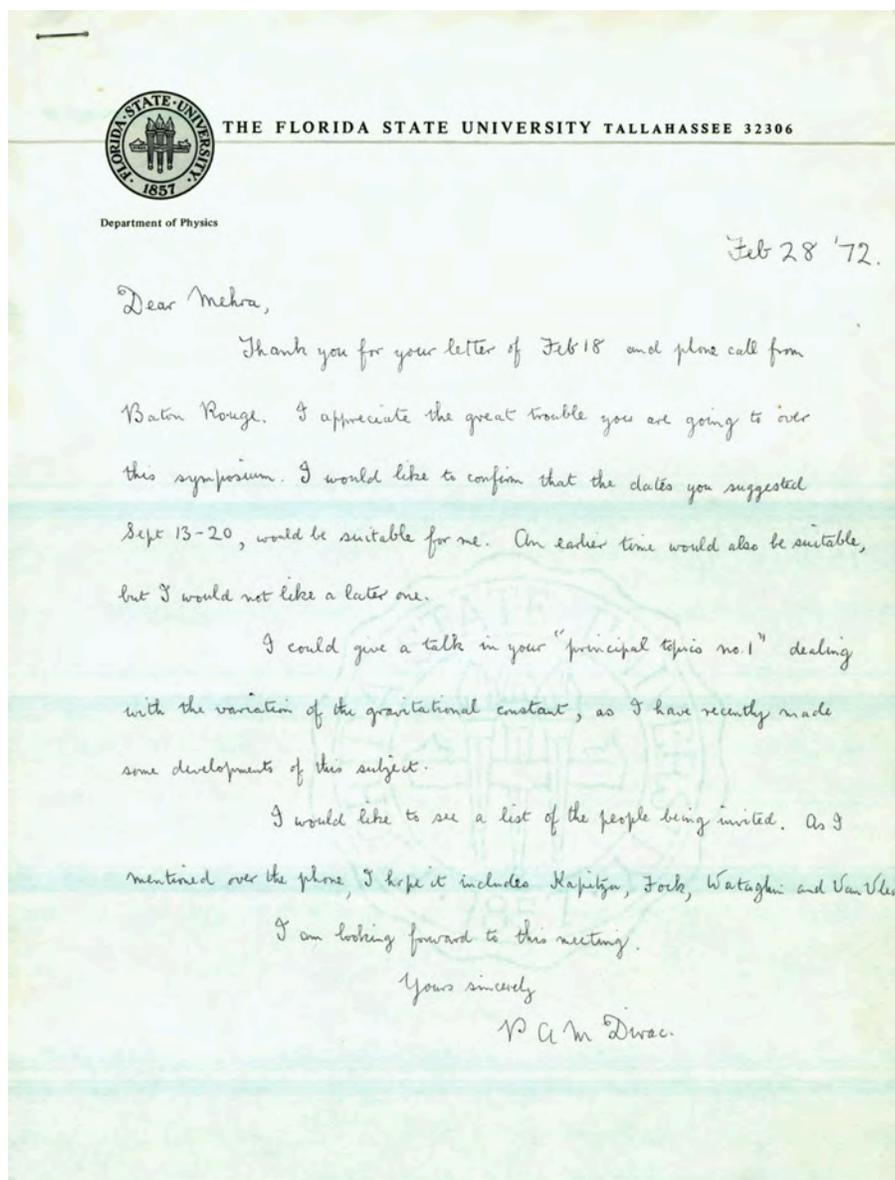
**12. Dieffenbach, Johann Friedrich** (1792-1847). *Surgical observations on the restoration of the nose; and on the removal of polypi and other tumours from the nostrils . . . with the history of physiology of rhinoplastic operations, notes and additional cases* by **John Stevenson Bushnan** (1808?-84). 8vo. viii, [2], 9-159, [3, including ads]pp. 26 plates. London: S. Highley, 1833. 228 x 143 mm. (uncut). Original cloth-backed boards, rebaked, corners a bit worn. Edges of leaves a bit dust-soiled, unobtrusive library stamps on title and plates, but a fine copy. *Presentation Copy, inscribed by Bushnan to John Lizars* (c. 1787-1860) on the half-title: "Professor Lizars with John Bushnan's best regards." Bookplate of the Birmingham Medical Institute, noting that this copy was the gift of Mr. [Robert] Lawson Tait (1845-99). \$15,000



**First Edition in English** of the *rarest book in English on plastic surgery* after Carpue's *Account of Two Successful Operations for Restoring a Lost Nose* (1816). The above work is a translation, prepared by physician and medical writer John Stevenson Bushnan, of the section on rhinoplasty from Dieffenbach's *Chirurgische Erfahrungen* (1829-34). Bushnan augmented Dieffenbach's text with annotations, accounts of his own cases and an important, well-documented history of rhinoplastic operations. Bushnan presented this copy to Scottish surgeon and anatomist John Lizars (see Garrison-Morton 6026), whose letter describing a rhinoplasty operation he had performed in 1831 is reprinted on p. 157; Lizars's case is illustrated in plate XXV. This copy later passed into the ownership of another Scottish surgeon, Lawson Tait, who is cited seven times in Garrison-Morton for his contributions to gynecological and plastic surgery.

Dieffenbach's clinical work in plastic surgery was "monumental in its variety, inventiveness and breadth of scope. . . . Although Dieffenbach also used the Italian method of rhinoplasty, he preferred the Indian method because of the stronger quality of the forehead skin. . . . [He also] realized that the various metal contrivances of Tagliacozzi and von Graefe for shaping the new nose were largely ineffectual, and he devised many subsequent procedures for trimming and shaping the nose, thus greatly improving the results attainable by the Indian method" (Gnudi & Webster, pp. 321-22). Dieffenbach pioneered many methods and principles of plastic surgery which "have not been improved upon and are still constantly employed" (Gnudi & Webster, p. 321).

This work is rare in any form, and this is the only inscribed copy of this work we have ever heard of in our nearly fifty years of experience specializing in rare medical books. A greater double association copy of this work probably does not exist. Zeis 513. 42635



## 10 Autograph Letters by Dirac

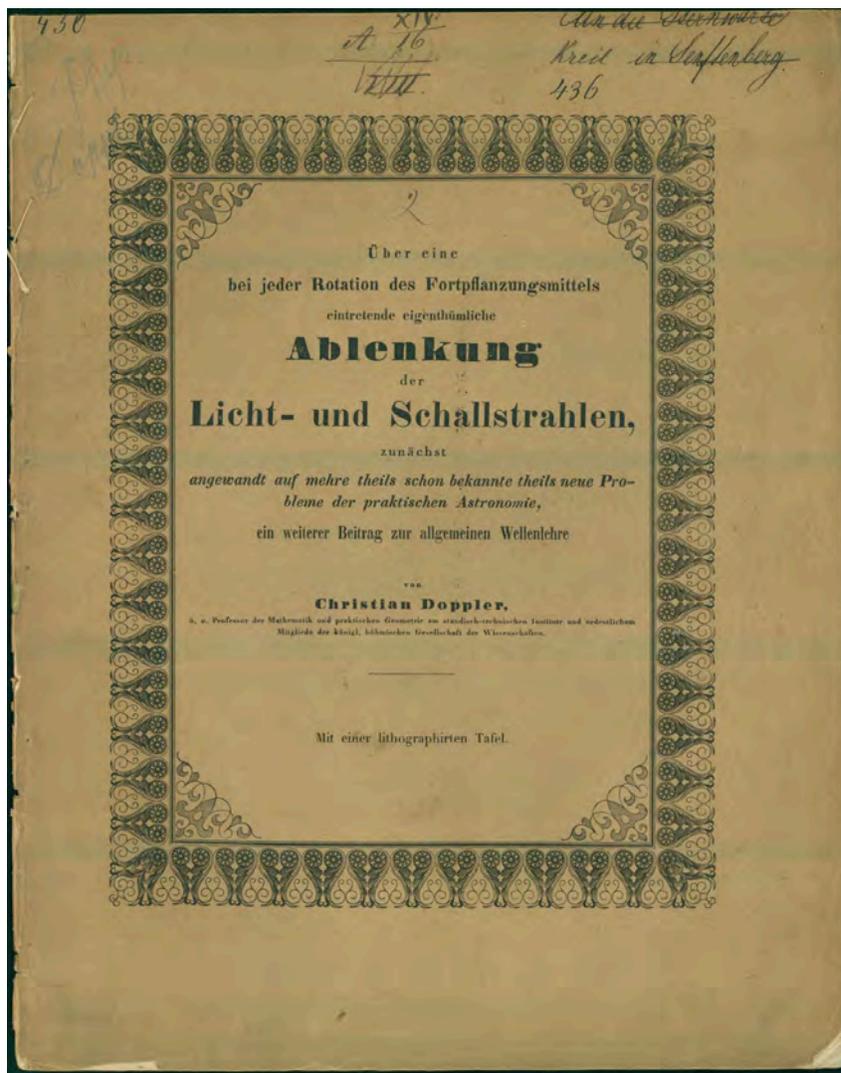
**13. Dirac, Paul Adrien Maurice** (1902–84). 10 autograph letters signed to **Jagdish Mehra** (1931–2008), most with accompanying postmarked covers; *first page of one letter (July 27, 1971) in photocopy*. II pages total. Feb. 5, 1969 – Jan. 3, 1973. Very good. \$5000

From Nobel laureate Paul Dirac, who shared the 1933 Nobel Prize for physics with Erwin Schrodinger for his fundamental contributions to quantum mechanics and quantum electrodynamics, to physicist and historian of physics Jagdish Mehra, author of *The Historical Development of Quantum Theory* (1982–2001) and numerous other works.

The first letter, dated Feb. 5, 1969, is evidently Dirac's response to Mehra's queries in connection with the latter's forthcoming history of the Solvay Conferences (*The Solvay Conferences on Physics*, 1975); Dirac wrote that "you might be disappointed in the amount of information I could give you, as I cannot remember many details of the early Solvay conferences—it was so long ago." In the second letter, dated July 27, 1971, Dirac supplied several corrections to Mehra's article "The golden age of theoretical physics: P.A.M. Dirac's scientific works from 1924–1933," published in Abdus Salam and Eugene Wigner's *Aspects of Quantum Theory* (1975). The letter

includes Dirac's reminiscences of Werner Heisenberg and Erwin Schroedinger: "To the best of my recollection I did attend this seminar of Heisenberg. Heisenberg dealt mainly with the current spectroscopic problems and referred only briefly at the end to his new ideas about matrix elements. . . . You might mention that the Klein-Gordon equation was first thought of by Schrödinger in 1921, as a generalization of the de Broglie equation. He did not publish it because when he applied it to the H spectrum it gave results in disagreement with observation." The third letter, dated Aug. 25, 1971, informs Mehra of an addition to Dirac's bibliography of published works.

Dirac's last seven letters, written 1972 and early 1973, have to do with the symposium held in Trieste in September 1972 in honor of his seventieth birthday; Mehra and Abdus Salam were the organizers of the symposium, and Mehra edited and published the proceedings of the conference the following year under the title *The Physicist's Conception of Nature* (1973). In the letters Dirac negotiated with Mehra over details of the symposium, suggested topics he himself could speak about—"I could give a talk in your 'principal topics no. 1' dealing with the variation of the gravitational constant, as I have recently made some developments in this subject"—and mentions several physicists he hoped to see at the conference, including Nobel laureates John Van Vleck and Peter Kapitza. In a letter dated Nov. 10, 1972 Dirac gave a typically understated and modest opinion of the results of the symposium: "I am not happy with so much being written about my work before it is finished. The results of present investigations must colour the past." 42648



**14. Doppler, Christian** (1803–53). Über eine bei jeder Rotation des Fortpflanzungsmittels eintretende eigenthümliche Ablenkung der Licht- und Schallstrahlen . . . Offprint from *Abhandlungen der k. böhm. Gesellschaft der Wissenschaften*, 5th series, Vol. 3. 14pp. Folding lithographed plate. Prague: Borrosch und André, 1844. 267 x 213 mm. Original printed wrappers, small stab-holes in left margin, light wear, docketed on front wrapper. Very good copy. \$1500

**First Edition, Offprint Issue**, preceding the journal printing which appeared in 1845; see Schuster, *Moving the Stars*, p. 209. OCLC records two copies in North America, two copies at the British Library and six copies in German libraries.

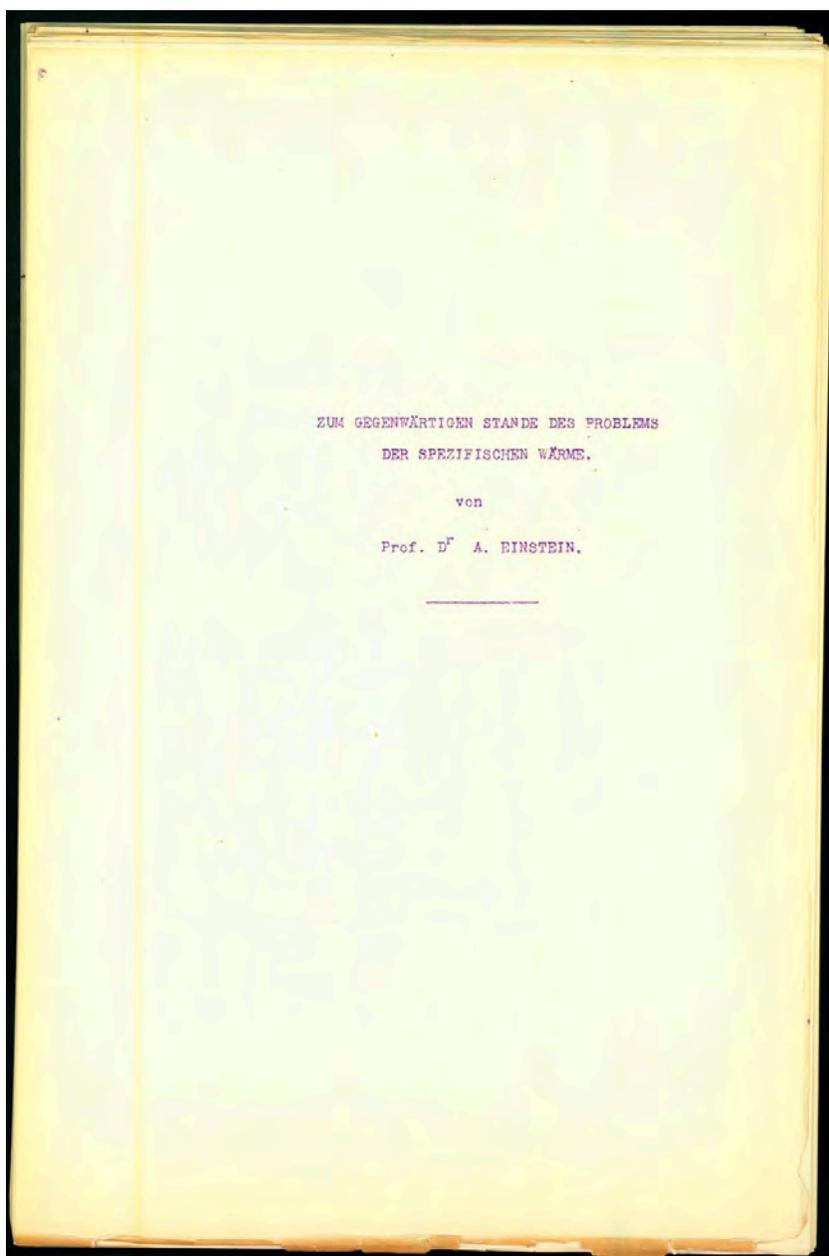
“Doppler’s scientific fame rests on his enunciation of the Doppler principle, which relates the observed frequency of a wave to the motion of the source of the observer relative to the medium in which the wave is propagated. This appears in his article ‘Ueber das farbige Licht der Doppelsterne und einiger andere Gestirne des Himmels (read 25 May 1842)’ (*Dictionary of Scientific Biography*). The present paper, which Doppler delivered a month later, is on a related effect, namely the deviation of waves by a rotating medium (the title can be translated as “On the characteristic deviation of beams of light and sound that occurs upon rotation of the transporting medium”). Doppler here presented a second formula specifically adapted to spiral nebulae and nebular spots. Schuster, *Moving the Stars: Christian Doppler, his Life, his Works and Principle, and the World After* (2005). 32343



**15. Doppler, Christian** (1803–53). Über die bisherigen Erklärungs-Versuche des Aberrations-Phänomens. Offprint from *Abhandlungen der K. Böhm. Gesellschaft der Wissenschaften*, 5<sup>th</sup> series, 3 (1845). 19pp. Lithographed plate. Publisher’s advertisement listing Doppler’s publications tipped in before title. Prague: Gottlieb Haase Söhne, 1845. 290 x 225 mm. (uncut). Original printed wrappers, a bit faded, edges a little frayed and dust-soiled. Very good copy. \$750

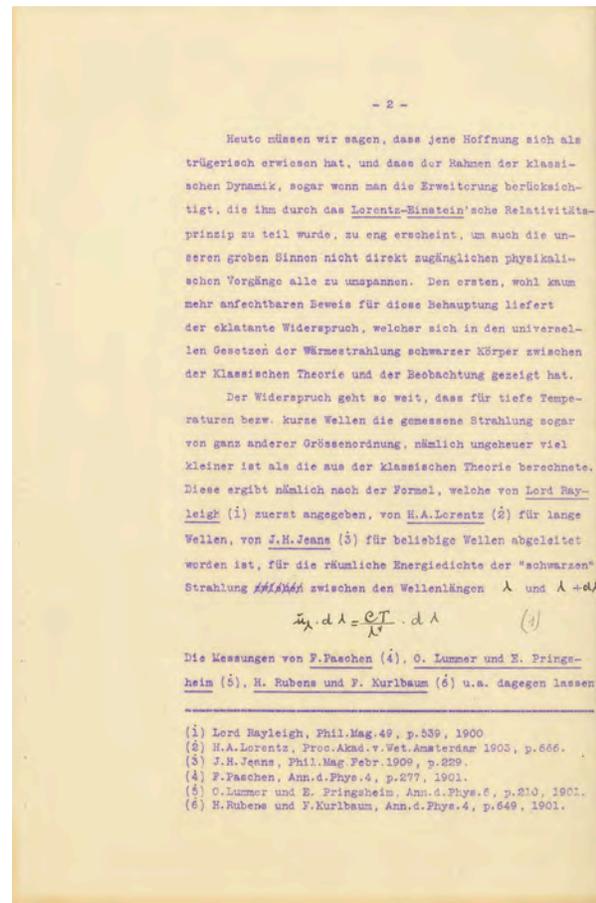
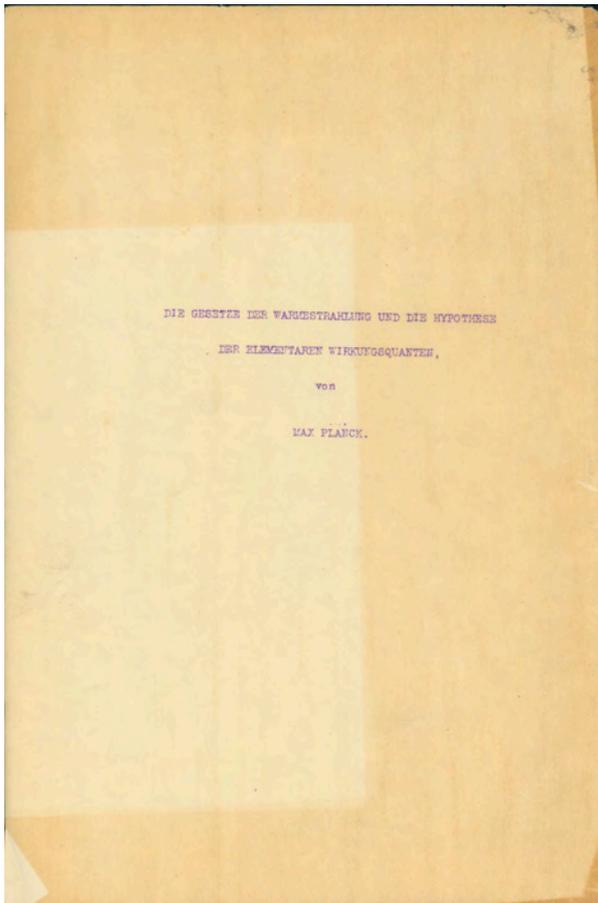
**First Edition, Offprint Issue.** OCLC lists three copies in North American libraries and four copies in European libraries. Schuster cites another edition published in Prague by Borrosch and André in 1842 but this is almost certainly an error; no such edition is cited in OCLC, and Doppler did not deliver this paper until November 11, 1843.

In the present paper Doppler discusses current attempts to explain the Bradley theorem of aberration, a topic he had touched on in his “Ueber das farbige Licht der Doppelsterne.” Schuster, *Moving the Stars: Christian Doppler, his Life, his Works and Principle, and the World After* (2005), p. 209. 42664



*Extremely Rare Mimeograph Preprint Set of Papers Delivered at the First Solvay Conference*

**16. Einstein, Albert** (1879-1955). Zum gegenwärtigen Stande des Problems der spezifischen Wärme. Mimeograph typescript. [1], 37ff. N.p., 1911. **[With:]** Eight other papers delivered by participants at the first Solvay Conference on Physics (1911), as listed below. Mimeograph typescripts in purple ink. Together 312ff. plus 1 sheet figures; see list below for individual paginations. N.p., 1911. 333 x 218 mm. Sheets unbound, in folders. Occasional minor chipping along edges, but very good to fine condition. No. (6) below inscribed in pencil on the first leaf: "A.E., Prag, November 2011"; we cannot verify whether this is in Einstein's hand. Equations in nos. (3) and (7) below accomplished in manuscript, possibly by the writers of the papers, Jeans and Planck. From the library of historian of physics Jagdish Mehra (1931-2008), author of *The Solvay Conferences on Physics* (1975). \$35,000



Title-leaf and page with manuscript formulae from Planck's "Die Gesetze der Wärmestrahlung"

**Extremely Rare Preprint Version of the Papers Delivered at the First Solvay Conference.** Papers in this form would have been distributed to participants before or during the conference. The only other set of 1911 Solvay Conference mimeograph preprints that we know of was described as Einstein's own set, also containing nine papers, which was sold in 2008 for \$60,000 plus premium at Christie's sale of important scientific books from the Richard Green library. OCLC does not record a set of the preprints, but cites copies of three of the individual preprints (Einstein, Sommerfeld, Planck) at Harvard University. Some of these original Solvay reports – but not all of them – can also be found in Paris at the Archives of the Collège de France. Therefore this set, and the copy sold in 2008 may be the only "complete" copies, and virtually the only copies known. Both this set, and the set sold as Einstein's copy, were originally in Mehra's collection. The other copy was also docketed "A.E. Prague 1911" on a flyleaf. The other set was in two black cloth spring binders stamped in gold on their covers "Bruxelles 1911." The set we are offering is in folders.

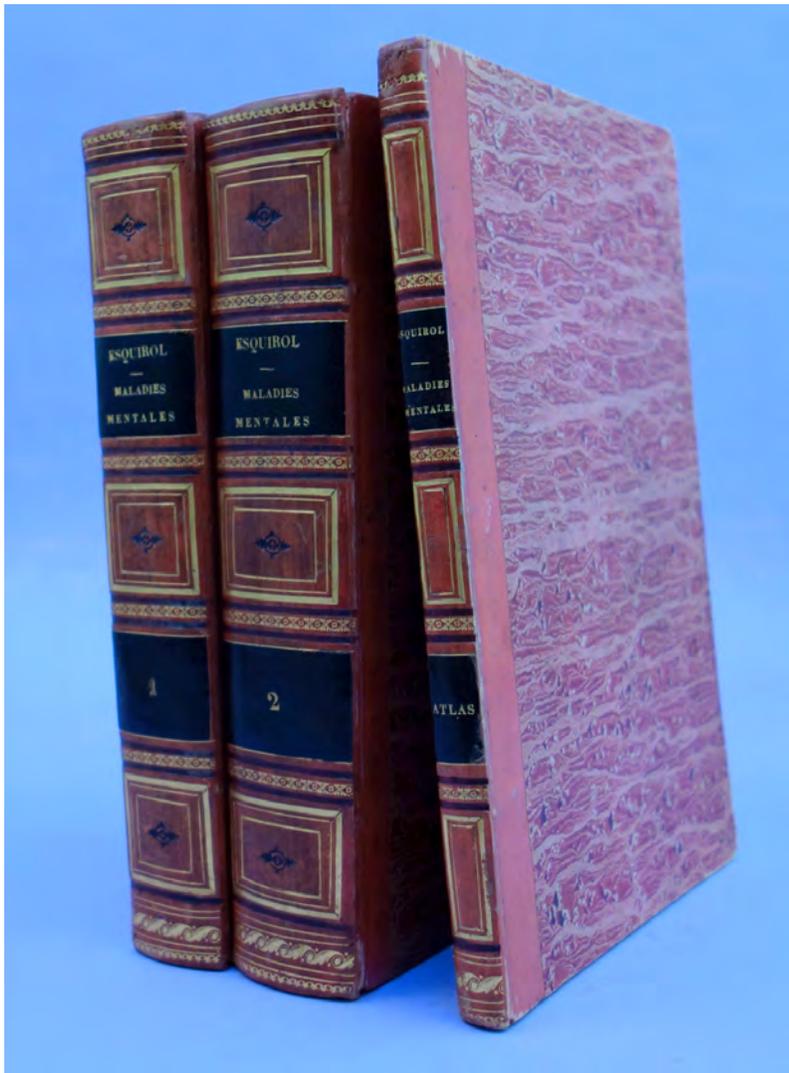
Einstein was one of the youngest participants in the first Solvay Conference (1911), regarded as one of the major events in the history of modern physics. Einstein delivered the conference's final paper, on the quantum theory of specific heats; his paper "critically discussed all the problems of quantum theory as they were known to exist at a time when the threats and promises of the hydrogen atom were yet to be revealed" (Pais, *Subtle is the Lord*, p. 201). By the end of the conference the other participants recognized Einstein as the new leader in their profession. Marie Curie, one of the participants in the 1911 conference, praised Einstein's clarity of mind, the vastness of his documentation and the profundity of his knowledge; another participant, Henri Poincaré, wrote that Einstein was "one of the most original thinkers I have ever met . . . What one has to admire in him above all is the facility with which he adapts himself to new concepts and knows how to draw from them every possible conclusion" (quoted in Mehra, *The Solvay Conferences on Physics*, p. xxii [n]).

Along with Einstein, participants in the first Solvay Conference numbered nearly two dozen of the world's leading physicists, including Max Planck, Ernest Rutherford, H. A. Lorentz and Marie Curie. Dedicated to quantum and radiation theory, the conference “reviewed the ideas of quanta and their applications since 1900, and the publication of the reports and discussions were vital in propagating these ideas to a larger scientific public, especially outside Germany. Thus the investigation of quantum phenomena became a major occupation of physicists and physical chemists in Europe and America during the following decades” (*Twentieth Century Physics*, I, p. 146). The conference “set the style for a new type of scientific meetings, in which a select group of the most well informed experts in a given field would meet to discuss the problems at its frontiers, and would seek to define the steps for their solution” (Mehra, *Solvay Conferences*, p. xv). Subsequent Solvay Conferences, devoted to outstanding preeminent problems in physics and chemistry, have been held every three years except during wartime.

Eleven papers were delivered at the first Solvay Conference, nine of which are represented in the collection we are offering here; see the listing below. The remaining two papers given at the conference—Kamerlingh Onnes's exceedingly brief report on electrical resistance, and Langevin's discussion of the kinetic theory of magnetism and the magnetons—may never have been issued in mimeograph form. The conference papers were reproduced from typescripts provided by the participants; they may therefore be regarded as rare preprints of the papers published, with revisions, in the conference proceedings edited by P. Langevin and M. de Broglie (*La théorie du rayonnement et les quanta*, 1912). These papers, especially Einstein's, constitute an important bibliographic survival. Einstein's paper in this form is absent from both the Boni-Russ-Lawrence *Bibliographical Checklist and Index to the Published Writings of Albert Einstein*, which cites only the French version published in the conference proceedings, and Weil's *Albert Einstein: A Bibliography of his Scientific Papers 1901-1954*, which cites the French version and a 1914 German printing. 42589

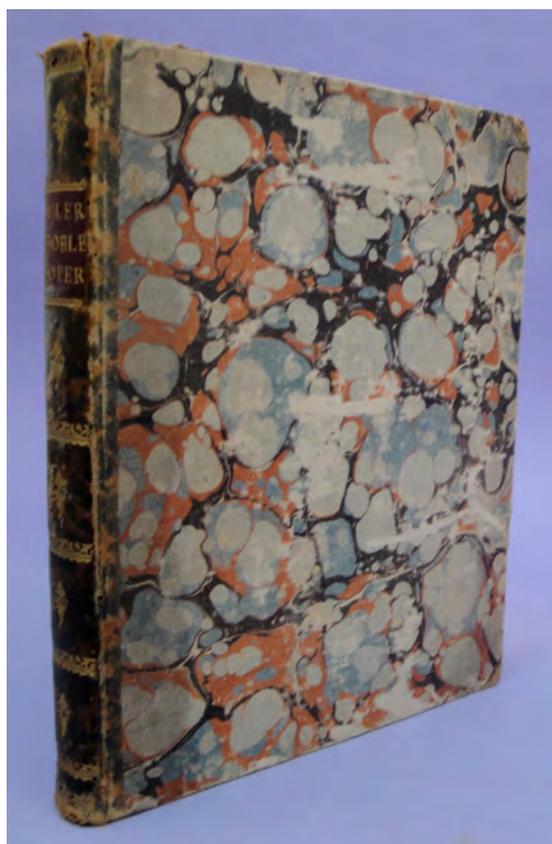
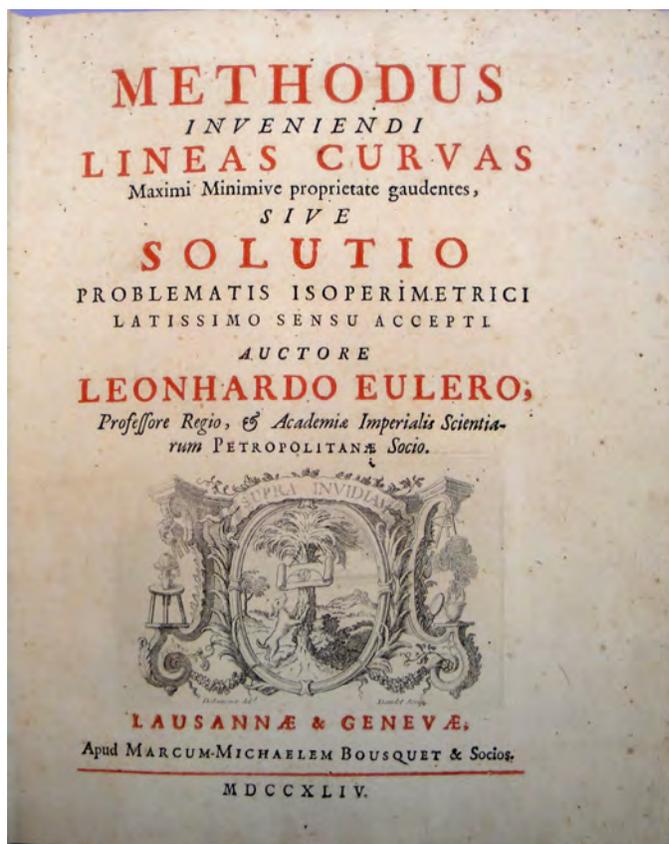
Papers contained in this collection:

1. **Perrin, Jean.** Les preuves de la réalité moléculaire. 98ff., including charts. In French. No title leaf present.
2. **Lorentz, Hendrik A.** Sur l'application au rayonnement du théorème de l'équipartition de l'énergie. [1, title], 37ff. In French.
3. **Jeans, James H.** La théorie cinétique de la chaleur spécifique, d'après Clausius, Maxwell et Boltzmann. [1, title], 25ff. In English. Some equations completed in manuscript, possibly by Jeans.
4. **Nernst, Walther.** Anwendung der Quantentheorie auf eine Reihe physikalisch-chemischer Probleme. [1, title], 31ff. In German.
5. **Knudsen, Martin.** Die kinetische Theorie der ideale Gase und die Versuchsergebnisse. [1], 13ff. In German.
6. **Rutherford, Lord.** Letter to Prof. Nernst. 2ff. In English. Pencil notation, “A.E., Prag, November 2011”; we cannot verify whether this is in Einstein's hand.
7. **Planck, Max.** Die Gesetze der Wärmestrahlung und die Hypothese der elementare Wirkungsquanten. [1, title], 31ff. In German. Some equations completed in manuscript, possibly by Planck.
8. **Einstein, Albert.** Zum gegenwärtigen Stande des Problems der spezifischen Wärme. [1, title], 37ff. In German.
9. **Sommerfeld, Arnold.** Die Bedeutung des Wirkungsquantums für unperiodische Molekularprozesse in der Physik. [1, title], 69ff. plus 1 sheet figures. In German.



**17. Esquirol, Jean Étienne Dominique** (1772-1840). *Des maladies mentales considérées sous les rapports médical, hygiénique et médico-légal*. 2 vols. plus atlas, 8vo. xviii, 678; [4], 864pp. (text). Atlas has 2 preliminary leaves plus 27 engraved plates (1 folding), all but the last by Ambroise Tardieu (1788-1841). Paris: J.-B. Baillière, 1838. 216 x 131 mm. Handsomely bound in quarter rose calf, marbled boards c. 1838, gilt spines, slightly rubbed. Occasional minor foxing, small tear in folding plate, but a fine set. 19th cent. French bookseller's ticket in all volumes. \$4500

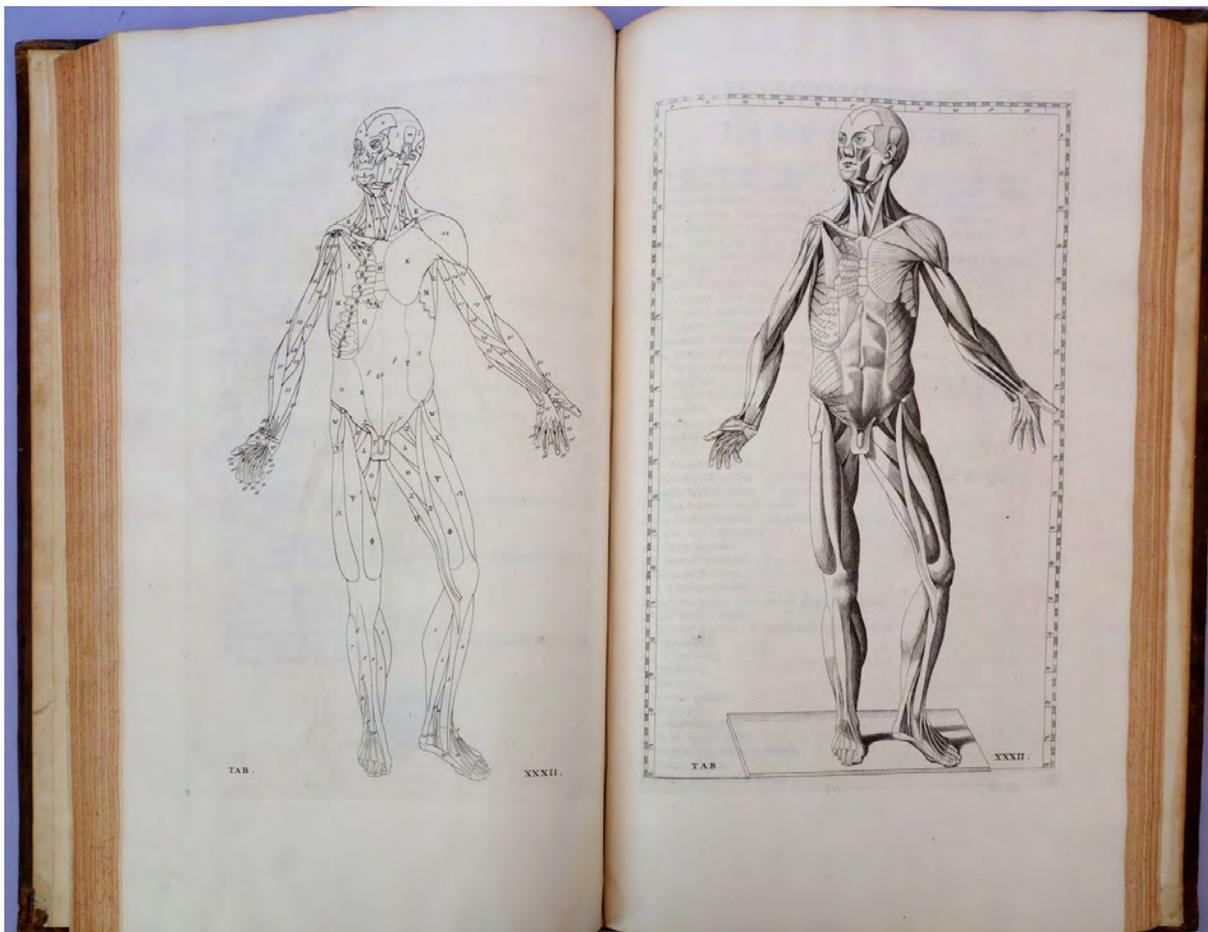
**First Edition.** The first modern textbook of psychiatry. Esquirol, together with his teacher Pinel, is regarded as the founder of the French school of psychiatry. He was among the first to apply statistical methods to clinical studies of insanity, and his *Maladies mentales*, based on 20 years of observation and treatment of mental illness, remained a basic psychiatric text for over half a century. Esquirol was the first to distinguish between hallucinations and illusions, and between dementia and idiocy; he also provided the classic description of paresis, coined the term “monomania” and distinguished certain depressive states from other psychoses. The atlas to his work constitutes the first important iconography of the insane. Garrison-Morton 4798. Norman 724. 34533



**18. Euler, Leonhard** (1707-1783). *Methodus inveniendi lineas curvas maximi minimive proprietate gaudentes, sive solutio problematis isoperimetrici latissimo sensu accepti*. 4to. [2], 322, [2]pp. 5 folding engraved plates. Lausanne & Geneva: Marc-Michel Bousquet & Compagnie, 1744. 248 x 199 mm. Half morocco, gilt spine, marbled boards c. 1744, rubbed, some wear at extremities and corners, bookplate removed from inside front cover. Minor foxing and toning, but very good. From the library of Pietro Riccardi (1828-98), historian and bibliographer of mathematics, with his bookplate on the front endpaper. \$12,500

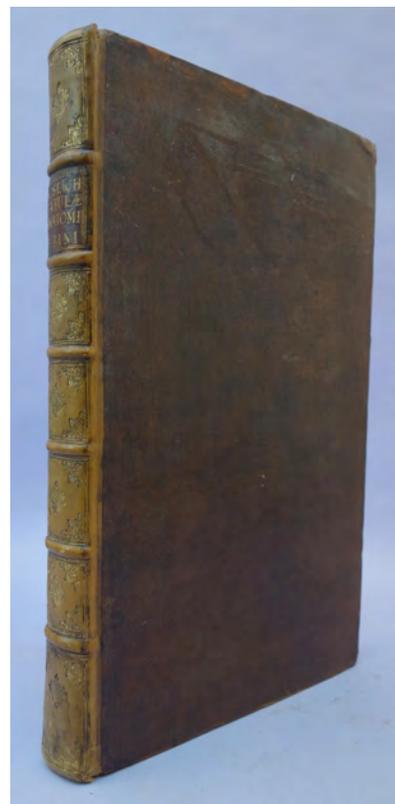
**First Edition.** With the publication of this work, the calculus of variations came into being as a new branch of mathematics. Euler was the first to formulate the principal problems of the calculus of variations and to create general methods for their solution. His work in the *Methodus* was cumbersome by modern standards (the calculus of variations as we know it is the work of Lagrange), but it yielded simple and elegant formulae applicable to a large variety of problems. He introduced (using different terminology) the concepts of function and variation, distinguished between problems of absolute and relative extrema, and deduced the differential equation that now bears his name. This copy is from the library of Pietro Riccardi, author of *Biblioteca matematica italiana* (1870-93). Horblit, *One Hundred Books Famous in Science*, 28. Dibner, *Heralds of Science*, III. Norman 731. 42452

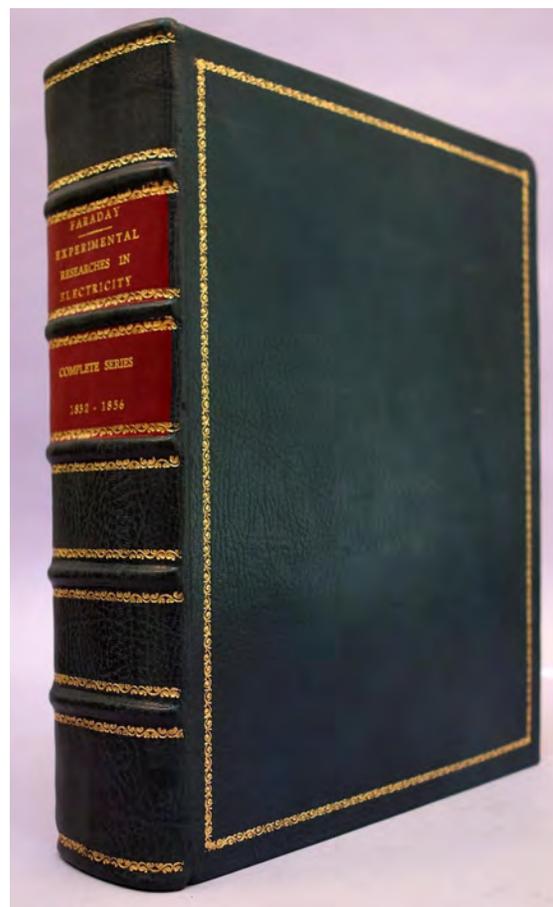
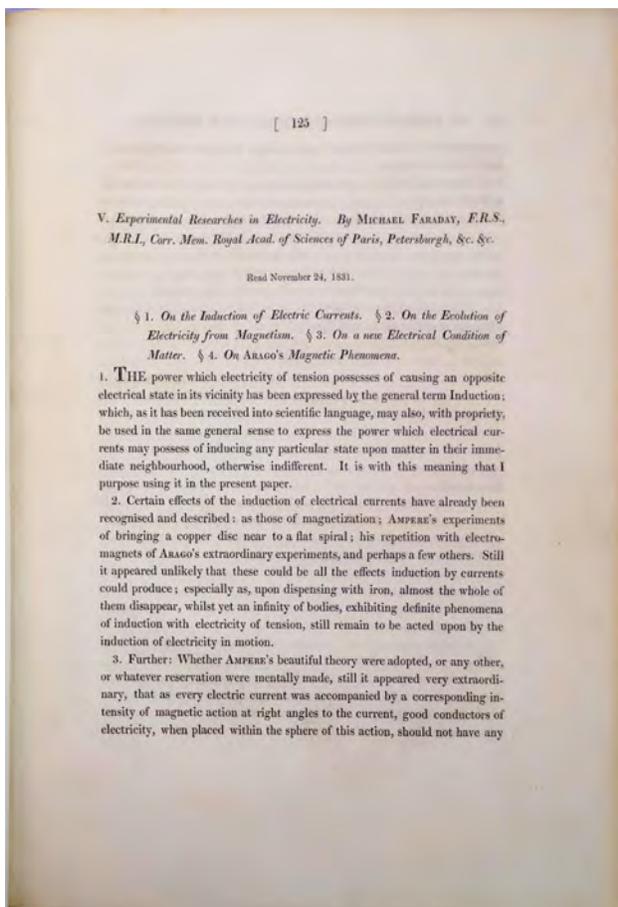




**19. Eustachi, Bartolomeo** (c. 1510–74). **Bernardi Siegfried Albini** [1697–1770] . . . explicatio tabularum anatomicarum Bartholomaei Eustachii . . . Folio. [8], 28, 277, [3]pp. 47 copperplates with outlines (7 with 2 outlines each), engraved by **Jan Wandelaar** after the originals. Leiden: Langerak & Verbeek, 1744. 399 × 248 mm. 18<sup>th</sup> century calf, rebacked. Occasional minor foxing, but a fine copy, with clean plates. Engraved armorial bookplate of Earl Fitzwilliam (probably William Wentworth-Fitzwilliam, 4th Earl Fitzwilliam [1748–1833]). \$3500

**First Albinus Edition.** The beautiful edition of Eustachius's anatomical plates edited by Albinus, with plates engraved after the originals by his artist Wandelaar. Because Albinus extensively annotated his edition and had the newly engraved copies of the plates accompanied by separate outline plates of equal size with explanatory letters, his edition "is the most desirable for purposes of study" (O'Malley in *Dictionary of Scientific Biography*). If Eustachius's plates had been published in Eustachius's lifetime, when he had them engraved, he would have ranked with Vesalius as the founder of modern anatomy. See Garrison-Morton 391. Garrison, *History of Medicine*, p. 336. Choulant/Frank, *History and Bibliography of Anatomical Illustration*, 202. 41681





## *Fundamentals of Electricity*

**20. Faraday, Michael** (1791-1867). *Experimental researches in electricity*. 30 series of papers, plus supplement to the 11th series, extracted from *Philosophical Transactions*. 4to. 18 plates. [London, 1832-56]. 285 x 224 mm. Extracts bound in 1 vol., modern morocco gilt. Fine set. \$9500

**First Editions.** A fine complete set of Faraday's epochal papers on electricity, as they originally appeared in the *Philosophical Transactions* over 24 years. It was through his "Experimental researches" that Faraday announced his major findings relating to electricity and magnetism, the most important of which was his discovery of the means of generating electricity from electro-magnetic induction—the principle behind the dynamo and the transformer, and the foundation of the modern use of electricity. The "Experimental researches" also contain Faraday's demonstration of the identity of all forms of electricity, his discovery of the laws of electrolysis, his announcement of the fundamental relations between light and magnetism, his first general theory of electricity as a function of interparticulate strain, and his last series of researches on magnetism, containing the germ of the modern field theory, in which Faraday rejected his earlier model of the transmission of magnetic energy in favor of one locating the manifestation of magnetic energy in the field surrounding the magnet. Our set includes Faraday's 30th and final series of the "Experimental researches," published in 1856 and not included in the book-form edition (1839-55) or in the collected papers, like ours, cited as no. 64 in Dibner's *Heralds of Science*; this 30th series contains Faraday's papers on "Constancy of differential magnecrystalline force in different media" (no. 38), "Action of heat on magnecrystals" (no. 39), and "Effect of heat upon the absolute magnetic force of bodies" (no. 40). Jeffries, *Michael Faraday, A list of his lectures and published writings* (1960) 187, 191, 207, 215, 218, 220-21, 227, 234, 241, 273, 277, 279, 285, 299, 313, 341, 371, 381, 384, 394, 398, 427. See *Printing and the Mind of Man* 308 and Horblit 29 (both citing the book-form edition). 41454

London.  
 53 Upper Harley St.  
 26<sup>th</sup> Jan<sup>y</sup> 1842  
 (Wednesday).  
 Dear Sir,  
 I have to apologize for  
 not sooner acknowledging  
 your notes, — & thanking you  
 for your acceptable present  
 of your engraving of *Cidaris*;  
 — which is very interesting —  
 — and I have no doubt a  
 faithful portrait. Mr. Sowerby  
 only has the power of  
 very faithful representation  
 on.

One of my reasons for

**21. Fitton, William Henry** (1780–1861). Autograph letter signed to John Jardine. 4pp. London, 53 Upper Harley Street, 26 January 1842. 183 x 116 mm. A few faint spots but fine otherwise. \$500

From the geologist William Henry Fitton, best known for his contributions to stratigraphy as embodied in his classic “On some of the strata between the chalk and the Oxford oolite (e.g., corallian) in the south-east of England” (*Trans. Geol. Soc.*, 1836). Fitton served as president of the Geological Society from 1827 to 1829, and contributed numerous essays and reviews on geological science to the *Edinburgh Review*. In the present letter Fitton discussed Jardine’s present to him of an engraving of *Cidaris* (sea urchins) and mentioned a possible meeting with **Alexander von Humboldt** (1769–1859), the famous German naturalist and explorer, who was then in England:

I have to apologize for not sooner acknowledging your notes, & thanking you for your acceptable present of your engraving of *Cidaris*, which is very interesting—and I have no doubt a faithful portrait: Mr. Sowerby having the power of very faithful representation.

One of my reasons for delaying a reply to your second note (of the 20<sup>th</sup>) was the possibility that I might have seen the Baron von Humboldt, whom it is not unlikely that I may meet during his stay in England. But as I am not sure of this, I must answer your enquiry by saying that I fear that the K. of Prussia’s time & hands are too much occupied with public affairs, to admit of his studying natural history;—nor should I know how to present an impression of your plate to him. But if you wish to put half a dozen copies, at the [...] of Baron von Humboldt, or of Baron von Buch (who also resides

~~at Berlin~~ I can have  
them conveyed for you  
to the Prussian minister  
(Mr. Bunsen's) hands,  
at Carlton Terrace

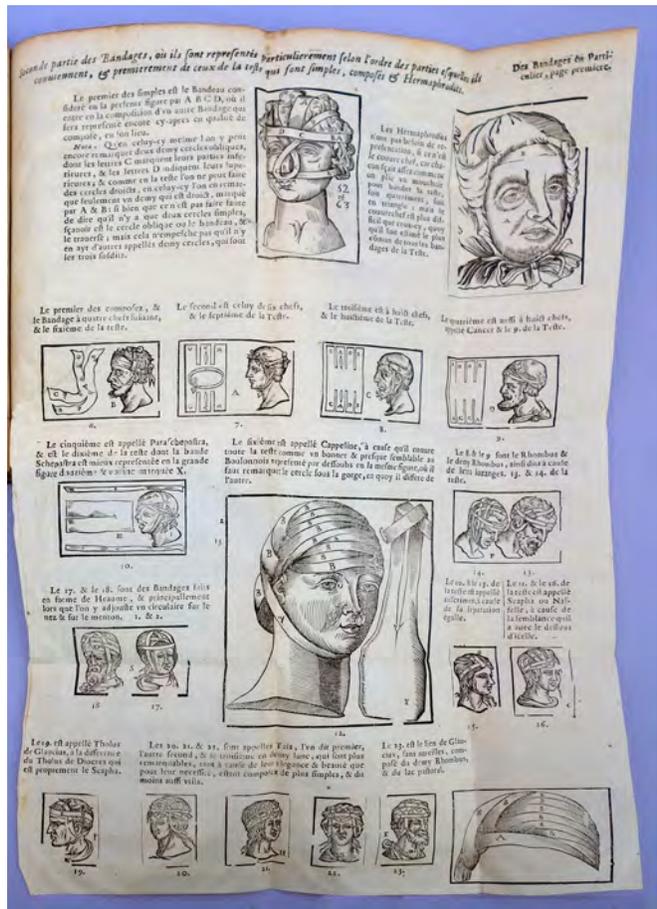
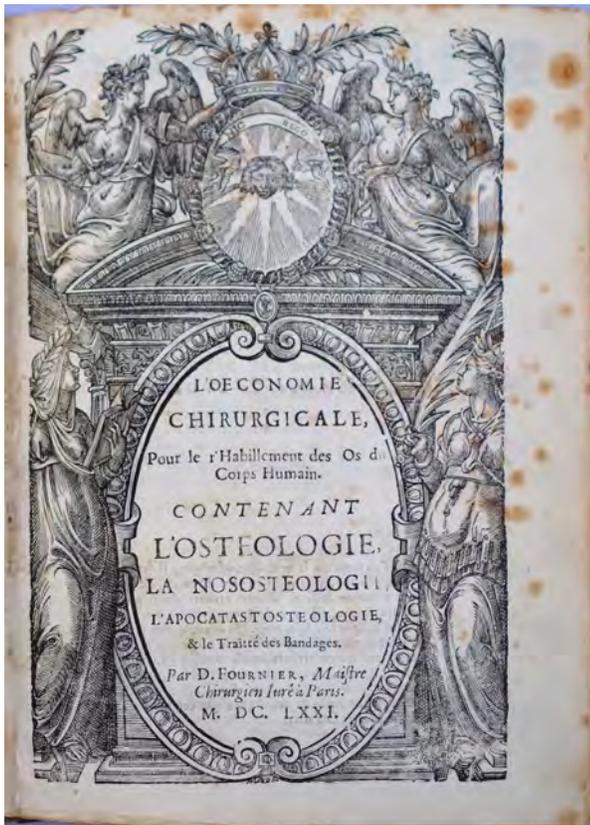
Dear Sir  
your faithful serv<sup>t</sup>

J. A. F. Mon

John Jardine Esq. Junr

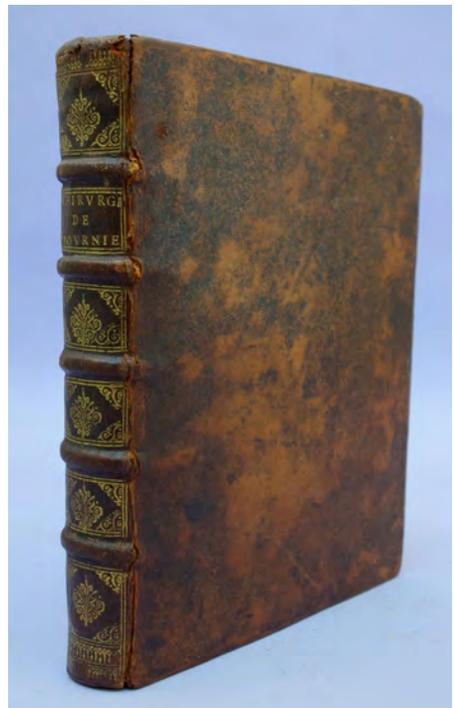
at Berlin) & [...] direct them to the former at the Prussian Embassy—Carlton Terrace, I can have no doubt that Mr. von Humboldt will receive them & take them to Berlin. Or if you wish have your copies left at the Geological Society, & the packet addressed, outside, I can have them conveyed for you to the Prussian minister's (M. Bunsen's) hands at Carlton Terrace.

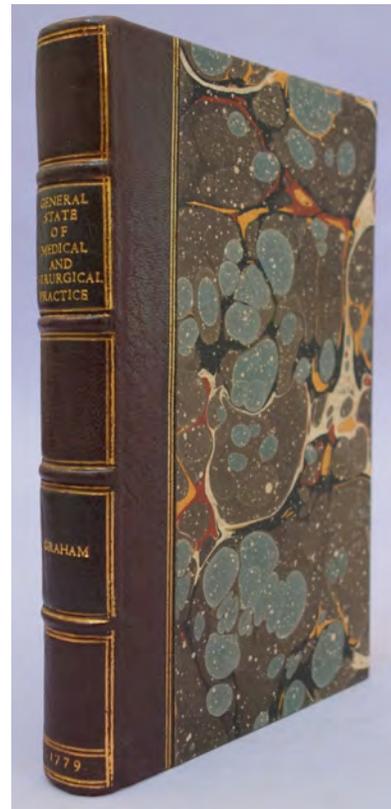
Humboldt was a close friend of Prussia's King Frederick Wilhelm IV, whom he served as an advisor and diplomat; it is clear from Fitton's letter that Jardine was attempting to send a copy of his engraving to the King via Humboldt. "Mr. Sowerby" most likely refers to British naturalist, illustrator and conchologist George Brettingham Sowerby (1788-1854), author of several illustrated works on molluscs and a co-author of *The Mineral Conchology of Great Britain*; the reference could also be to his brother, James de Carle Sowerby (1787-1871), who was also a scientific illustrator. The second paragraph of Fitton's letter mentions German geologist and paleontologist Christian Leopold von Buch (1774-1853), one of the foremost contributors to geology in the first half of the 19<sup>th</sup> century, best known for scientifically defining the Jurassic system. We have not been able to identify John Jardine, Fitton's correspondent; he may have been a relative of Scottish naturalist William Jardine (1800-1874), editor of *The Naturalist's Library* (1833-43). 42651



**22. Fournier, Denis** (d. 1683). *L'Oeconomie chirurgicale*, pour le r'habillement des os du corps humain. Contenant l'ostéologie . . . [20], 344pp., pp. 49–64 omitted as usual; cancel slips pasted to leaves êt<sup>v</sup> and G2<sup>v</sup>. Woodcut title, engraved arms & portrait, woodcut text illustrations. Paris: Clouzier, de Ninville & Cramoisy, 1671. **[Bound with:]** *Explication des bandages . . . et des appareils . . .* [6] 16 [16] 91 [1]pp. Woodcut title [dated 1671], 10 fold. woodcut plates, woodcut text illus. Paris: Iosse, 1668. Together 2 vols. in 1, 4to. 224 x 165 mm. Mottled calf c. 1671, gilt spine, t.e.g., front hinge weak. Lightly browned throughout, occasional foxing. Very good. 19th cent. armorial bookplate of the Château du Plessix. \$3000

**First Edition.** Fournier specialized in the treatment of spinal deformity with traction machines, and in the use of prostheses. He also invented or perfected a large number of surgical instruments. A substantial section of his *Oeconomie chirurgicale* is devoted to the treatment of fractures and dislocations. Many, if not most of Fournier's illustrations were derived from Paré. *Very rare*—the OCLC database, with the most complete listing of copies, cites only those at the NLM, Wangenstein Library, Rush University (Chicago) and the Bibliothèque Médicale du Val de Grâce, Paris. Le Vay, *Orthopedics*, p. 229. 22426.

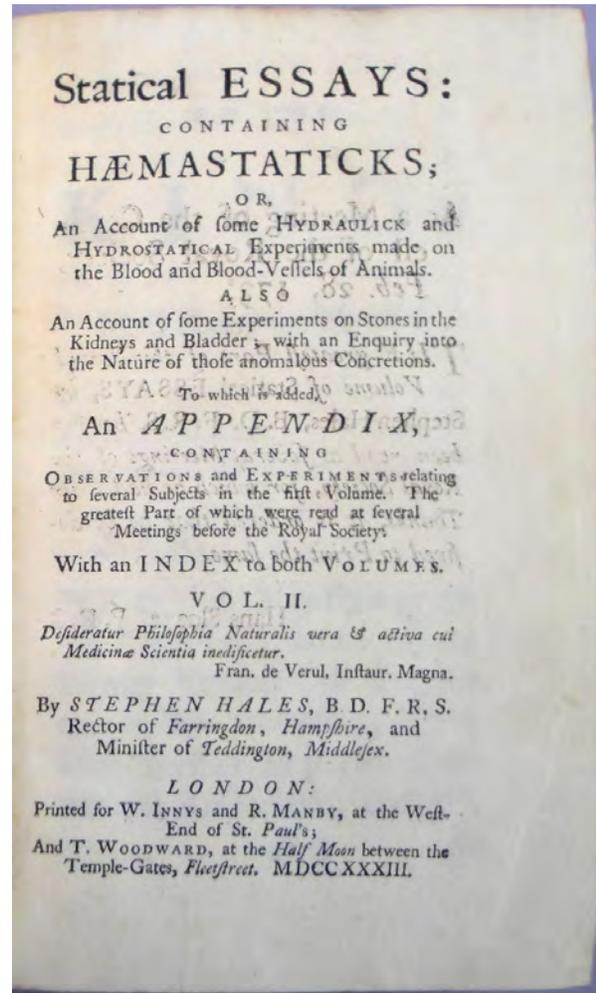
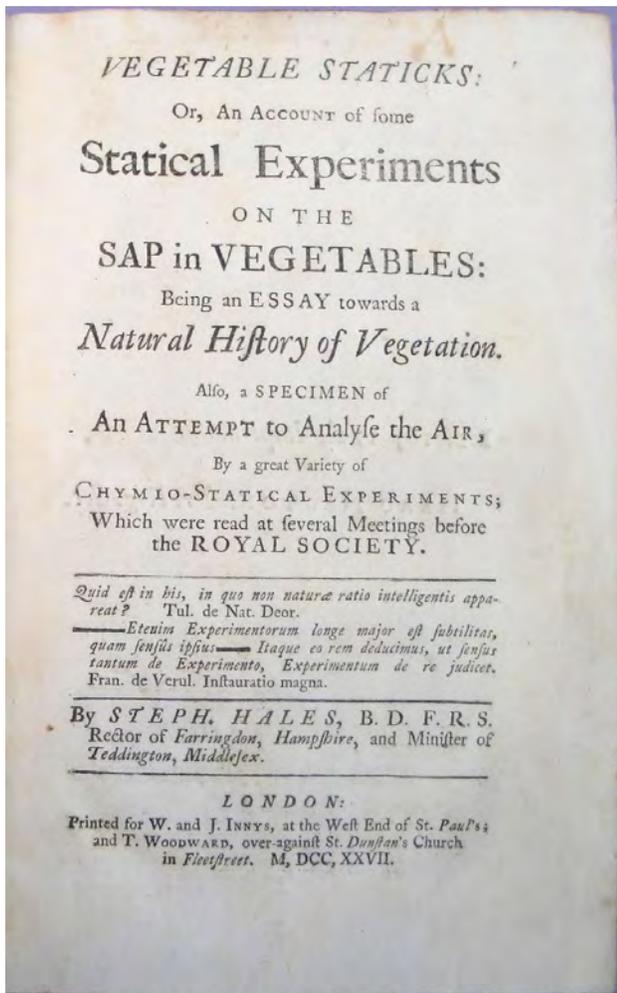




23. **Graham, James** (1745–94). *The general state of medical and chirurgical practice, exhibited.* . . . 12mo. 248pp. London: Printed and sold by Mr. Almon . . . , 1779. 167 x 101 mm. Modern quarter morocco, marbled boards in period style. Minor browning & foxing, a few stains, library stamps and markings on title and a few other leaves. Very good copy. \$950

“Sixth edition,” so styled. OCLC cites a fourth edition of 1778, and a 1776 pamphlet of 22 pages entitled *A Short Inquiry into the Present State of Medical Practice*, which may represent an earlier edition. OCLC also cites two other 1779 “sixth editions” with different paginations and imprint reading “Printed and sold by all the principal booksellers in Great Britain.” The present edition includes a section entitled “A sketch: Or, short description of Dr. Graham’s medical apparatus, &c., erected about the beginning of the year 1780. . .,” indicating that this edition may have been published later than its imprint date.

Graham, one of the most notorious British quacks, studied medicine at Edinburgh but never qualified as a physician. He spent some time in America during his twenties, including two years in Philadelphia where he learned of Franklin’s electrical experiments. He began touting electricity as a cure-all, particularly for sexual ailments, and upon his return to London in 1775 began to practice “electric medicine,” quickly attracting a rich and fashionable clientele. In 1779 Graham opened his celebrated “Temple of Health,” where clients willing to pay the very high two-guinea entrance fee “could wander through ornately furnished rooms, breathe in the perfumed air, listen to music or hear Graham delivering lectures on health, buy medicines, inspect the ‘medico-electrical apparatus,’ or watch scantily-clad young women pose among the statues” (Boese). One of these young women was Emma Lyon, destined to achieve a notoriety of her own as Emma Hamilton, wife of Sir William Hamilton and lover of the British naval hero Lord Horatio Nelson. The highlight of the Temple of Health was Graham’s electrified “Celestial Bed,” where for the enormous price of fifty pounds couples suffering from impotence or sterility could have their sexual and reproductive powers restored. “The bed was twelve feet long by nine wide and could be tilted so that it lay at various angles. The mattress was filled with ‘sweet new wheat or oat straw, mingled with balm, rose leaves, and lavender flowers,’ as well as hair from the tails of fine English stallions” (Boese). Boese, Alex. “Graham’s Celestial Bed.” *Museum of Hoaxes*. N.p., 2002. Web. Accessed 15 Aug. 2012. Gartrell 213. Wellcome III, 144. Darnton, *Mesmerism*, pp. 15, 36. 6012



- 24. 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. 193 x 121 mm. Paneled calf c. 1727, gilt spine, label renewed, light wear. (2) *Statical essays*: containing haemastaticks. . . . 8vo. xxii, [26], 361, [23]pp. London: W. Innys. . . , 1733. 197 x 122 mm. Mottled calf, gilt-ruled spine c. 1733, rebaked, label renewed. Together 2 volumes. Very good. Bookplate of distinguished British pathologist Alastair Robb-Smith (1908–2000) in *Statical Essays*. \$9500

**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.

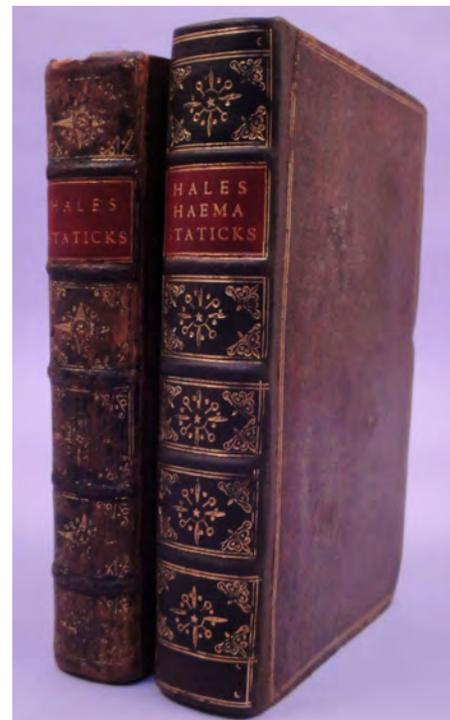
*Vegetable Staticks* is the first volume of Hales’s *Statical Essays*, the second volume of which (*Haemastaticks*) appeared in 1733. *Haemastaticks*, which was published to accompany the second edition of Hales’ *Vegetable*

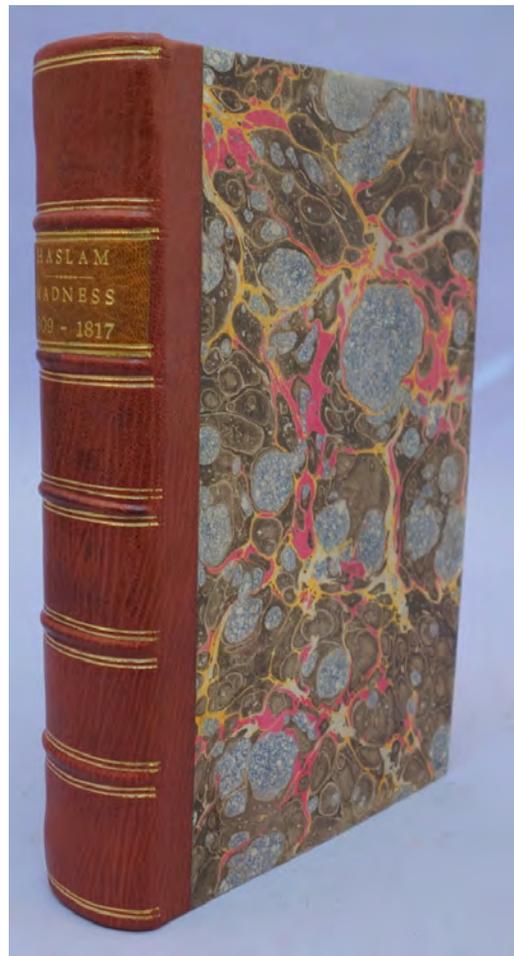
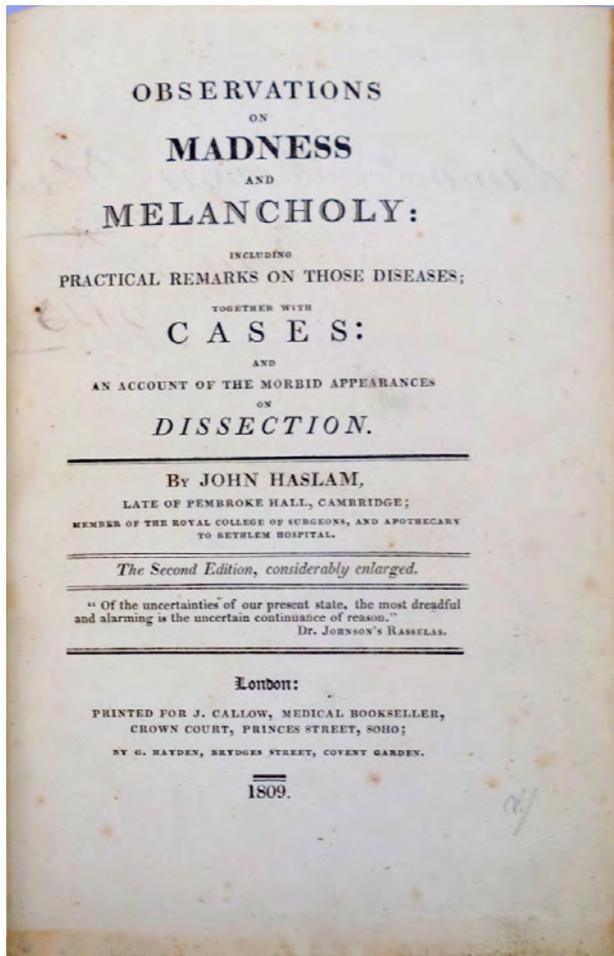


*Staticks*, records “Hales’ invention of the manometer, with which he was the first to measure blood-pressure. His work is the greatest single contribution to our knowledge of the vascular system after Harvey, and led to the development of the blood-pressure measuring instruments now in universal use” (Garrison-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*).

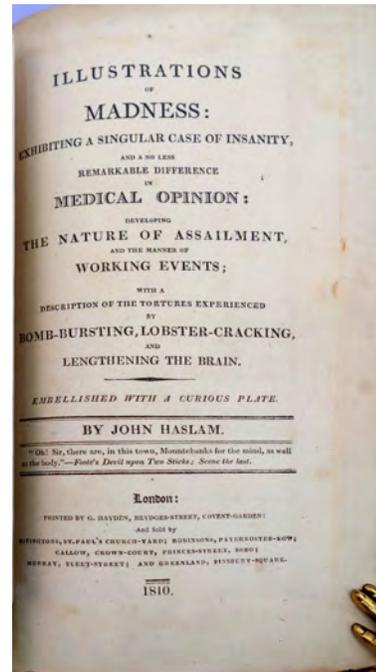
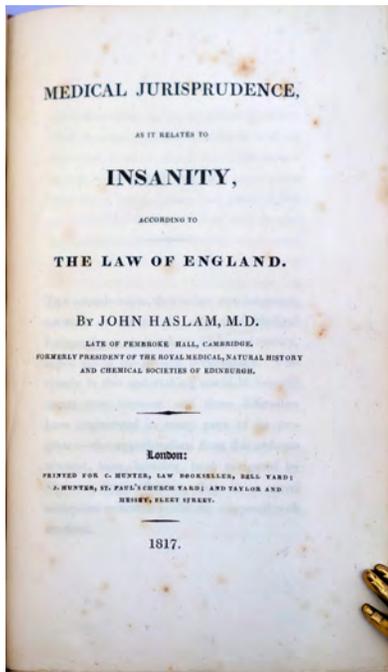
The title *Statical Essays* does not appear in the first edition of *Vegetable Staticks*; it was first applied to the whole work on the publication of the second edition (1731). Horblit 45a (*Vegetable Staticks*); 45b (*Haemastaticks*). *Printing and the Mind of Man* 189. Dibner, *Heralds of Science*, 26. Henry 777. 42469





To — Bowling Esqr  
with the Author's respects —

**25. Haslam, John** (1764–1844). (1) *Observations on madness and melancholy: Including practical remarks on those diseases. . . .* 8vo. [8], 345, [7, incl. pubs. adverts.]pp. Woodcut text illustration. London: J. Callow, 1809. (2) *Medical jurisprudence, as it relates to insanity, according to the law of England.* 8vo. [4], vi, 150 [i.e., 105], [3, including pubs. adverts.]pp. London: C. Hunter . . . , 1817. **Haslam's presentation inscription** on blank leaf preceding title, reading "To — Bowling, Esqr with the Author's respects" (the dash is included in the inscription). (3) *Illustrations of madness: Exhibiting a singular case of insanity . . .* 8vo. xi, 81, [3, incl. pubs. adverts.]pp. Folding engraved plate, backed on paper and mounted to verso of half-title. London: G. Hayden for Rivingtons . . . , 1810. Together 3 works in 1 volume. 243 x 142 mm. (fore-edges and lower edges untrimmed). Modern quarter morocco, marbled boards in period style. Faint scattered foxing, small acid-transfer stain on inscribed leaf of no. (2), but very good. \$3750

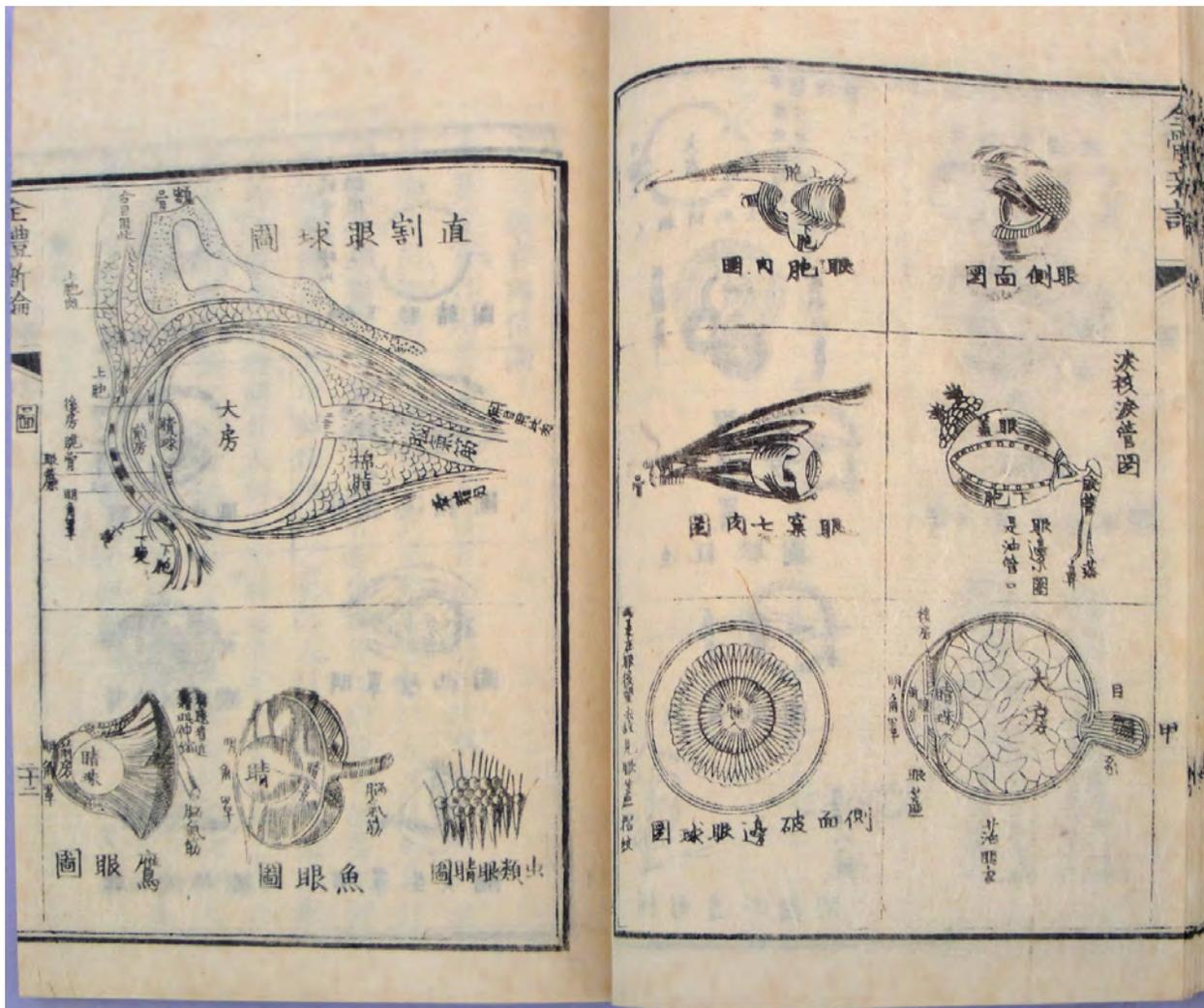


(1) Second and **Best Edition**, greatly revised and expanded from the first edition of 1798 (see Garrison-Morton 4794, citing the 1798 edition as containing the first description of general paralysis of the insane). Haslam regarded the first edition, published under the title *Observations on Insanity*, as a “trifle,” while the second edition, “a corrected copy of the former, with considerable additions,” he rated the definitive version and his *magnum opus*; it remained the standard work on the subject for many years.

From 1795 to 1816 Haslam served as chief medical officer of Bethlem Hospital (Bedlam), England’s oldest, largest and best-known asylum for the insane. Because of his position and his unrivalled opportunity for studying the mentally ill, Haslam’s writings on insanity were accepted as authoritative and widely quoted. Haslam pursued “more carefully than any of his predecessors the investigation of the relationship of mental diseases to certain forms of paralysis, gave us what appears to be the first clinical description of what is known as paresis, or general paralysis. . . . The great value of Haslam’s contribution lies in the fact that his clinical description was made not as a result of preconceived theory or even of a working hypothesis, but through the sheer effort of keen observation of minute, seemingly unrelated details, through dogged tabulation and orderly arrangements of these details until finally a coherent clinical picture of a disease came to the fore” (Zilboorg & Henry, p. 302). Haslam’s *Observations* contains his records of autopsies performed on insane patients, including what may be the first description of syphilis in the brain. It also includes an illustration of Haslam’s infamous “key” for forcing open patients’ mouths to receive food, medication, etc.; the use of this key greatly horrified Charles Dickens. Hunter & Macalpine, pp. 632–36. Norman 1015.

(2) **First Edition**. “John Haslam’s *Medical Jurisprudence as it Relates to Insanity* (1817) was the first major work specifically calling for the use of medical experts in diagnosing and treating the insane on the basis of their expertise in cases involving insanity” (Simon & Gold, eds., *The American Psychiatric Publishing Textbooks of Forensic Psychiatry* [2010], p. 21). Haslam argued that medical specialists were uniquely qualified to diagnose cases of partial or intermittent insanity, and to identify people feigning madness in order to escape responsibility.

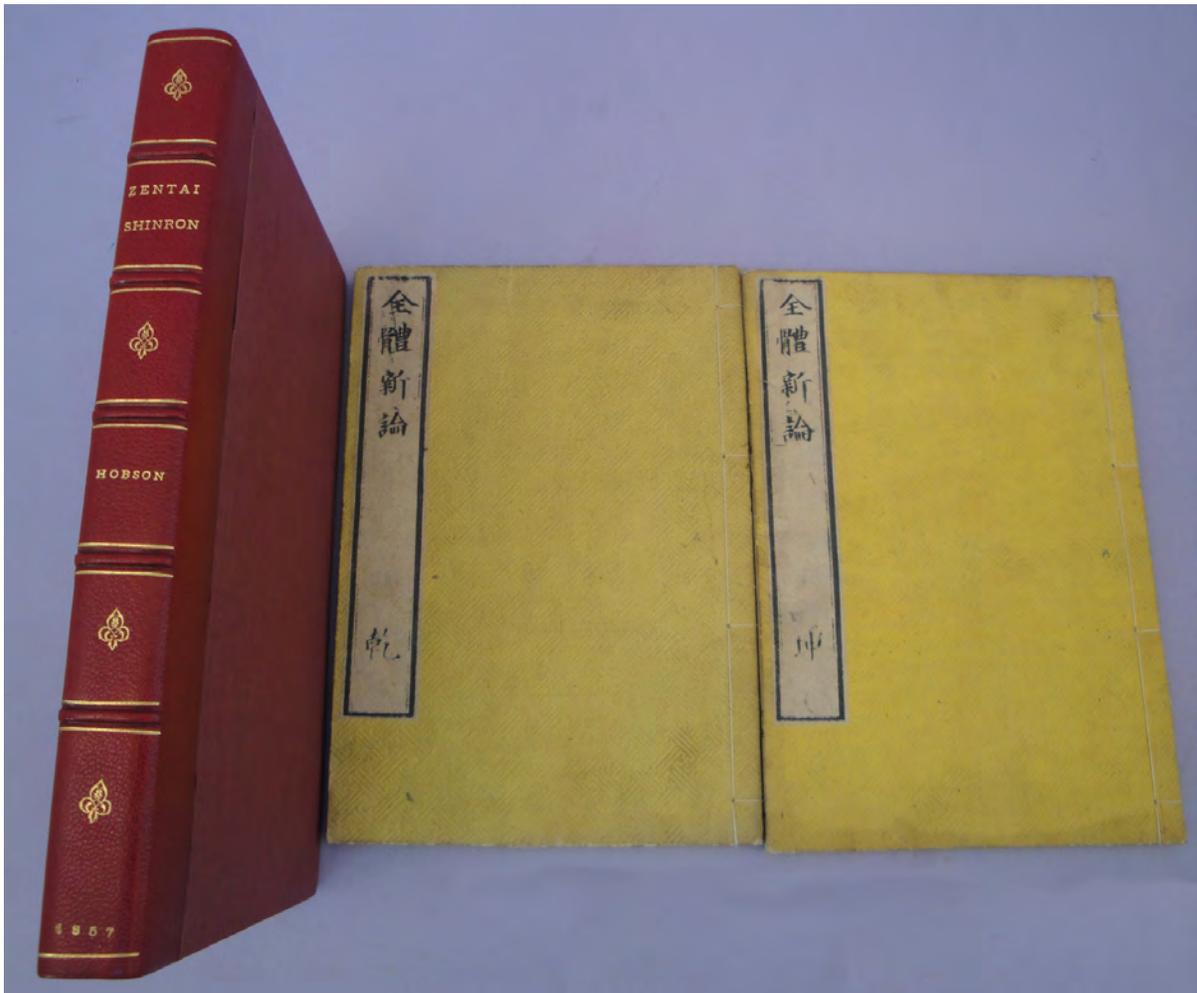
(3) **First Edition**. The first medical book devoted to a single case of insanity, and the first illustration of an “influencing machine,” a common delusion of paranoiacs. The patient, James Tilly Matthews, called his machine the “Air Loom,” an infernal device operated by a gang of seven men and women skilled in pneumatic chemistry and electricity, and able to affect Matthews’s body and mind via the air and the magnetic fluid. Among the tortures inflicted by this imaginary machine were “death-squeezing” or “lobster-cracking,” involving the sudden exertion of external pressure on the hapless victim, and the insinuation of unwanted thoughts into the victim’s brain via the magnetic fluid. Garrison-Morton 4924.1. Hunter & Macalpine, pp. 632–639. Norman 1016. 41531



**26. Hobson, Benjamin** (1816-73). Zentai shinron [New essay on the entire body]. In Chinese with Japanese reading symbols. 2 vols. Vol. I: 49 folded leaves; text illustrations. Vol. II: 45 folded leaves; text illustrations. [Japan:] Ochi zohan, 1857. 248 x 174 mm. Yellow embossed paper wrappers, printed labels (slightly soiled). In a handsome quarter morocco slipcase. Very good. \$1250

**First Japanese Edition(?).** OCLC cites two Japanese editions printed in 1857: A two-volume set like this one, with illustrations in the text; and a three-volume set that includes an atlas. The Library of Congress is the only holder of the two-volume edition cited in OCLC.

Benjamin Hobson was a British missionary doctor who spent two decades (1839-59) in China. He founded hospitals in Hong Kong, Guangdong and Shanghai; trained local physicians in Western medical techniques; and wrote four medical textbooks in Chinese based on European sources, of which the first was the *New Essay on the Entire Body* (1851), covering human anatomy and physiology, and comparative anatomy. In the introduction Hobson stated that “I have collected Western medical texts, compared and checked them, cut out the superfluous materials, seized the essentials, written them down, and completed this book” (quoted in Masuda, p. 4). “[Hobson’s] works were highly regarded, and, in the words of one observer, served to ‘transform China’s native doctors into an intelligent, progressive, and scientific medical profession by furnishing them with a scientific background’ . . . His texts were highly regarded by contemporary medical missionaries and they had a far-reaching impact on the introduction of Western medicine, not only in China but also in Japan” (Wong, p. 91).



The *New Essay* begins with a discussion of the bones and a comparison of the skeleton structure of various animals; proceeds to the ligaments and muscles; then to the brain, spinal cord and nervous system. After a short account of optics and acoustics, the sense organs and their various adaptations are discussed. The work also covers the viscera, circulatory system (including pulmonary circulation), and the genito-urinary system. The work's illustrations were derived from the engravings in William Cheselden's *Anatomical Tables* (1730) and *Osteographia* (1733).

The Japanese versions of Hobson's works appeared during a critical time in Japanese history, the *bakumatsu* period (1853-67), when Japan ended its isolationist foreign policy and began opening its ports to Western trade. During this period, "Chinese translations of Western medical texts rendered a great service to Japan. First and foremost, this refers the Chinese-language editions of works by Benjamin Hobson" (Masuda, p. 3). Wong, "Local voluntarism: The medical mission of the London Missionary Society in Hong Kong, 1842-1923," in Hardiman, ed., *Healing Bodies, Saving Souls: Medical Missions in Asia and Africa*, pp. 87-113. Wong and Wu, *History of Chinese Medicine*, p. 364, note 308. Masuda, *Japan and China: Mutual Representations in the Modern Era*, pp. 3-4. 39660



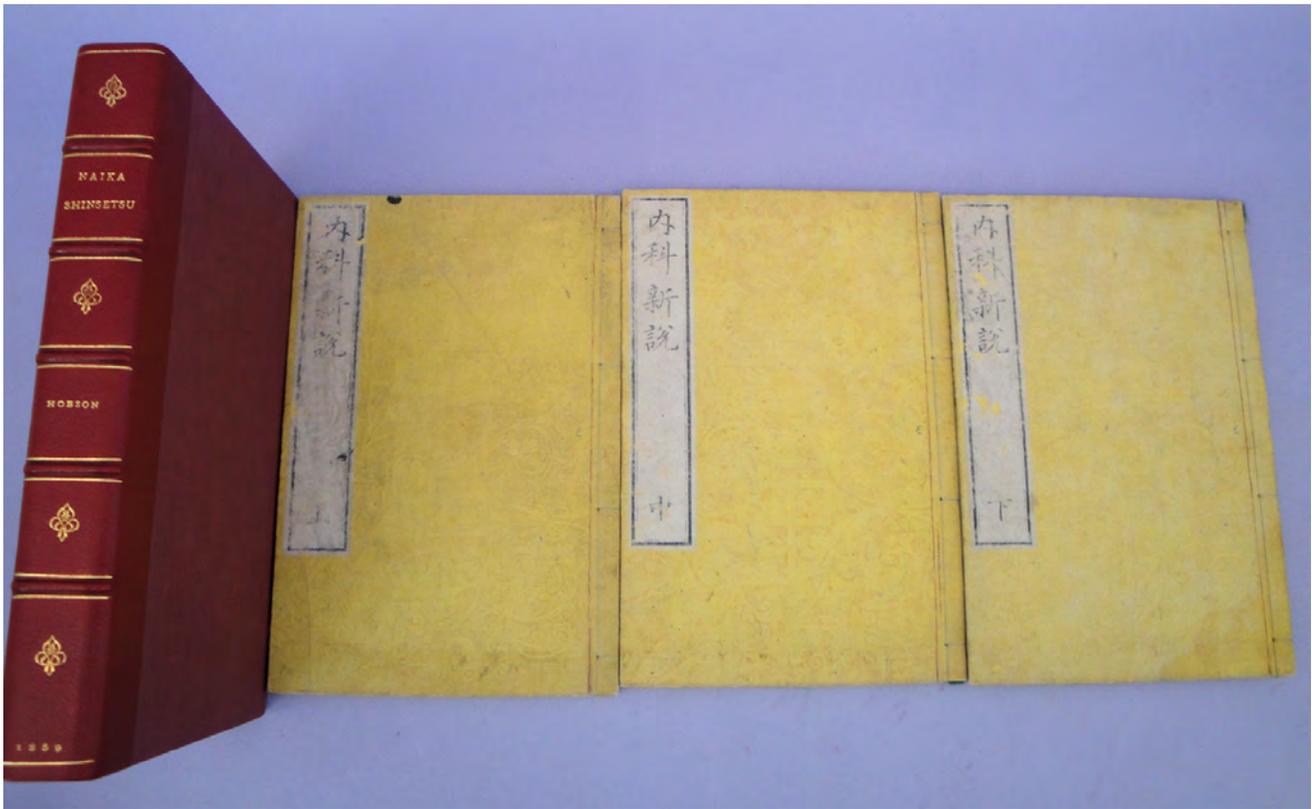
27. **Hobson, Benjamin** (1816–73). *Seiyi-ryakuron* [First lines of the practice of surgery in the west]. 4 vols. In Chinese with Japanese reading symbols. Tokyo:Yorozua Hyoshiro, 1858. Vol. I: 60 folded leaves plus 1 single leaf; text illustrations. Vol. II: 49 folded leaves; text illustrations. Vol. III: 62 folded leaves; text illustrations. Vol. IV: 22 folded leaves; text illustrations. 255 x 173 mm. Yellow embossed paper wrappers, printed labels (a little worn). Boxed. The last volume has a table of contents in English and Chinese. \$4500

**First Japanese Edition.** The second of Hobson's Chinese medical texts based on European sources was the *First Lines of the Practice of Surgery in the West* (Xiyi luelun, 1857); the work was published in Japan one year later. "This treatise, besides showing the benefit of surgical education, sets forth the entire subject of surgical practice . . . Perhaps this work may be regarded as the best of the [Hobson] series, as it is certainly the most adapted for direct utility" (Wong and Wu, p. 365, note 310). The work contains hundreds of illustrations, and includes a list of medical prescriptions. At the end of the last volume is a table of contents and list of drug names in English and Chinese. Wong and Wu, note 310. Wong, "Local voluntarism: The medical mission of the London Missionary Society in Hong Kong, 1842–1923," in Hardiman, ed., *Healing Bodies, Saving Souls: Medical Missions in Asia and Africa*, pp. 87–113. 42507



28. **Hobson, Benjamin** (1816-73). Fuei shinsetsu [Treatise on midwifery and diseases of children]. In Chinese with Japanese reading symbols. 2 vols. Vol. I: 46 folded leaves; text illustrations. Vol. II: 27 folded leaves. Kyoto: Tenkodo zohan, 1859. 254 x 178 mm. Yellow embossed paper wrappers, printed labels. Boxed. Very good. \$3500

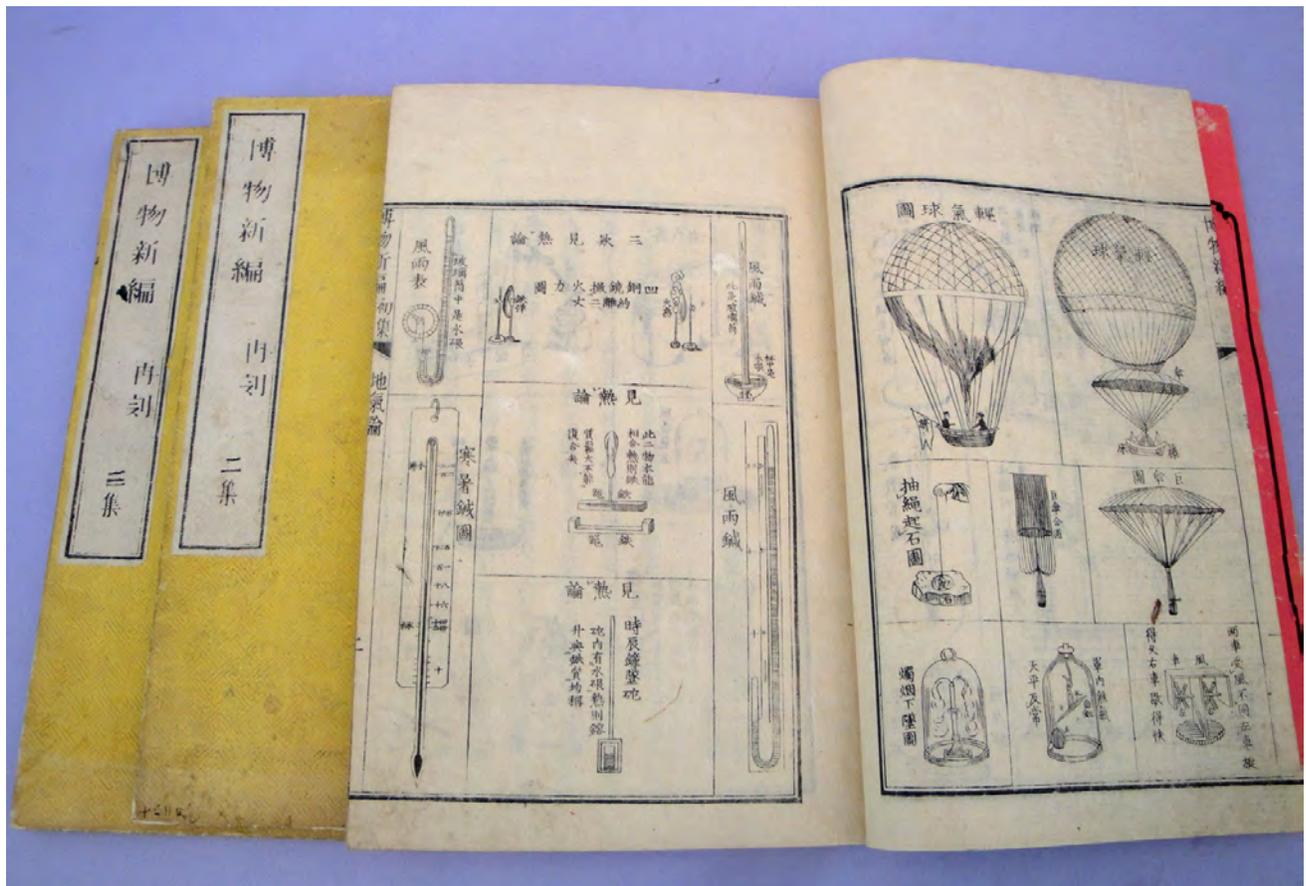
**First Japanese Edition?** (OCLC cites both this Kyoto edition and an undated Tokyo edition.) The third of Hobson's medical texts in Chinese was the *Treatise on Midwifery and Diseases of Children* (Fuying qianshuo, 1858); the first Japanese edition, illustrated with 41 woodcuts, appeared the following year. In this work Hobson "introduced [into Asian medicine] invasive surgery for childbirth drawn from the anatomical sciences that had evolved in Europe since the sixteenth century" (Elman, *A Cultural History of Modern Science in China*, p. 291). Wong and Wu, *History of Chinese Medicine*, p. 365, note 311. 42509



**29. Hobson, Benjamin** (1816–73). Naika shinsetsu [Practice of medicine and materia medica]. In Chinese with Japanese reading symbols. 3 vols. Vol. I: 41 folded leaves. Vol. II: 38 folded leaves. Vol. III: 45 folded leaves. Tokyo: Yozozua Hyoshiro, 1859. 256 x 173 mm. Yellow embossed paper wrappers, paper labels (worn). Boxed. Occasional stains. Very good. Manuscript notes in Japanese at the end of Vol. I.

\$3000

**First Japanese Edition**, and *rare*: OCLC cites only a 20<sup>th</sup> century reprint. The fourth and last of Hobson's medical textbooks in Chinese based on European sources was *Practice of Medicine and Materia Medica* (Neike xinshuo, 1858). The Japanese version was issued the following year. The *Practice of Medicine and Materia Medica* explained the use and preparation of numerous Western medicines that had previously been unknown in Asia. In the introduction Hobson stated that the work "investigates and demonstrates the ways to make use of medicines. All involve the use of European medical texts" (quoted in Masuda, *Japan and China: Mutual Representations in the Modern Era*, p. 4). Wong and Wu, *History of Chinese Medicine*, p. 365, note 312. 42508

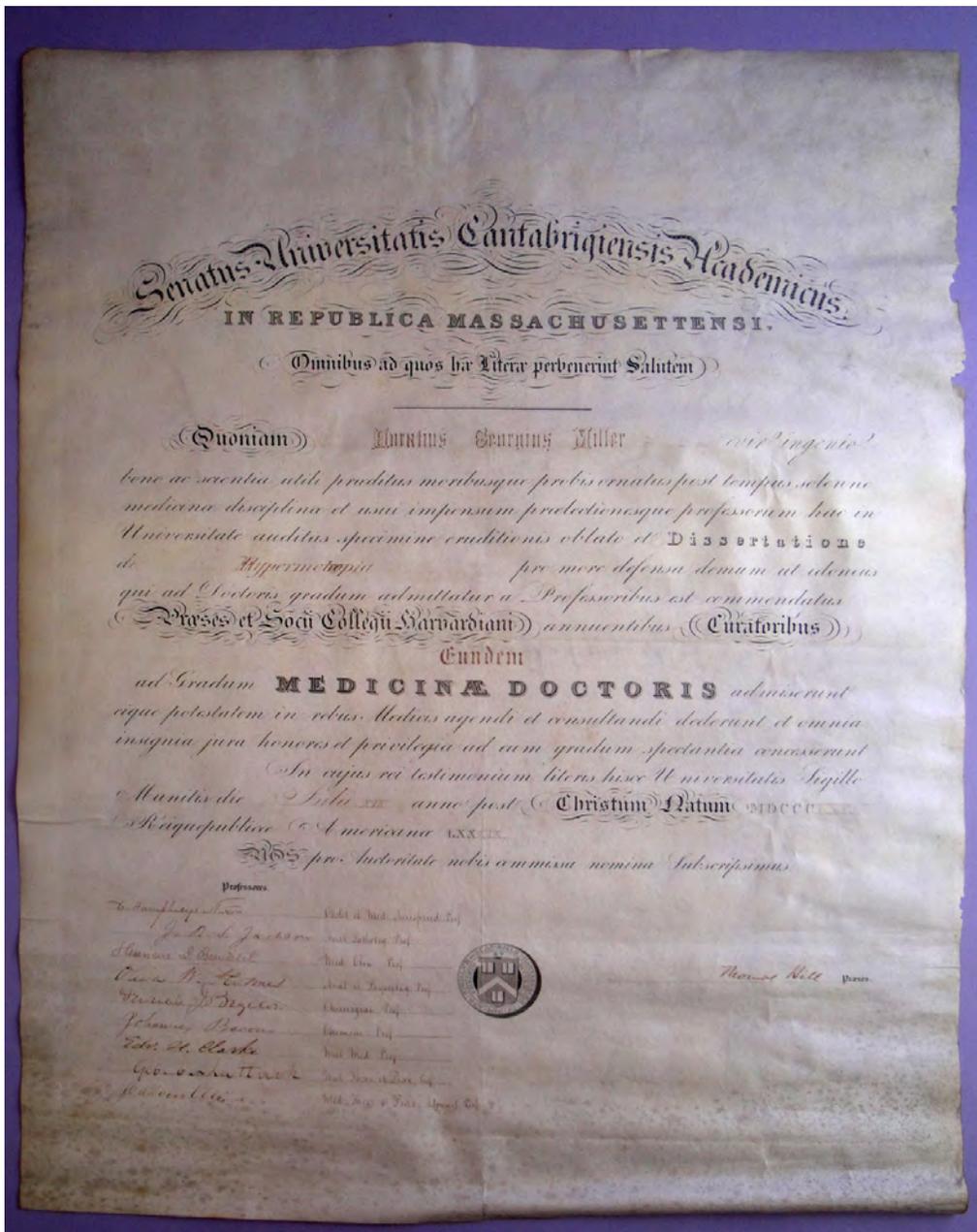


30. **Hobson, Benjamin** (1816-73). *Hakubutsu shimpen* [New essay on scientific knowledge]. In Chinese with Japanese reading symbols. 3 vols. Vol. I: 67 folded leaves; text illustrations. Vol. II: 30 folded leaves; text illustrations. Vol. III: 34 folded leaves; text illustrations. [Japan], 1872. 248 x 174 mm. Yellow embossed paper wrappers, printed labels, slightly soiled and worn; boxed. Very good.

\$2000

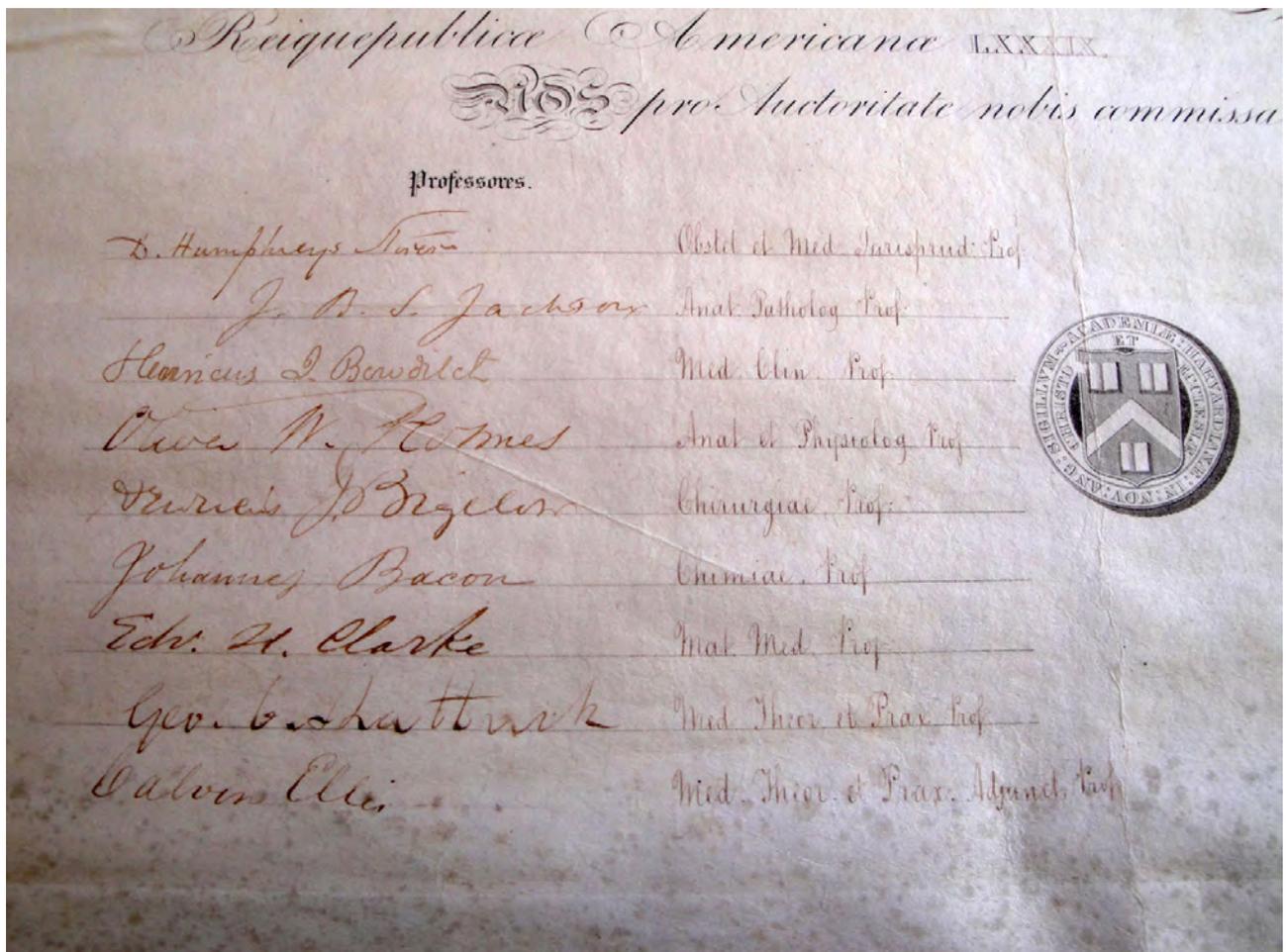
Later Japanese edition of Hobson's scientific textbook based on European sources, *Bowu xinbian* (New Essay on Scientific Knowledge), originally published in Shanghai in 1855 and first published in Japan circa 1864. "From the *bakumatsu* period [1853-67] into the early Meiji years, this work was warmly welcomed in Japan as a text conveying scientific knowledge that had developed in the West. The repeated reprintings of it in the Meiji period provide evidence for this claim, as do the numerous editions of it published" (Masuda, *Japan and China: Mutual Representations in the Modern Era*, p. 7).

*Hakubutsu shimpen* is divided into three parts. The first, on physics, has sections on topology, heat, water, light and electricity. The second part is dedicated to astronomy; the third, entitled "Outlines of Birds and Beasts," is devoted to natural history. All the parts are illustrated. Wong and Wu, *History of Chinese Medicine*, pp. 364-365, note 309. 42510

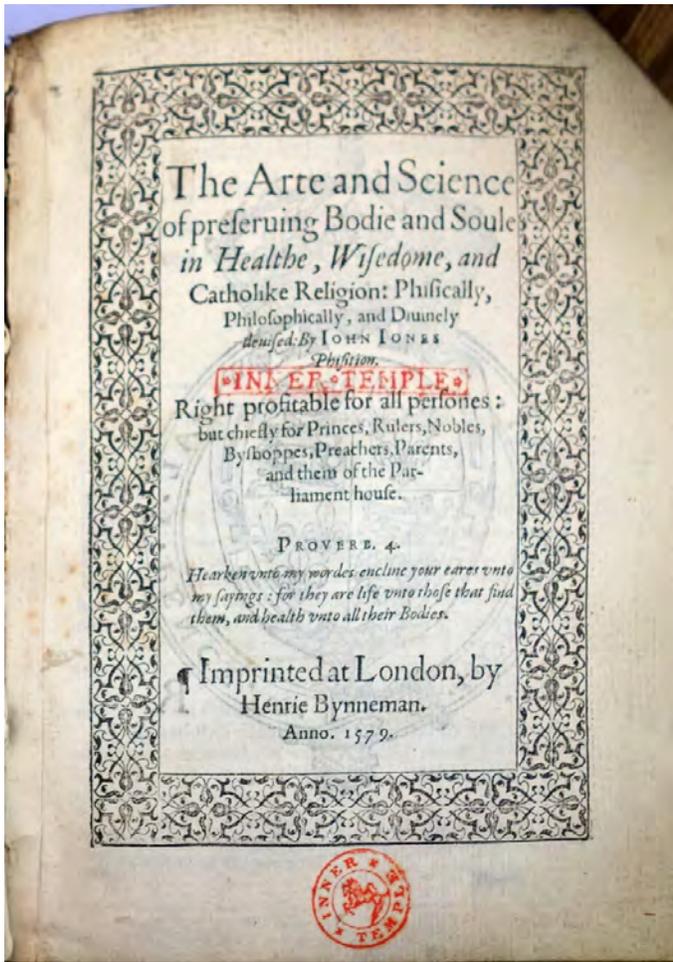


**31. Holmes, Oliver Wendell (1809-94), signer. Harvard University Medical School.** Senatus universitatis Cantabrigiensis academicus in republica Massachusettensi . . . Engraved diploma on parchment, completed in ink, issued to Horace George Miller (d. 1908). Cambridge, Massachusetts, July 19, 1865. 593 x 447 mm. Minor spotting in lower margin, slight insect damage in right margin, but very good. Signed by Holmes and nine others as listed below. \$1250

Very large and handsome diploma from Harvard Medical School, signed by Holmes in his capacity as professor of anatomy and physiology. Famous as both a writer and a physician, Holmes was the first to definitely establish the contagious nature of puerperal fever (Garrison-Morton 6274; *Printing and the Mind of Man* 316a), and in November 1846, shortly after the first successful demonstration of surgical anesthesia, he suggested the terms “anesthesia” and “anesthetic.” The other signers include **Henry J. Bigelow** (1818-90), professor of surgery and author of the formal announcement of the discovery of surgical anesthesia (Garrison-Morton 5651); **George Cheyne Shattuck** (1813-93), professor of medical theory and practice and one of



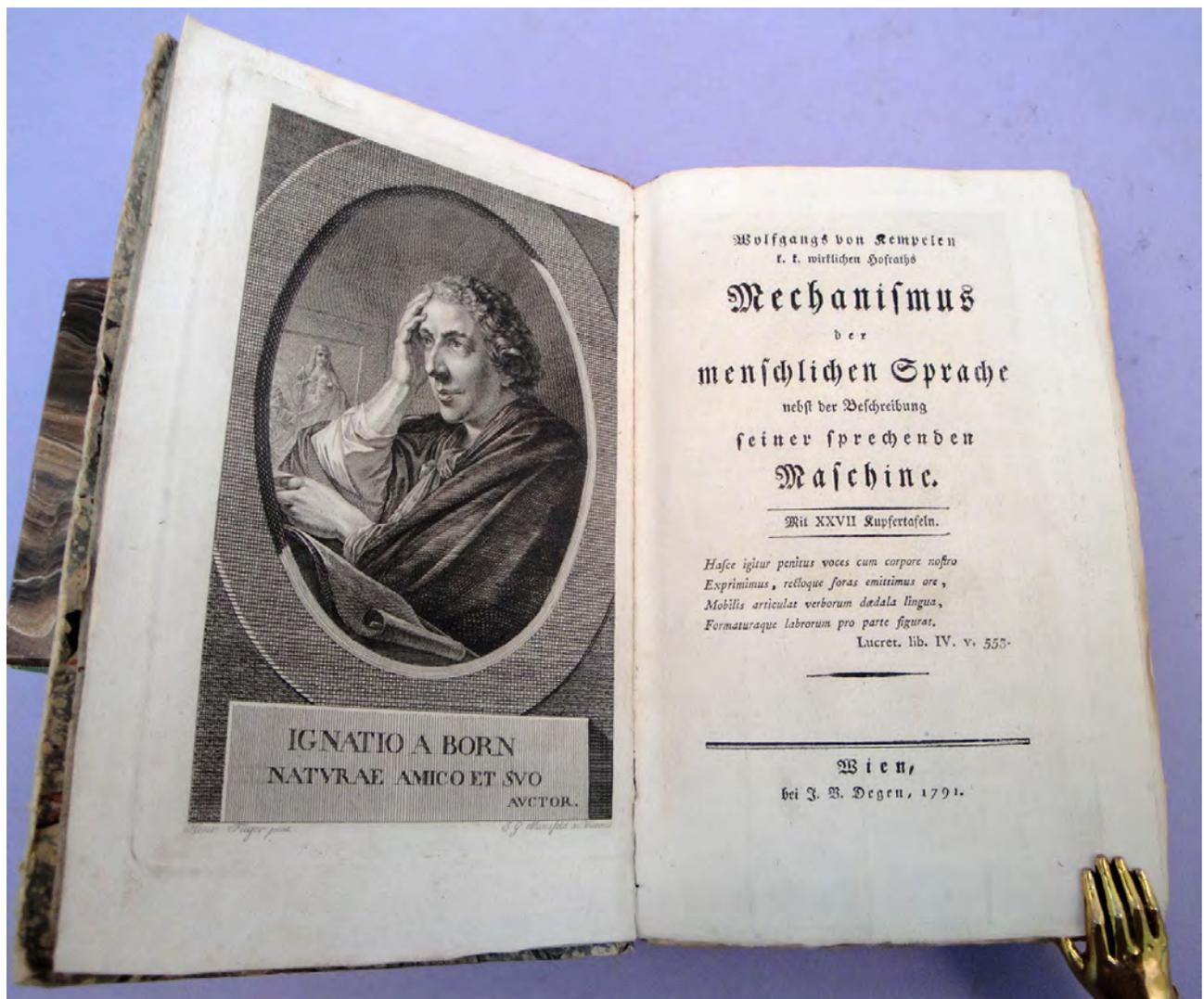
the founders of the Boston Medical Library; **David Humphreys Storer** (1804-91), professor of obstetrics and medical jurisprudence and one of the commissioners of the Natural History Survey of the Massachusetts Commonwealth; **Henry Ingersoll Bowditch** (1808-92), professor of clinical medicine, founder of the Massachusetts Board of Health and pioneer of the operation for removal of pleural effusions (Garrison-Morton 3168.1); and **Thomas Hill** (1818-91), president of Harvard University from 1862 to 1868 and designer of an award-winning instrument for calculating eclipses. The remaining signers are Edward H. Clarke (1820-77), professor of materia medica and co-author of *A Century of American Medicine 1776-1876* (Garrison-Morton 6586); John Barnard Swett Jackson (1806-79), professor of pathological anatomy; Calvin Ellis (1826-83), adjunct professor of medical theory and practice; and John Bacon (1817-81), professor of chemistry. The diploma was issued to Horace George Miller, who later became one of the most distinguished eye and ear specialists in the state of Rhode Island; see *JAMA* (June 13, 1908), p. 2014. 42490



### *Second English Book on Pediatrics*

**32. Jones, John** (fl. 1579). *The arte and science of preserving bodie and soule in health, wisdom and Catholike religion*. . . . 4to. [12] 118 [8]pp. (page numerals 31–32 repeated). London: Henrie Bynneman, 1579. Black letter. 187 x 145 mm. Limp vellum c. 1579, darkened, a few spots, holes for cloth ties (not present). Light soiling, a few corners creased, but very good. Gilt stamp of the Inner Temple on front cover, stamps & engraved bookplate of the Inner Temple Library. \$15,000

**First Edition** of the second English treatise on pediatrics, preceded only by Thomas Faier's *The Booke of Children* (1545). Jones, a Welsh physician, intended his *Arte and Science* to be read chiefly by “princes, rulers, nobles, byshoppes, preachers, parents and them of the Parliament House.” The work covers all aspects of child-rearing: care of newborns, nursing, weaning, infant feeding and diet, sleep, education, dress, exercise, moral and religious training, etc. Jones was particularly solicitous about choosing the proper wet-nurse, devoting several chapters to the ideal nurse’s diet, temperament, moral character, and recreation. Strangely, Jones’s book is not mentioned in any of our histories of pediatrics, nor does it form part of either the Grulee or the Drake collections of pediatric literature. *Scarce*—only 5 copies cited in NUC (DFo, DLC, CSmH, NcU, MH), with the Folger Library copy showing a variant imprint; see STC 14724a. OCLC also cites copies at the University of Illinois and the National Library of Wales. STC 14724. DNB. 34410

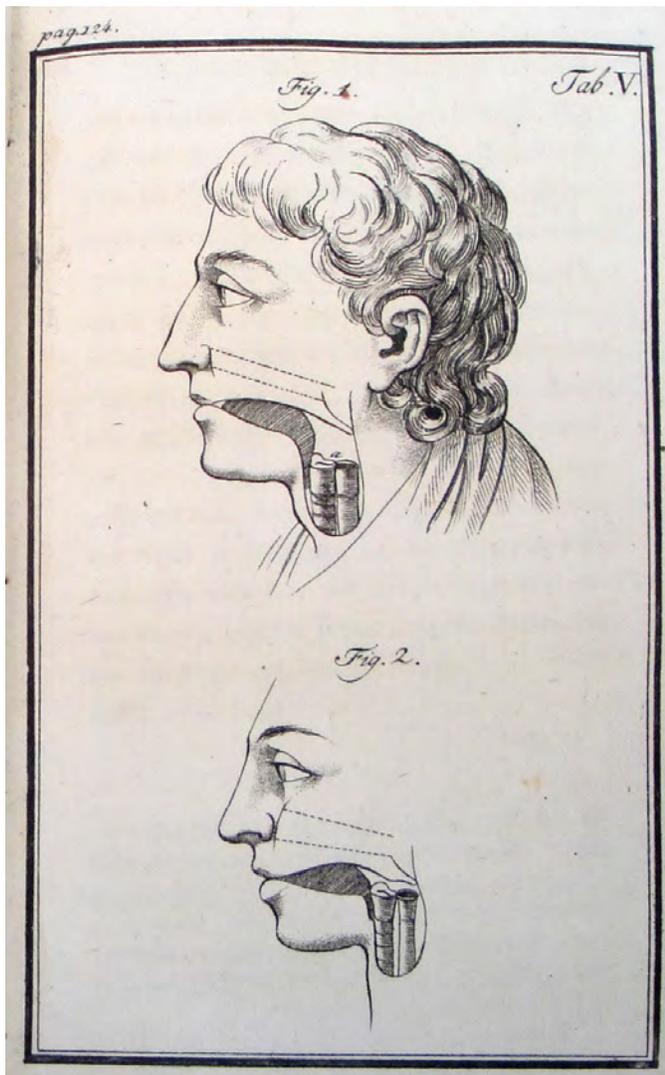


*First Monograph on Speech Synthesis, and the First Successful Speech Synthesizer*

**33. Kempelen, Wolfgang von** (1734-1804). Mechanismus der menschlichen Sprache nebst Beschreibung seiner sprechenden Maschine. 8vo. [20], 456pp. Engraved frontispiece portrait and 26 plates. Vienna: J. B. Degen, 1791. 200 x 125 mm. (uncut). Marbled boards, handwritten paper label c. 1791, spine a little sunned, light wear at hinges and corners. One signature (\*) a little loose, otherwise a very fine copy. Ownership signature, dated 1812, on the front free endpaper. \$10,000

**First Edition in German**, issued simultaneously with the French edition, which was also published by Degen. The **first monograph on speech synthesis**, containing a description with 26 copperplate illustrations of von Kempelen's voice synthesizer, the forerunner not of sound recording devices such as the phonograph but of today's electronic computerized devices which actually synthesize speech. The work is also significant from a linguistic standpoint, as it contains a thorough analysis of phonetics (the study of the physical sounds of human speech) and discusses the nature and history of language.

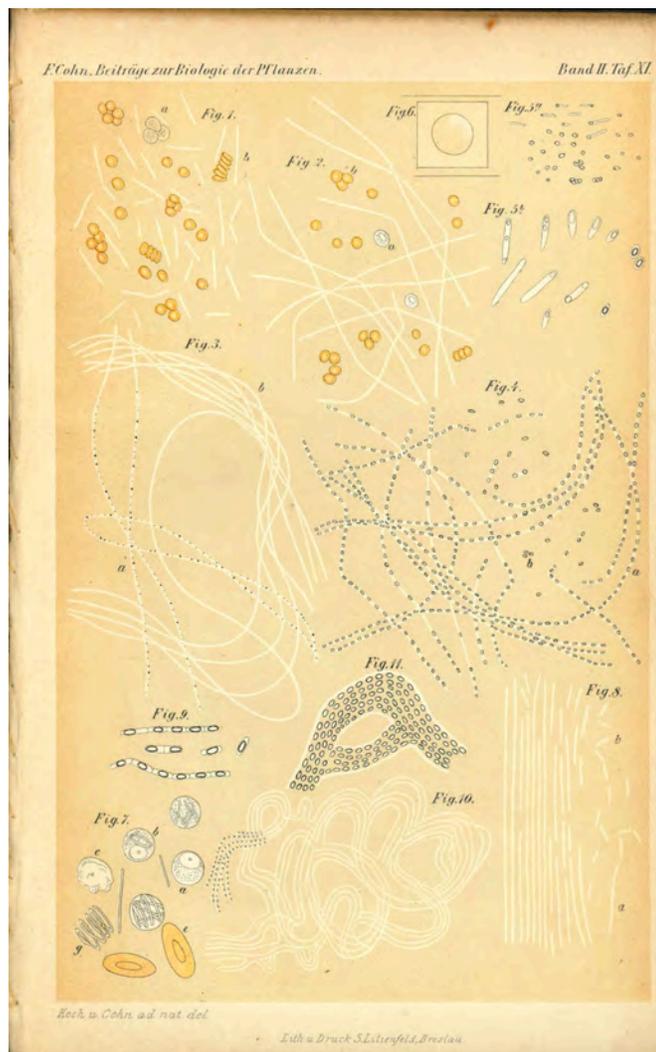
After a detailed examination of the organs of speech von Kempelen devised a hollow oval box divided into two parts and fitted with hinges which made it like jaws. This box caught the sound



coming from a tube connected to a bellows. By opening and shutting the jaws, the sounds *a*, *o*, and *u* could be produced, then the sound *e* could be rendered imperfectly but there was no provision for *i*.

After several years of investigation the inventor succeeded in securing by similar means the consonant sounds *p*, *m*, *l*, and by means of the vowels and consonants he could compose syllables and words such as *maman*, *papa*, *aula*, *lama* and *mulo*. But the sounds of letters of similar pronunciation became mixed. . . . Von Kempelen overcame these difficulties in imitating the human voice by means of a single mouth fitted with a glottis. The mouth was made up of a funnel or a bell-shaped device made of stretchable rubber. . . . To this mouth he added a nose made up of two tin tubes connected to it. When the two tubes were opened and the mouth was shut, a perfect *m* sound could be produced, and when one was open and the other shut, the *n* sound was obtained. . . . [Kempelen's machine] succeeded in reproducing entire words and phrases such as *opera*, *astronomy*, *Constantinopolis*, *secundus*, *Romanorum Imperator semper augustus*, etc. . . . Goethe heard it and reports that it was "able to say some childish words very nicely" (Chapuis & Droz, *Automata*, p. 322).

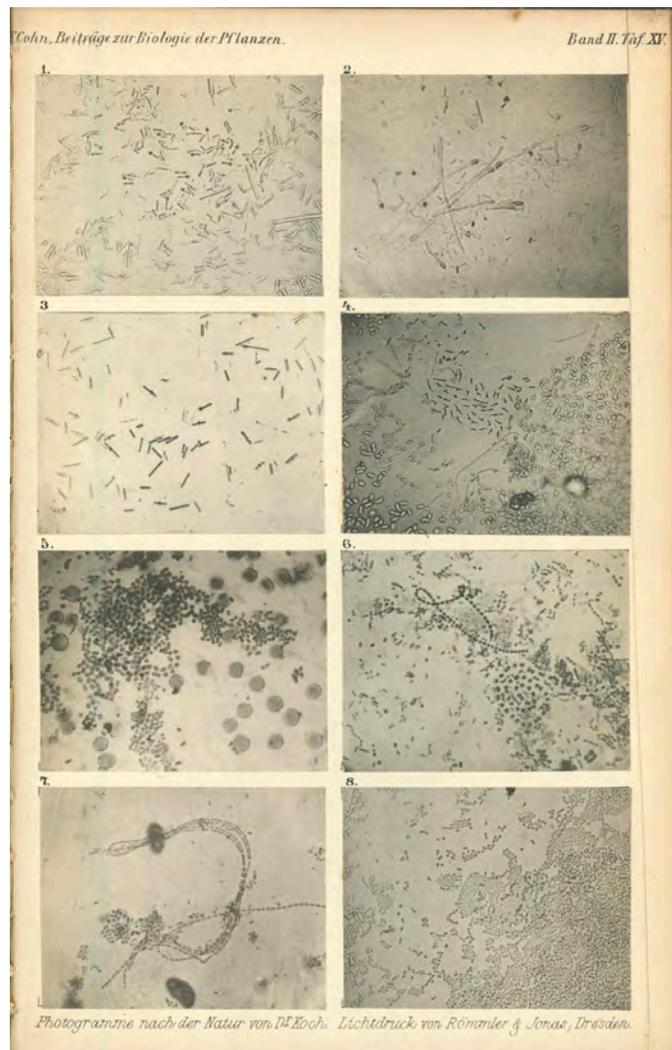
Von Kempelen is also known as the inventor of the "Mechanical Turk," a chess-playing "automaton" that was in reality a mechanical illusion, operated by a human chess master concealed within the machine. Gedeon, *Science and Technology in Medicine*, p. 139. Guyot, *Liste littéraire sur les sourds-muets*, p. 7. Strandh, *History of the Machine*, pp. 130, 178. 42458



“The Basis of Modern Bacteriological Practice”—  
*Printing and the Mind of Man*

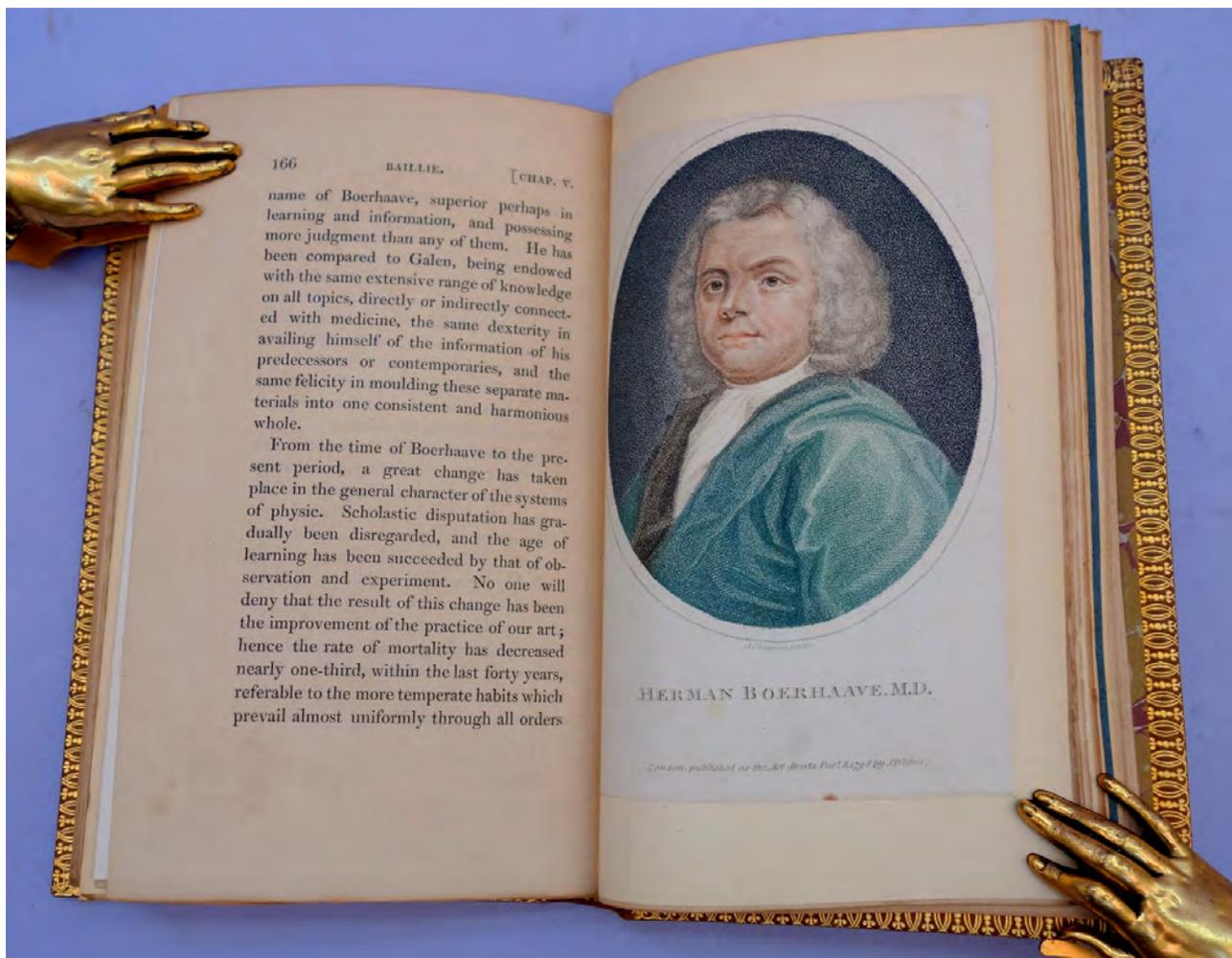
**34. Koch, Robert** (1843–1910). **(1)** Untersuchungen über Bacterien.V. Die Aetiologie der Milzbrand-Krankheit, begründet auf die Entwicklungsgeschichte des *Bacillus Anthracis*. In *Beiträge zur Biologie der Pflanzen* 2, zweites Heft (1876): 277–310. Plate. **(2)** Untersuchungen über Bacterien.VI. Verfahren zur Untersuchung, zum Conserviren und Photographiren der Bacterien. In *ibid.*: 399–434. 3 plates. Whole volume. [8], 121, [4], 122–310, [4], 311–440pp. 16 plates (several colored). 224 x 143 mm. Sold with Vol. 1, both volumes in original cloth, rebacked in morocco, endpapers renewed. Library stamps on 1 or 2 pages and versos of 1 or 2 plates. Light toning, but very good. \$6000

**First Editions.** “These two papers form the basis of modern bacteriological practice—indeed of the very science itself” (*Printing and the Mind of Man*). In the first paper, on the etiology of anthrax, Koch verified C. J. Davaine’s earlier observation that anthrax was caused by rodlike microorganisms found in the blood of infected sheep, and provided the first rigorous demonstration of the specific association of a particular bacterium with a particular disease. “Koch invented techniques for culturing [anthrax bacteria] in drops of cattle blood or aqueous humor on the warm stage of his microscope, under varied conditions of moisture, temperature and air access. He traced accurately their mode of growth and life cycle, including the phenomena of spore formation and germination, which Davaine neither observed nor suspected. . . . Before publishing these observations,



Koch sought an interview with Ferdinand Cohn, the famous botanist in Breslau, who in his pioneering *Untersuchungen über Bacterien* (1872-1876) had stressed the fixity of bacterial species and anticipated the spore-forming properties of *Bacillus anthracis*. In the spring of 1876 Koch demonstrated his methods and preparations to Cohn and to the pathologist Julius Cohnheim and his assistants. After personally confirming the results, Cohn included Koch's classic report on the etiology of anthrax in the next issue of his journal, *Beiträge zur Biologie der Pflanzen*. In 1877 the *Beiträge* contained another paper by Koch, "Verfahren zur Untersuchung, zum Conserviren und Photographiren der Bacterien." This described techniques for dry-fixing thin films of bacterial culture on glass slides, for staining them with aniline dyes (according to information received from Carl Weigert in Breslau), and for recording their structure by microphotography" (*Dictionary of Scientific Biography*). Koch received the Nobel Prize for Physiology / Medicine in 1905 for his bacteriological work.

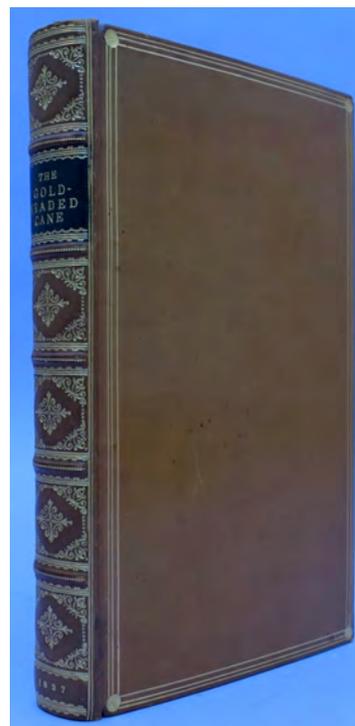
Koch's papers formed part of Ferdinand Cohn's "Untersuchungen über Bacterien" (Researches on bacteria), a series of papers on bacteriology that Cohn began publishing in the *Beiträge zur Biologie der Pflanzen* in 1872. Volumes 1 and 2 of the *Beiträge*, offered here, include Cohn's classic contributions to the "Untersuchungen" of 1872, 1875 and 1876, in which he defined the nature of bacteria, classified bacteria into four morphological groups (still in use today), and announced his discovery of thermoresistant spores in certain bacteria species. The first two volumes of Cohn's *Beiträge* are rare on the market. *Printing and the Mind of Man* 366a (Koch). Garrison-Morton 5167, 2488 (Koch); 2483 (Cohn). 41138



*Extra-Illustrated with 40 Plates*

**35.** [MacMichael, William (1784-1839).] *The gold-headed cane.* 8vo. [8], 179 [1]pp. Text wood-engravings. *Extra-illustrated with 40 engraved plates and portraits, one printed in colors.* London: John Murray, 1827. 198 x 122 mm. Bound by Riviere and Son in full calf, gilt spine and inner dentelles, t.e.g., other edges uncut, original board covers and spine label bound in, bookplate removed from inside front cover. Occasional foxing and browning, light offsetting from some of the plates, but very good. \$2750

**First Edition.** G-M 6709: "This charming 'autobiography' tells of the adventures of the famous gold-headed cane, successively in the possession of [John] Radcliffe, [Richard] Mead, [Anthony] Askew, [David] Pitcairn, and [Matthew] Baillie, and then retired to a glass case in the library of the Royal College of Physicians of London. Besides good biographies of the several owners of the cane, the book gives interesting information on the condition of medicine in England in the 18th century." Norman 1409. Waller 1609I. 30716

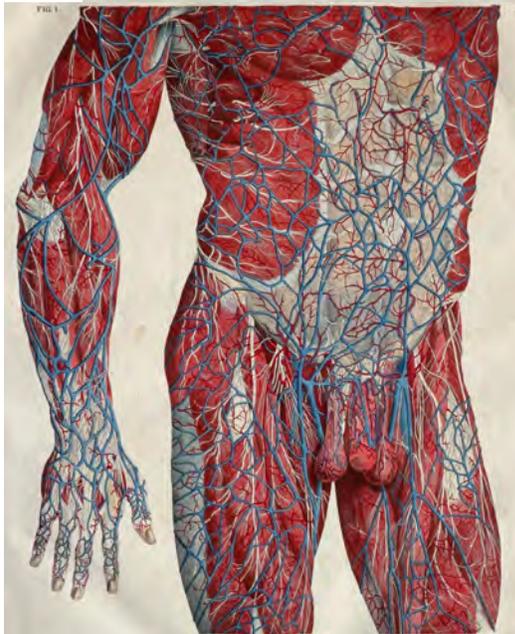




*The Double Elephant Folio of Anatomy—Uncut Copy*

**36.** [Mascagni, Paolo (1752–1815).] **Antommarchi, Francesco** (1789–1838), ed. *Planches anatomiques du corps humain exécutées d’après les dimensions naturelles . . .* Folio text (Explication des planches anatomiques . . .) and double elephant folio atlas. [4], vii, [1], [v]–viii, 228pp. (text); lithographed title leaf and 83 lithographed plates (48 hand-colored, 35 outline) by **Charles-Philibert de Lasteyrie** (1759–1849). Paris: Imprimerie lithographique de R. Brégeaut (text); Paris: C. de Lasteyrie, London: Treuttel & Würtz, Tübingen: de Coitz, Florence: Jean Mareningh (atlas), [1823–]1826. 545 x 350 mm. / 21.5 x 13.75 inches (text); 970 x 650 mm. / 25.5 x 38.25 inches (atlas), margins untrimmed. 19<sup>th</sup> century marbled boards, rebacked (text); atlas disbound, with each sheet stored in a Mylar envelope and enclosed in 2 separate boxes. Edges of atlas title and some plates repaired with no loss of image or text, small and unobtrusive library stamps on titles and plates, minor foxing, but very good, with the autograph signature of Antommarchi on the verso of title page of the text as a guarantee of authenticity. \$75,000

Considering that it is among the rarest of all anatomies, and certainly the largest in terms of format, it is remarkable that two nearly identical editions of Mascagni’s posthumous life-size anatomy were published almost simultaneously in Paris and in Pisa. The present lithographed edition was issued between 1823 and



*Please note:  
Images of the  
anatomical  
figures do not  
show the full  
margins of  
the original  
sheets*

1826. An edition with engraved plates was also published in Pisa under the title *Anatomia universa* (1823–32). Though the two editions were printed by different processes, the image quality of the two is remarkably similar and it is debatable which is superior from either the artistic or scientific standpoint. The lithographed edition, prepared by Mascagni's longtime associate, Francesco Antommarchi, has imaginary landscape backgrounds created for the base of the musclemen in an *hommage* to Vesalius; these do not appear in the Italian edition. There are other subtle differences: Antommarchi included letter

keys within the images of some of the less-complex plates, eliminating the need for outline plates to those images. He also included more anatomical plates than the Italian edition, and, of course, his text was substantially different.

The publication history of these two editions is complex and usually misunderstood. The edition we are offering 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 text volume, issued in 1826, bears the imprint of Lasteyrie's successor, R. Brégeaut). The atlas, with magnificent plates printed on single broadsheets measuring 970 x 650 mm., is comparable in size to the double elephant folio edition of Audubon's *Birds of America* (1827–38), which measures about 985 x 660 mm. It is without doubt the largest lithographically printed book issued during the incunabula period of lithography. The atlas was issued in both colored and uncolored versions; according to Choulant, writing in the 1840s when copies of both editions could still

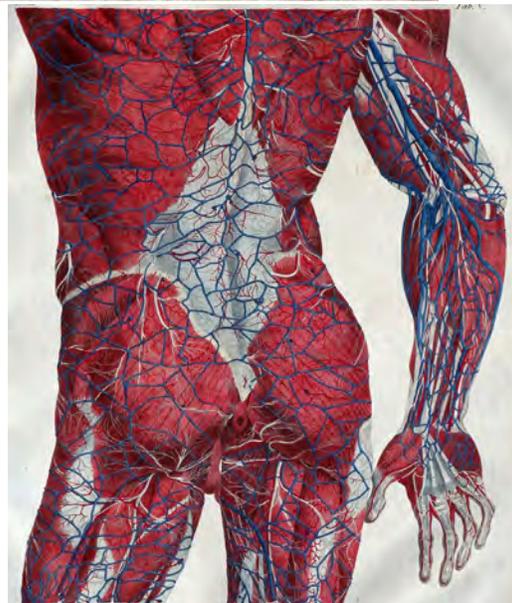
have been available from the publishers, copies with colored plates could be purchased for 1050 francs and uncolored copies for 375 francs. Because the plates are so large, in some extant copies of the atlas they are backed with linen and cut for folding with some resulting loss of image. Our copy is remarkable in that it preserves the plates in completely uncut and unfolded condition. Because the plates in our copy are preserved separately they could be displayed in series in an art gallery or other venue.

The preface to the text volume of the lithograph edition, written by Antommarchi and personally signed by him on the verso of the title page, provides valuable information about this work's publication history. Antommarchi studied under Mascagni and at the time of Mascagni's death was

serving as his prosector, responsible for preparing dissections for demonstration. During his career Mascagni spent a great deal of his time, energy and money in the production of a life-sized human anatomy, titled *Anatomia universa*, which he intended to have printed using engraved copperplates; this required meticulous preparation of very large copperplates for the work's enormous images (some scholars have suggested that Mascagni was hoping to have this work printed in color by the Le Blon / Gautier d'Agoty process; however, that method of



color-printing mezzotints would not have been able to reproduce Mascagni's drawings in sufficient detail). At his death Mascagni left this project unfinished, along with two others: 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*. These manuscripts he put in the hands of Antommarchi, who was left in charge of publishing these three works on behalf of the Mascagni family.



In 1816 Antommarchi issued Mascagni's anatomy for artists, edited by the author's brother and grandson, under the title *Anatomia per uso degli studiosi di scultura e pittura*. According to Antommarchi's preface to the present work (pp. iii-iv), the uncompleted works by Mascagni that remained after the publication of *Anatomia per uso degli studiosi* consisted of the following:



1. Trente planches ombrées, gravées sur cuivre et non terminés, de sa grande Anatomie;
2. Quinze planches au simple trait, gravées presque toutes au dos des planches ombrées. Une multitude de fautes et d'erreurs s'étaient glissées dans la gravure, quoiqu'elle eût été faite du vivant de cet homme célèbre, et sur des dessins aussi soignés qu'ils étaient exacts;
3. Dix-neuf planches gravées sur cuivre, avec quelques cahiers manuscrits qui devaient servir de prodrome ou l'introduction à la grande anatomie;
4. Un certain nombre de dessins anatomiques et de cahiers manuscrits sur l'anatomie descriptive et l'économie rurale.

- [1. Thirty shaded plates, engraved on copper and not completed, of his grand Anatomy;
2. Fifteen outline plates, almost all engraved on the backs of the shaded plates. A multitude of faults and errors slipped in during the engraving, even though they were made during the lifetime of this famous man [Mascagni], and from drawings as detailed as they were exact;
3. Nineteen plates engraved on copper, with several manuscript notebooks intended to serve as the prodrome or introduction to the grand Anatomy;
4. A certain number of anatomical drawings and manuscript notebooks on descriptive anatomy and rural economy.]

Since the publication of the *Prodromo* and the grand anatomy would require a large sum of money, a private company was formed, with the Mascagni family's permission, to supply the necessary funds. As Antommarchi states in his preface (p. iv),

Je fus mis à la tête de cette opération, chargé de coordonner les matériaux, de perfectionner les planches, de faire les textes, et de soigner la publication successive de ces deux ouvrages.

[I was placed at the head of this operation, charged with coordinating materials, perfecting the plates, preparing the texts and overseeing the successive publication of these two books.]

Antommarchi issued the *Prodromo* in 1819. In the meantime he had been appointed physician to Napoleon, then in exile on the remote island of St. Helena, and on 10 September 1819 he was sent to St. Helena to provide medical care to the deposed emperor (it is possible that Napoleon requested Antommarchi's services because, like Napoleon, Antommarchi was Corsican by birth). Antommarchi brought copies of Mascagni's plates for the grand anatomy to St. Helena and continued working on the project in his spare time. Napoleon took a great interest in the anatomy and even consented to have it dedicated to him; however, the emperor died in May 1821, prior to the completion of Antommarchi's editorial labors. Antommarchi directed Napoleon's autopsy, cast Napoleon's death mask, and later published best-selling books about his experiences with the late emperor. Since he could not dedicate his edition to the living man, in homage to Napoleon's memory, and in reference to the isolation of Napoleon's remains on the remote island, Antommarchi dedicated his edition of Mascagni's grand anatomy to the emperor's tomb on St. Helena. (Napoleon's body remained on the island until 1840, when it was moved to a tomb created for him in Paris.)

Upon Antommarchi's return to Italy, as he recounts in his preface (p. v), he received an offer from the private company and Mascagni's heirs,

où l'on me proposait de m'abandonner en totalité les exemplaires du Prodrome, les cuivres de cet ouvrage, ceux de la grande Anatomie, ainsi que tous les papiers qui pouvaient y avoir rapport. On demandait une somme de huit mille écus de Toscane, pour le paiement desquels on donnerait du temps et prendrait des sûretés convenables. La famille Mascagni, convaincue qu'il serait avantageux à l'acquéreur de ces deux ouvrages d'avoir les cuivres et les exemplaires qui restaient du "Traité sur les vaisseaux lymphatiques" et de l'Anatomie pittoresque, m'en proposait aussi l'acquisition pour la moitié de ce qui portait le prospectus.

[where they proposed to surrender to me in totality the copies of the Prodrome, the copperplates for that work, those of the grand Anatomy, as well as all the papers relating to it. They asked the sum of eight thousand Tuscan crowns, to be paid over time, for which they would take suitable security. The Mascagni family, convinced that it would be advantageous to the buyer of these two works to have the copperplates and remaining copies of [Mascagni's] "Treatise on the lymphatic vessels" [1787] and the artists' anatomy, also proposed that I purchase these works for half the sum indicated on the prospectus.]

Before this could be accomplished, however, Antommarchi was informed by M. Moggi, one of the private company's representatives, that the company had decided not to go through with the deal, and that it wanted to dissolve itself. Antommarchi then went to Florence to propose another arrangement with the Mascagni family:

Je m'adressai de suite à la famille Mascagni, et lui proposait sept mille cinq cents écus, au lieu de six mille cinq cents que lui payait la société. Nous fûmes bientôt d'accord, les actes étaient rédigés, on allait signer; mais Moggi, qui était l'âme de toute cette affaire, avait d'autres vues. L'autorité intervint et refusa de sanctionner la transaction. "Puisqu'on m'empêche d'acquérir, qu'on s'exécute.—Nous ne voulons pas.—Mon travail?—Vous l'avez.—Je l'utiliserai.—Libre à vous.—Résilions.—Nous ne demandons pas mieux." Ainsi fut fait; nous parûmes devant le magistrat, qui déclara la société dissoute. Mais l'opération était déjà passée en d'autres mains; je n'avais pu l'avoir pour sept mille cinq cents écus: on la céda pour trois mille. La famille Mascagni était désintéressée, je ne devais rien à la nouvelle société; je me disposai à tirer parti de mon travail.

[I next spoke to the Mascagni family and offered them seven thousand five hundred crowns in place of the six thousand five hundred that the company was paying them. We were soon in agreement, the papers were drawn up and ready to be signed; but Moggi, who was the prime mover in this whole affair, had different ideas. Authorities intervened and refused to sanction the transaction. "Since you are forbidding me to purchase, then you take over.—We don't want to.—My work?—You have it.—I will use it.—You are free to do so.—Let us quit.—We ask nothing better." This was done; we appeared before the magistrate, who declared the company dissolved. But the operation had already passed into other hands; I could not have it for seven thousand five hundred crowns: they had sold it for three thousand. The Mascagni family was paid off, I owed nothing to the new company; I prepared to take advantage of my work.]

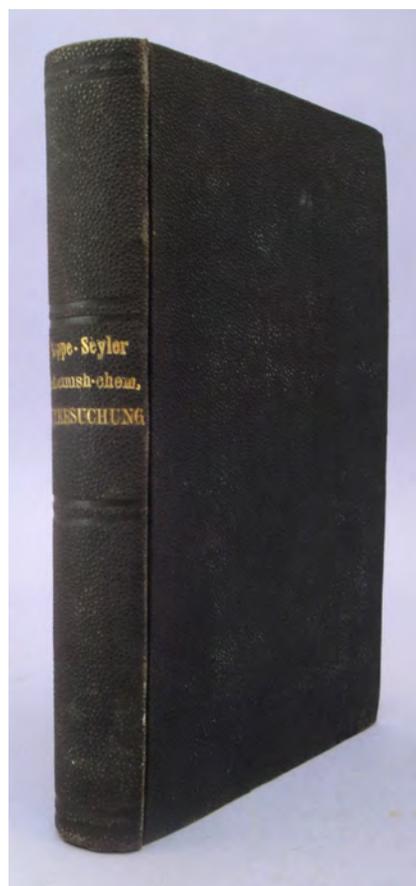
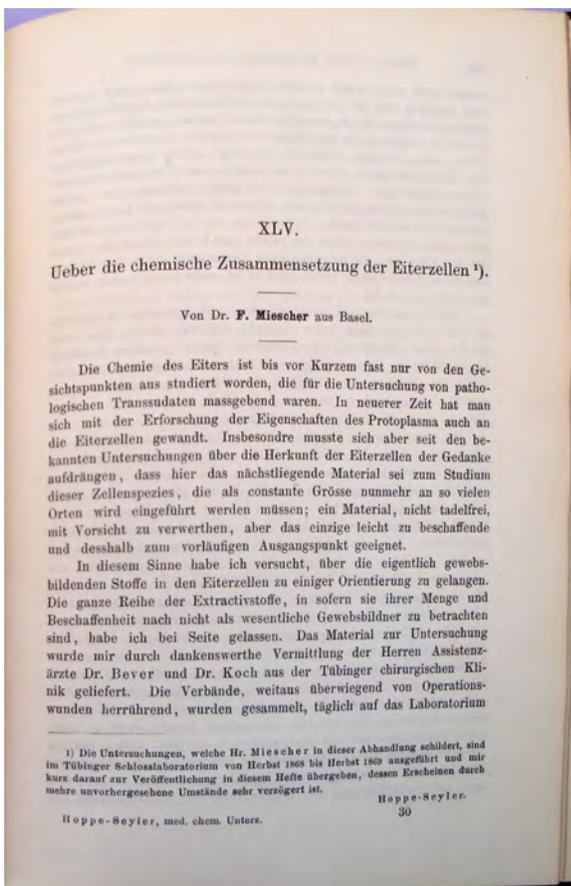
The Mascagni family sold the copperplates of the grand anatomy to three professors at Pisa who began preparing their own edition of the work; this edition, containing 44 engraved illustrations



and 44 outline plates (compared to 48 hand-colored plates and 35 outline plates called for in our edition) was published between 1823 and 1832 under the title *Anatomia universa*. In the meantime Antommarchi proceeded to Paris where he arranged to have his versions of the Mascagni plates lithographed by de Lasteyrie and issued under the title *Planches anatomiques du corps humain*. It is clear from his preface that Antommarchi believed he had full authority to publish his edition which, because of his close working relationship with Mascagni, may be closer to Mascagni's original intention than the Italian version. Choulant, who provided an incorrect collation of Antommarchi's edition, objected to the fact that Antommarchi left Mascagni's name off the title page, but otherwise appears to have agreed.

If one thinks of the *Anatomia universa*, edited by the three Pisa professors, as an adaptation of Mascagni's plates according to the ideas of the three editors, he may, on the other hand, look upon Lasteyrie's lithographed edition as Antommarchi's adaptation, evidently prepared by him at St. Helena for his edition of Mascagni's plates (Choulant, p. 319).

Complete sets of Antommarchi's edition, with both the text and all the plates, are extremely rare, especially with the plates hand-colored. OCLC and the Karlsruhe Virtuelle Katalog cite four copies of the text and atlas in American libraries (U. Chicago, National Library of Medicine, U. Minnesota and the College of Physicians in Philadelphia) plus six copies in France (Bibliothèque Nationale, Bibliothèque St. Geneviève, Paris BIUM, Bordeaux, U. Reims and U. de Lille), a copy at the British Library and four other European copies (Sächsische Landesbib., U. Leiden, Berlin, Halle). The library database records for these copies do not indicate whether the atlas plates are colored or black and white. Choulant, *History and Bibliography of Anatomic Illustration*, pp. 315-320. Roberts & Tomlinson, pp. 384-96. Twyman, *Lithography 1800-1850*, pp. 50-52. 42647

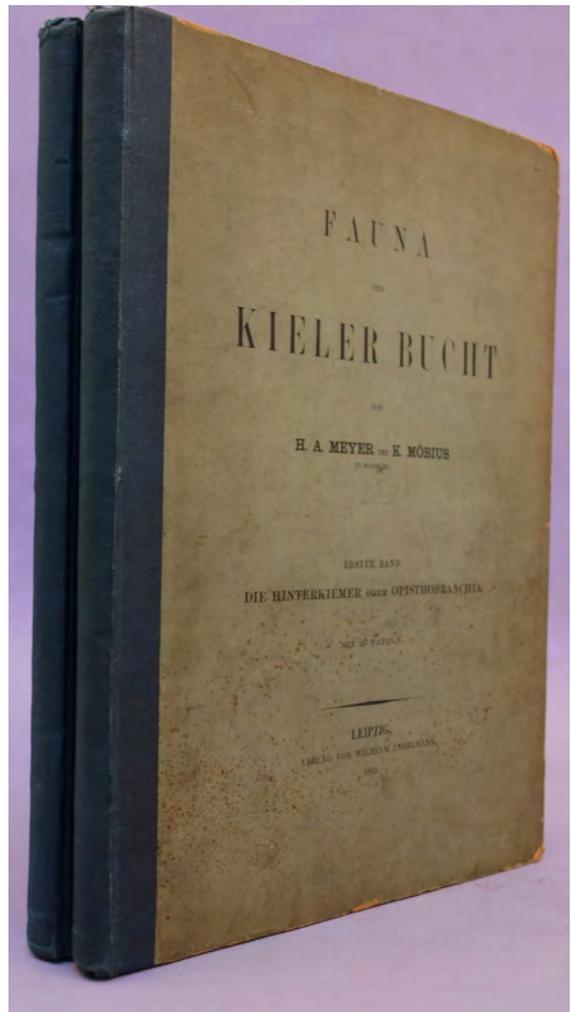


## Discovery of DNA

**37. Miescher, Johann Friedrich** (1844-95). Ueber die chemische Zusammensetzung der Eiterzellen. In Hoppe-Seyler, Felix, ed., *Med.-chem. Untersuchungen* (Berlin: Hirschwald, 1866-71), Heft 4: 441-60. 8vo. vi, 593pp. 3 lithographed plates. 210 x 141 mm. Cloth ca. 1871, title in gilt on spine. Booklabel of the Chemischen Institute der Universität Innsbruck, and their stamp and withdrawal stamp on title page. Fine copy. \$9500

**First Edition.** One of the earliest significant contributions to the field that would eventually be called molecular biology. "Miescher's first and most important discovery was a new class of compounds rich in organic phosphorus and forming the major constituent of cell nuclei. He rightly concluded that these 'nucleins,' as he called them, were as important a center of metabolic activity as the proteins" (*Dictionary of Scientific Biography*). Miescher's "nuclein" (nucleoprotein) was later demonstrated to be the hereditary genetic material (DNA). He also was the first to suggest the existence of a genetic code.

Miescher was the son of Johann Friedrich Miescher the elder, professor of pathological anatomy at the University of Bern; his uncle was Wilhelm His, Sr., professor of anatomy and physiology at the University of Basel and inventor of the microtome. After receiving his M.D. in 1868 Miescher began working under the physiological chemist Felix Hoppe-Seyler, who encouraged Miescher to study leucocytes (white blood cells). Miescher developed techniques for isolating the nuclei of these cells, and then subjected the purified nuclei to an alkaline extraction followed by acidification, resulting in a precipitate that Miescher called nuclein. Upon further analysis, Miescher was able to demonstrate the salt-like union of nuclein's two major components, an acid fraction and a basic fraction. He thus became the first to isolate and identify what we now know as DNA. Garrison-Morton 695. 42605



*Presentation Copy of a Classic Work in Ecology*

**38. Möbius, Karl August (1825-1908) and Heinrich Adolph Meyer.** Fauna der Kieler Bucht. Erster Band: Die Hinterkiemer oder Opisthobranchia. Zweiter Band: Die Prosobranchia und Lamelibranchia nebst einem Supplement zu den Opisthobranchia. Folio. xxx, 87, [II]; xxiv, 139pp. 50 lithograph plates (40 hand-colored). Leipzig: W. Engelmann, 1865-72. 356 x 257 mm. Original printed boards, cloth backstrips, slight wear and spotting, small split in front inner hinge of Vol. II. Some offsetting onto first and last leaves due to acidic endpapers, minor offsetting from plates, occasional soiling but a very good copy with clean plates. *Presentation inscription* on the front free endpaper of Vol. II: "Der Herrn Redacteurs des Journal de Conchyliologie, Herrn Crosse und Herrn Dr. Fischer hochachtungsvoll die Verfasser." \$4500

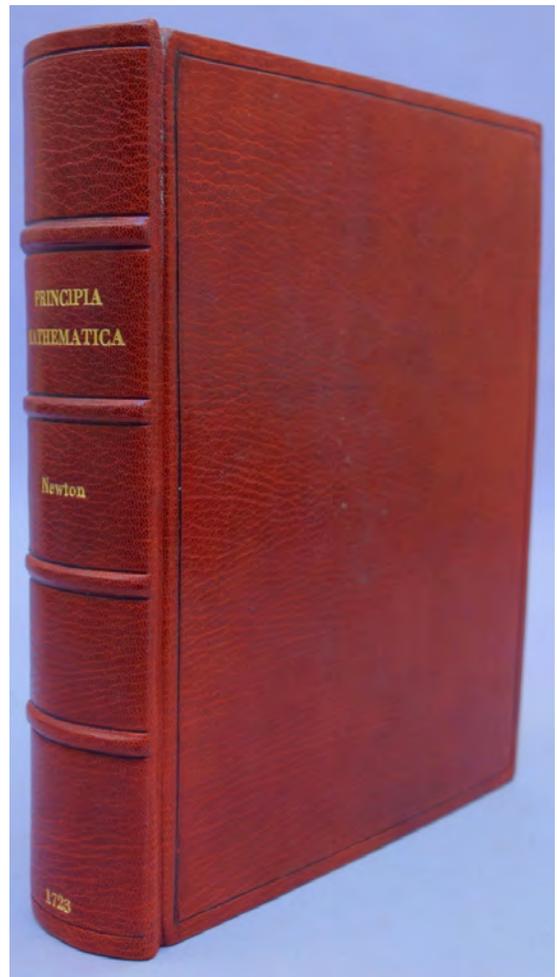
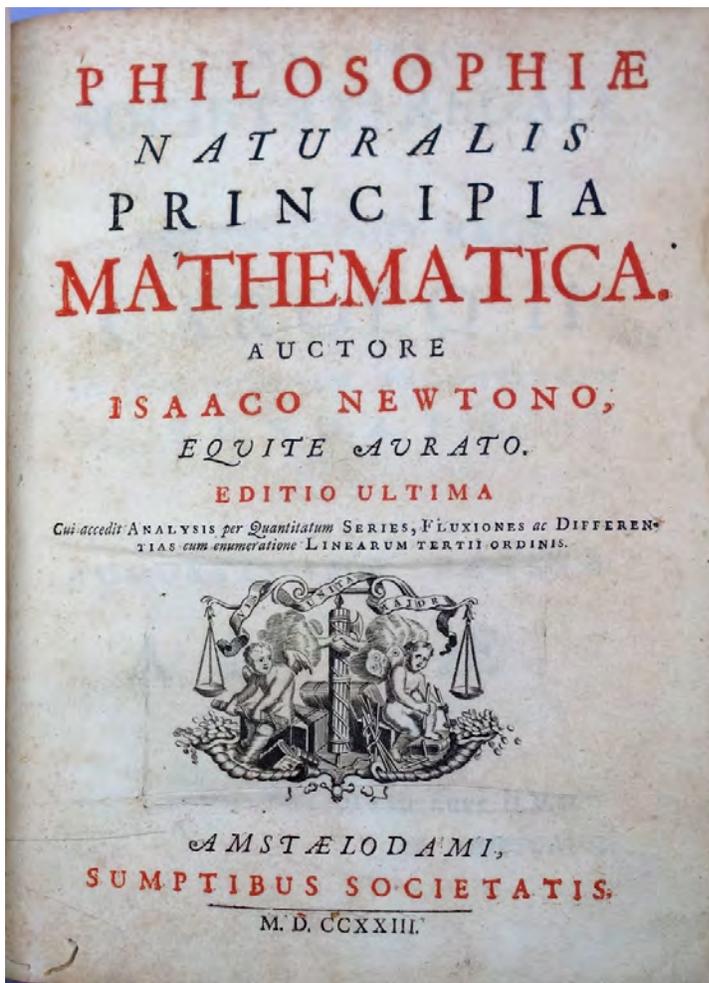
**First Edition.** Möbius and Meyer's study of the environment and organisms of the Kieler Bucht (the Bay of Kiel in the southwestern Baltic Sea) is a pioneering work of ecological science. "In the introduction to this work [Möbius] set forth a program and methodology for modern ecology. The topography and variations in depth, the plant and animal life of the Kieler Bucht were characterized. The concept of 'life community' ('Leb-

Dem ~~Herrn~~ Redakteur  
des „Journal de Conchyliologie“,  
Herrn Crosse und Herrn Dr. Fischer  
hochachtungsvoll  
die Verfasser.

ensgemeinschaft' or 'Biocönose') was introduced. . . . (*Dictionary of Scientific Biography*). Möbius is credited with coining the term “biocenose” to refer to an ecological community or ecosystem; the term first appeared in his *Die Auster und die Austerwirtschaft* (1877).

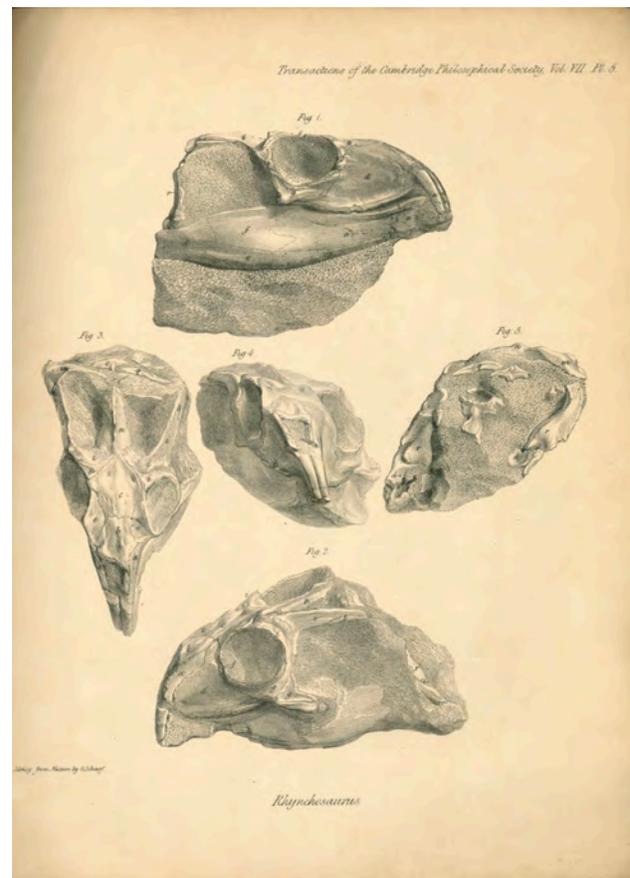
“Several features make the general part of *Die Fauna der Kieler Bucht* unusual. Though faunas were a common type of natural historical writing in the period, most concentrated on listing the animal species in a particular region. Möbius and Meyer went much further, heading toward a tighter connection between a particular set of physical and chemical conditions and the life-forms they supported. In this regard, the identification of so many different faunistic zones in such a small geographic area was innovative. . . . [M]ost discussions of geographic distribution in this period considered large regions of the earth; more local discursive mappings seeking to define, for example, a peculiarly ‘German’ or ‘European’ fauna still normally covered a far broader range than the microlevels attributed to the Kiel Fjord” (Nyhart, *Modern Nature: The Rise of the Biological Perspective in Germany* [2009], p. 143).

The second volume of this copy bears the authors’ presentation inscription to M. Crosse, editor of the *Journal de Conchyliologie* [Journal of Conchology]. The inscription had originally included the name of Dr. Fischer, presumably another editor of the *Journal*, but this was later crossed out. 42653



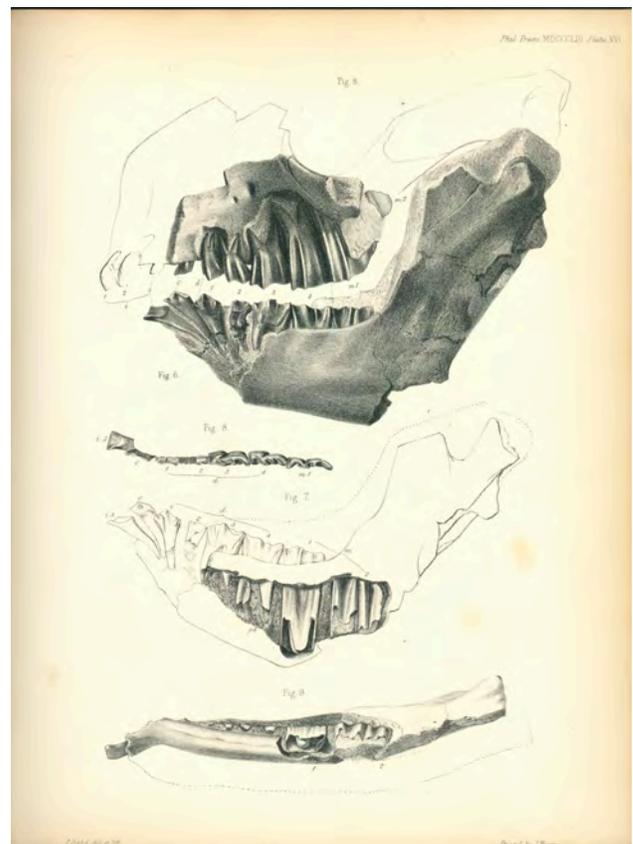
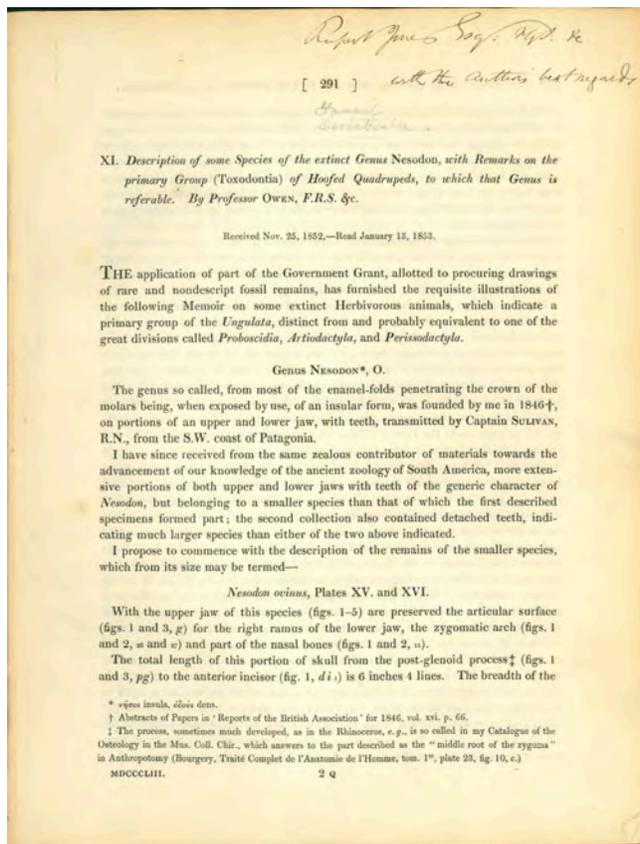
**39. Newton, Isaac** (1642–1727). *Philosophiæ naturalis principia mathematica*. 4to. [28], 484, [20], 107pp. 3 folding engraved plates. Amsterdam: sumptibus Societatis, 1723. 235 x 182 mm. Modern crushed morocco, gilt-lettered spine. Minor marginal worming, light dampstaining on several leaves, but very good. \$10,000

Second Amsterdam edition. Three authorized editions of Newton's *Principia mathematica* were issued during his lifetime, but demand for the work was so great on the Continent that two unauthorized reprints were also published in Amsterdam in 1714 and 1723. "These Amsterdam reprints were a major undertaking, requiring the cutting of new wood-blocks for the figures and a new setting of type. The second reprint (1723) contains not only four tracts by Newton and W. Jones's 'Praefatio Editoris,' but also extracts from four letters of Newton's. These tracts are: *De analysi per aequationes infinitas* (first published by Jones in 1711), *De quadratura curvarum* and *Enumeratio linearum tertii ordinis* (published with the *Opticks* in 1704 and the *Optice* in 1706, but eliminated from the second English edition of the *Opticks* in 1717/18), and the *Methodus differentialis*. But this whole collection—the four tracts, the extracts from Newton's letters, and Jones's Praefatio—was merely a reprint, without alteration, of a collection that was first published as a small book in London in 1711. It was reissued separately in Amsterdam in 1723 as well as being included as a supplement to the reprint of the *Principia*. How curious indeed that Newton's long-cherished plan of publishing *De quadratura* together with the *Principia* should have been realized only in this presumably unauthorized Amsterdam reprint of 1723!" (Cohen, *Introduction to Newton's Principia*, p. 257). Babson (second supplement) 004. 41442



**40. Owen, Richard** (1804-92). Description of an extinct lacertian reptile, *Rhynchosaurus articeps* (Owen) . . . Offprint from *Transactions of the Cambridge Philosophical Society* 7 (1842). [2], 355-369pp. 2 lithographed plates. Cambridge: John W. Parker. 287 x 223 mm. Original plain wrappers, spine worn, some creasing, soiling and chipping. Edges frayed, a few marginal tears in plates not affecting the images, but good to very good overall. *Presentation copy*, inscribed by Owen to geologist Henry Witham (1779-1844) on the title: "H. T. M. Witham, Esqr. from the Author." Witham's signature on the front wrapper. \$750

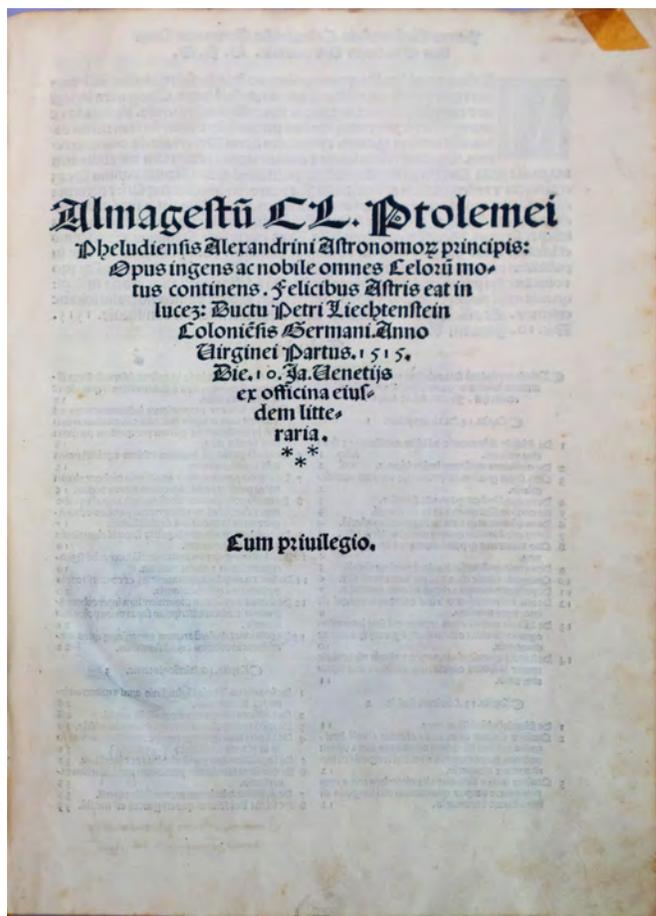
**First Edition, Offprint Issue.** Owen, the foremost British paleontologist and comparative anatomist of the nineteenth century and coiner of the term "dinosaur," gave in this paper the first description and classification of the fossil reptile *Rhynchosaurus articeps*, a species of herbivorous beaked lizard that lived during the Middle Triassic Period. Owen presented this copy to Henry Witham, a founder of the Royal Geological Society and the first English person to investigate the internal structure of fossil plants. 42656



**41. Owen, Richard** (1804–92). Description of some species of the extinct genus *Nesodon*, with remarks on the primary group (Toxodontia) of hoofed quadrupeds, to which that genus is referable. From *Philosophical Transactions* 143 (1853): 291–310. 4 lithographed plates. 275 x 214 mm. Disbound. Minor occasional foxing, but very good. *Presentation Copy*, inscribed by Owen to geologist and paleontologist **Thomas Rupert Jones** (1819–1911) on the first leaf: “Rupert Jones Esq. FGS &c. with the Author’s best regards.” \$750

**First Edition, Offprint Issue.** Owen named the extinct mammalian genus *Nesodon* (herbivorous creatures somewhat resembling rhinoceros) in 1846 from fossil specimens discovered on the southwest coast of Patagonia (South America). In the present paper he described more recently discovered specimens “with teeth of the generic character of *Nesodon*, but belonging to a smaller species than that of which the first described specimens formed part” (p. 291). Owen presented this copy of his paper to Thomas Rupert Jones, editor of the Geological Society’s quarterly journal and a recognized expert on marine invertebrate fossils. Jones was also the editor of Eduard Lartet and Henry Christie’s *Reliquiae Aquitanicae* (1875), one of the most important nineteenth-century works on human prehistory. 42655

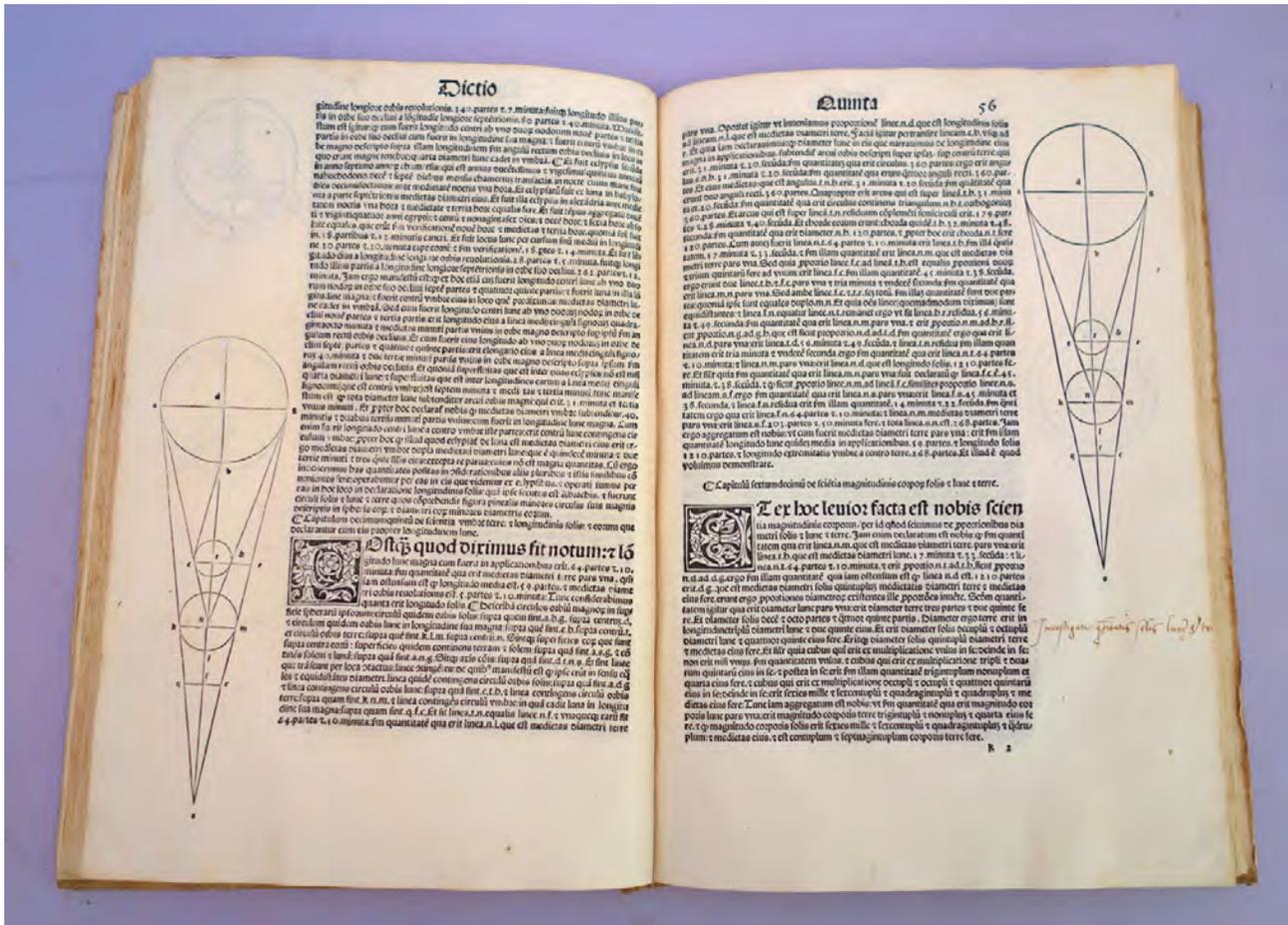




### *Editio Princeps of Ptolemy's Greatest Astronomical Work*

**43. Ptolemy** (A.D. 100–170). *Almagestu[m]* Cl. Ptolemei Pheludiensis Alexandrini astronomo[rum] principis . . . Folio. [2], 152ff. Second leaf, signed \*2, misbound after f. 6. Numerous woodcut diagrams, astronomical tables, and decorative initials; unusually large colophon woodcut with arms of Peter Liechtenstein printed in red and black. Venice: Peter Liechtenstein, 10 January 1515. 294 x 205 mm. 17<sup>th</sup> or early 18<sup>th</sup> century vellum, hinges splitting but still sound. Approximately half square inch old stain in upper right corner of title page from scotch tape. Very light dampstain on lower margins of the last half of the volume, library stamps almost invisibly erased from first and last leaves without tears and with no loss of text, a portion of one word of text partly trimmed off in the outer margin of leaf m<sup>6</sup> by the binder; occasional minor soiling, but otherwise a fine copy, very beautifully printed. A few marginal annotations in a 16<sup>th</sup> century humanistic hand, sometimes trimmed by the binder's knife. 20<sup>th</sup> century ownership stamp inside front cover. \$30,000

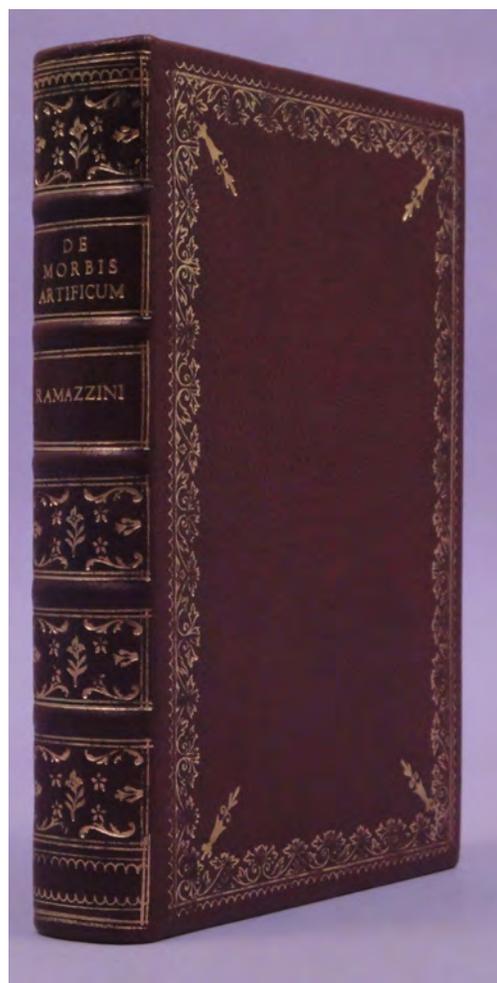
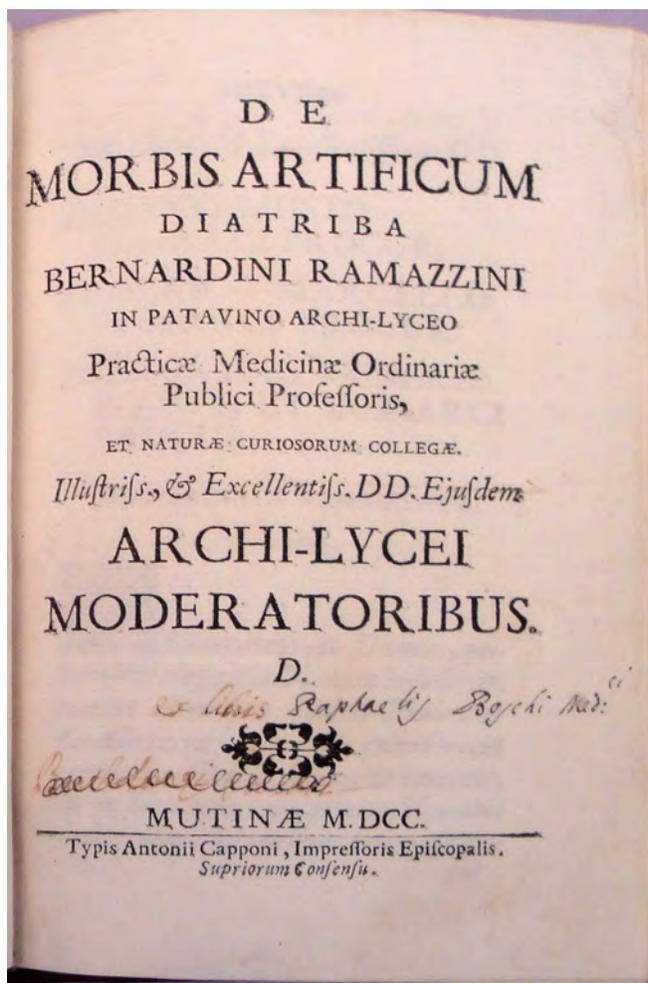
**Editio Princeps** of the complete text of Ptolemy's *Almagest*, his chief work, which remained the dominant textbook of theoretical astronomy from the second through the sixteenth centuries. The work is surprisingly rare on the market, and is particularly scarce in North American libraries, with only two copies (Yale and the University of Michigan) cited in OCLC; the Karlsruhe Virtual Catalogue cites nine copies in European libraries. The *editio princeps* of the *Almagest* is much scarcer, and perhaps more significant, than Regiomontanus's epitome of the work (*Epytoma in Almagestum Ptolemai*) published in 1496. The 1515 edition is also lacking from most collections.



Originally written in Greek in the second century A.D., Ptolemy's work was translated into Arabic in the ninth century. It was reintroduced to the Western world in 1175 through Gerard of Cremona's Latin translation made from the Arabic, which is the text that is printed here. "The arrival from Islamic sources of [the *Almagest*] and other works based on Ptolemy led to a rise in the level of Western astronomy in the thirteenth century" (*Dictionary of Scientific Biography*).

The Greek title is *mathematike syntaxis*, which means "mathematical [that is, astronomical] compilation." In later antiquity it came to be known informally as *he megale syntaxis* or *he megiste syntaxis* ("the great [or greatest] compilation") . . . The translators into Arabic transformed *he megiste* into "al-majisti," and this became "almagesti" or "almagestum" in the medieval Latin translations. It is a manual covering the whole of mathematical astronomy as the ancients conceived it. Ptolemy assumes in the reader nothing beyond a knowledge of Euclidean geometry and an understanding of common astronomical terms; starting from first principles, he guides him through the prerequisite cosmological and mathematical apparatus to an exposition of the theory of the motion of those heavenly bodies which the ancients know (sun, moon, Mercury, Venus, Mars, Jupiter, Saturn and the fixed stars, the latter being considered to lie on a single sphere concentric with the earth) and of various phenomena associated with them, such as eclipses (*ibid.*).

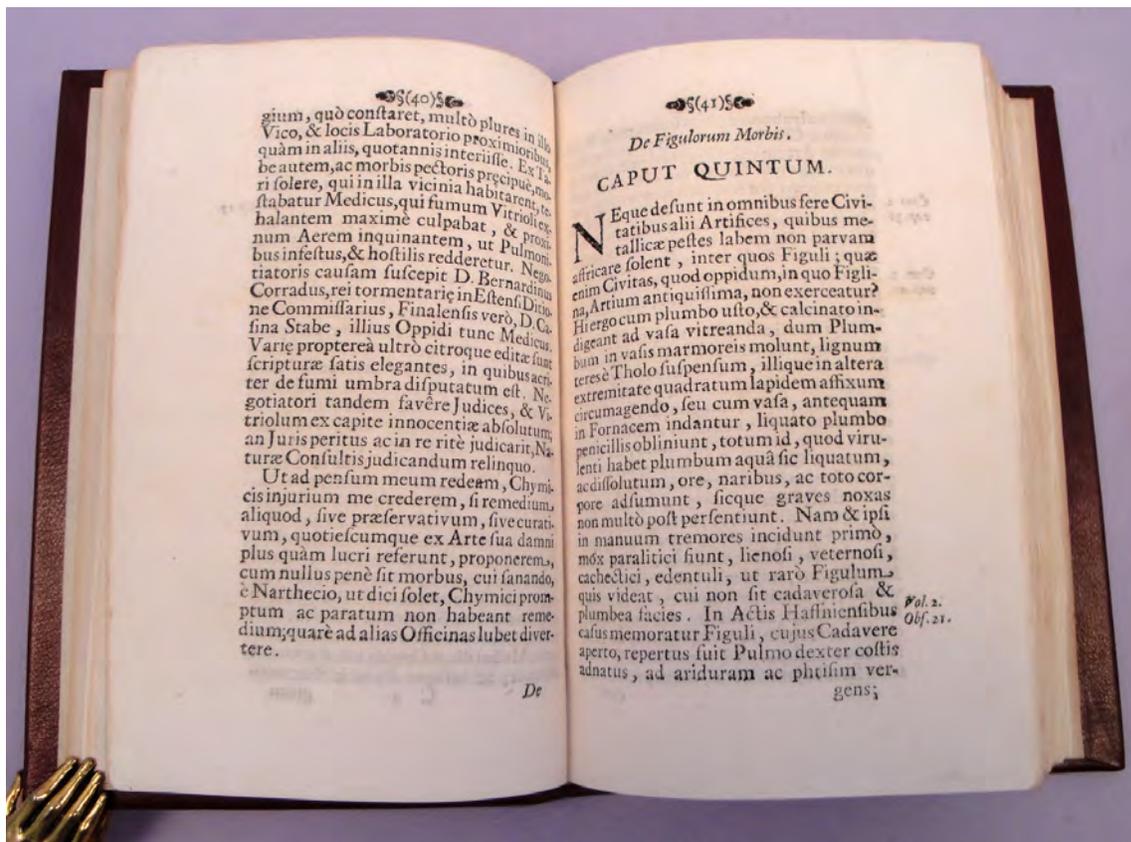
Ptolemy was the first to construct a satisfactory planetary model, the mathematical brilliance of which was not equaled until Kepler. He mentions a number of astronomical instruments in the *Almagest*, including the "equatorial armillary for determining the equinoxes at Alexandria; the plinth and the meridional armillary for determining the midday and meridian altitude of the sun; the triquetrum for measuring meridian transits of the moon or fixed stars; and the armillary astrolabon" (Stillwell, p. 31). Adams P-2213. Stillwell, *The Awakening Interest in Science During the First Century of Printing 1450-1550*, 97. 42643



### *Foundation Work of Occupational Medicine and Ergonomics*

- 44. Ramazzini, Bernardino** (1633–1714). *De morbis artificum diatriba*. 8vo. viii, 360pp. Modena: Antonio Capponi, 1700. 177 x 120 mm. Full morocco gilt in antique style. Lower edges of first few leaves a bit frayed, minor occasional foxing, but a very good copy complete with half-title. Inscription on title in an early hand: “ex libris Raphaelis Boschi Med:ci.” \$9500

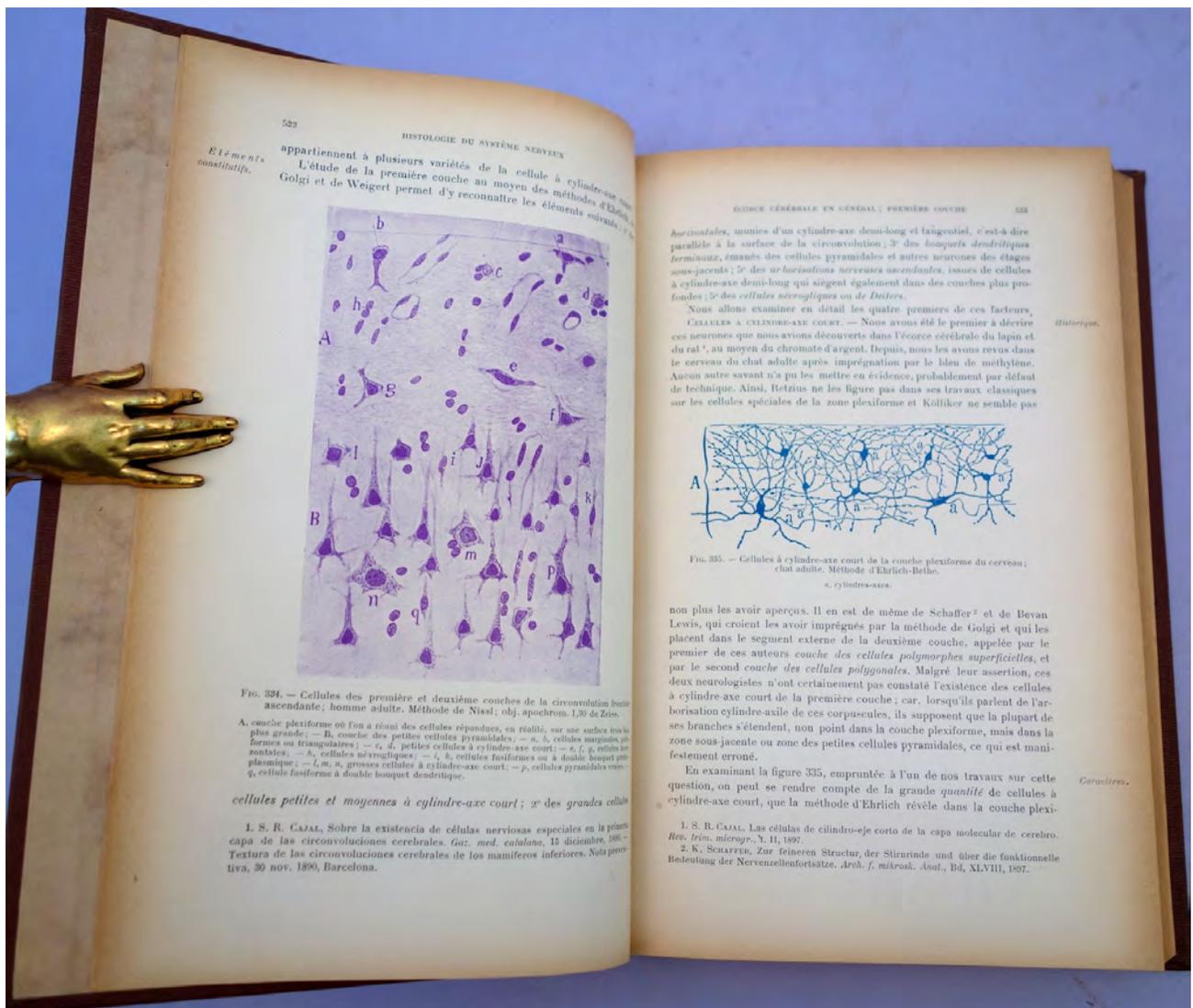
**First Edition.** The first comprehensive and systematic treatise on occupational diseases, and the foundation work of ergonomics. “The Western medical tradition, with its emphasis on humoral imbalance as the cause of illness, for centuries did not really favor the idea that certain diseases might be due to one’s occupation or environment. Egyptians knew that the blacksmith was ‘grilled’ by the furnace, and in Roman times Lucretius mentioned the ‘malignant breath’ of gold miners, and noted ‘how speedily men die and how their vital forces fail when they are driven by dire necessity to endure such work.’ . . . In the sixteenth century the ever insolent Paracelsus wrote a monograph on diseases of metalworkers, and the metallurgist and physician Georgius Agricola connected the injured lungs of Silesian miners to the dust they breathed. But the founder of investigation into occupational and environmental diseases is generally conceded to be the great Italian physician Bernardino Ramazzini” (Simmons, *Doctors and Discoveries: Lives That Created Today’s Medicine*, p. 123). Ramazzini decided to study occupational diseases after a chance encounter with a cesspool cleaner, from whom he learned of the eye afflictions and other dangers attached to that profession. He compiled information from the available sources on the subject and also performed firsthand research, visiting workers and noting their particular illnesses and infirmities. “In his first edition, Ramazzini addresses some forty-two groups. Miners are



discussed in the first chapter, for their suffering is most pronounced and the cause is obvious. But artisans of all kinds are represented. There are chapters on diseases of apothecaries, bakers, millers, painters, and soap makers. Ramazzini details metal poisoning in metalworkers, and silicosis in stonemasons. The seventeenth chapter is devoted to tobacco workers” (Simmons, p. 125). Ramazzini also discussed the occupational diseases of women, recommending that midwives practice cleanliness and take precautions against syphilitic infections.

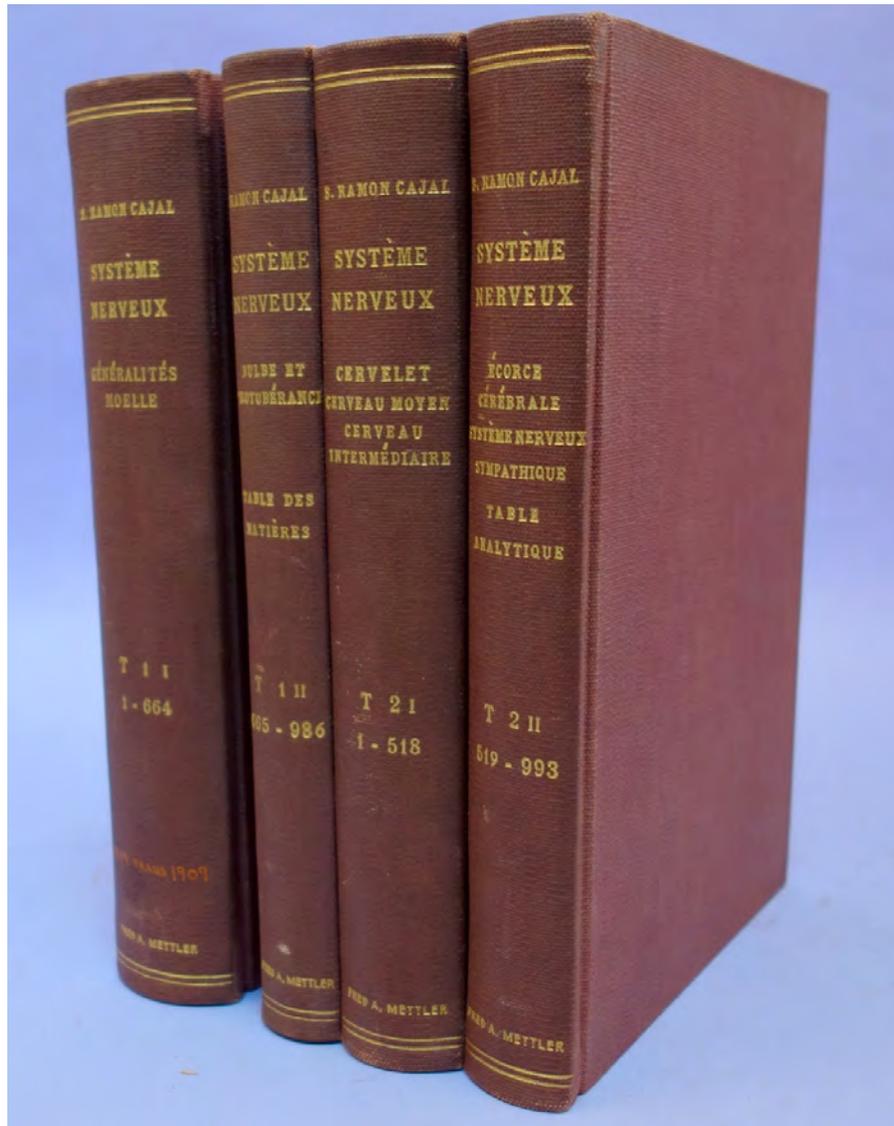
Ramazzini recognized that a number of workers’ diseases were caused by the taxing postures and repetitive motions required by professions such as shoemaking, tailoring and writing; he is thus considered a founder of ergonomics. He suggested ways to prevent these ailments: “Standing, even for a short time, proves so exhausting compared with walking and running . . . It follows that whenever occasion offers, we must advise men employed in the standing trades to interrupt when they can that too prolonged posture by sitting or walking about or exercising the body in some way. . . . Those who sit at their work and are therefore called “chair-workers,” such as cobblers and tailors become bent, hump-backed, and hold their heads down like people looking for something on the ground . . . These workers, then, suffer from general ill-health caused by their sedentary life. . . . The maladies that afflict the clerks arise from three causes: First, constant sitting, secondly the incessant movement of the hand and always in the same direction . . . Incessant driving of the pen over paper causes intense fatigue of the hand and the whole arm because of the continuous and almost tonic strain on the muscles and tendons, which in course of time results in failure of power in the right hand. All sedentary workers suffer from lumbago. They should be advised to take physical exercise, at any rate on holidays. Let them make the best use they can of [exercise] one day, and so to some extent counteract the harm done by many days of sedentary life” (quoted in “Bernardino Ramazzini: The first ergonomist (and what have we learned from him?).” *The Ergonomeron*. Web. Accessed 01 June 2012).

Ramazzini’s book was also influential in the history of economics. Adam Smith cited it in his *Wealth of Nations*, and Karl Marx cited its 1781 French translation in *Das Kapital*. Felton, “The heritage of Bernardino Ramazzini,” *Occup. Med.* Vol. 47 (1997): 167–79. Garrison-Morton 2121. Hunter, pp. 30–34. Lilly, *Notable Medical Books* p. 99. *Printing and the Mind of Man* 170. Norman 1776. Rosen, *History of Miners’ Diseases*, pp. 108–120. 42511

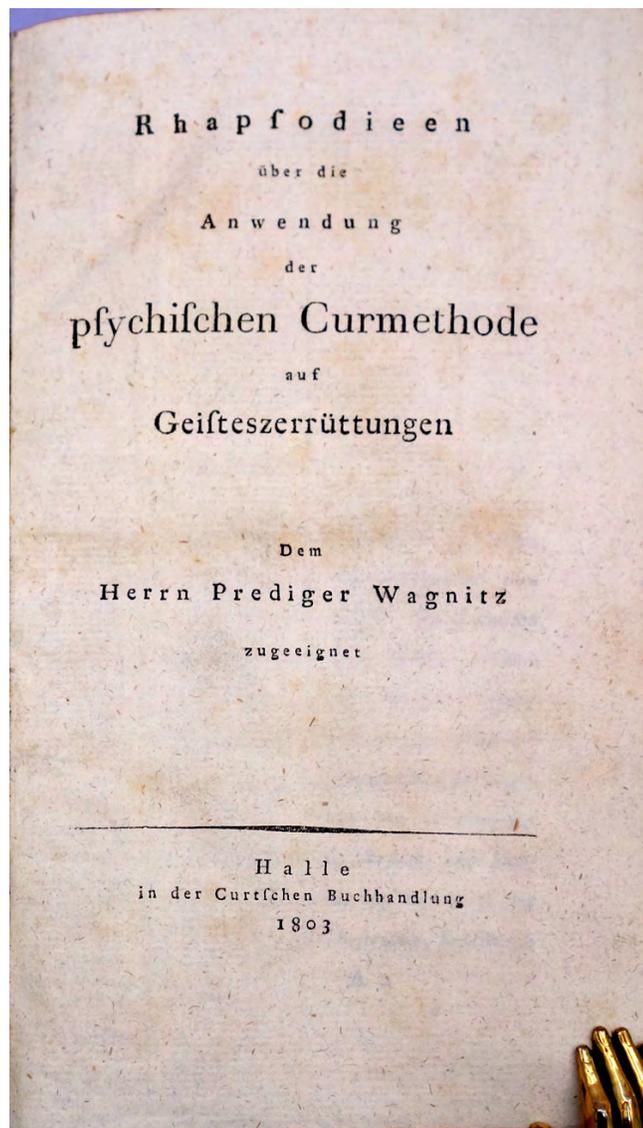


**45. Ramon y Cajal, Santiago (1852-1934).** *Histologie du système nerveux de l'homme et des vertébrés.* Translated from the Spanish by Dr. L. Azoulay. 2 vols. in 4. xiv, 986; [2], 993, [5]pp. Numerous text illustrations, some in color. Paris: A. Maloine, 1909-II. 263 x 167 mm. Library buckram. Upper corners of volume titles torn away, not affecting text, light toning, but very good. From the library of medical historian Fred A. Mettler, with his bookplate; Mettler's name tooled on the spines of all four volumes. \$6500

**First Edition in French,** revised and enlarged by the author, and the best edition. Originally published in Spanish between 1899 and 1904 (the Spanish edition is extremely rare), Ramon y Cajal's comprehensive analysis of all parts of the vertebrate nervous system "must rank as a classic of medical science. This massive work, more than any other, contains the cytological and histological foundations of modern neurology" (*Dictionary of Scientific Biography*). Cajal proved many of the connections between one section of the brain and another, and he illustrated these, as well as the many connections one cell makes with others. He described many nerve cells for the first time and also pointed out the plasticity of nerve cells in the brain, a discovery that has only recently come to be appreciated.



Cajal's research confirmed the neuron doctrine; his classification of neurons provided a histological basis for cerebral localization. His descriptions of the cerebral cortex are still the most authoritative, and led directly to the cytoarchitectonics of Campbell, etc. He set up the problem of synaptic transmission and developed the theory of dynamic polarization, with transmission of the nerve impulse from dendrites and cell body to axon. He developed new staining techniques, such as the reduced silver nitrate method for displaying neurofibrils. His work overturned concepts of the nervous system that had held sway for over a century, that is since the beginning of investigation with the microscope. In 1906, two years after publication of the *Textura*, Ramon y Cajal was awarded the Nobel Prize in physiology and medicine, sharing the prize with Golgi, who, even at this late date tried to dispute Cajal's neuron doctrine in his Nobel lecture. Garrison / McHenry 168-69. Norman, *Grolier Medical Hundred* (1995) 86. See Garrison-Morton 1293.1. The revised French translation of Cajal's work was translated into English as *Histology of the Nervous System* by N. and L.W. Swanson (2 vols., Oxford, 1994). Swanson points out in his introduction to the translation that this masterwork, produced with only primitive tools and Cajal's exceptional brilliance, contains many more discoveries than had previously been attributed to it. 41731

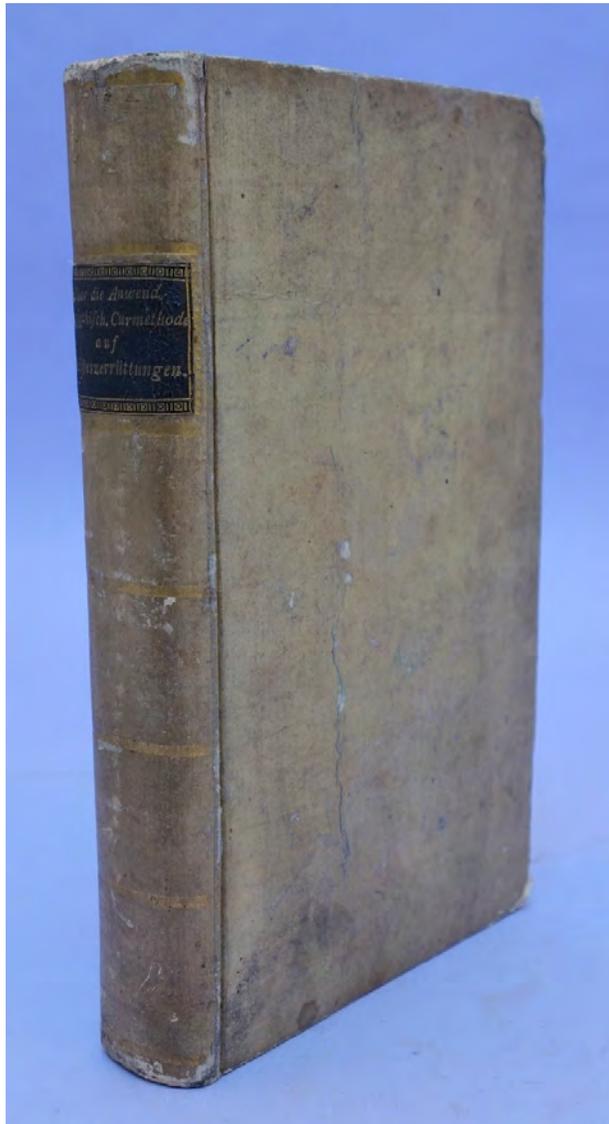


*“Psychiatry” Coined*

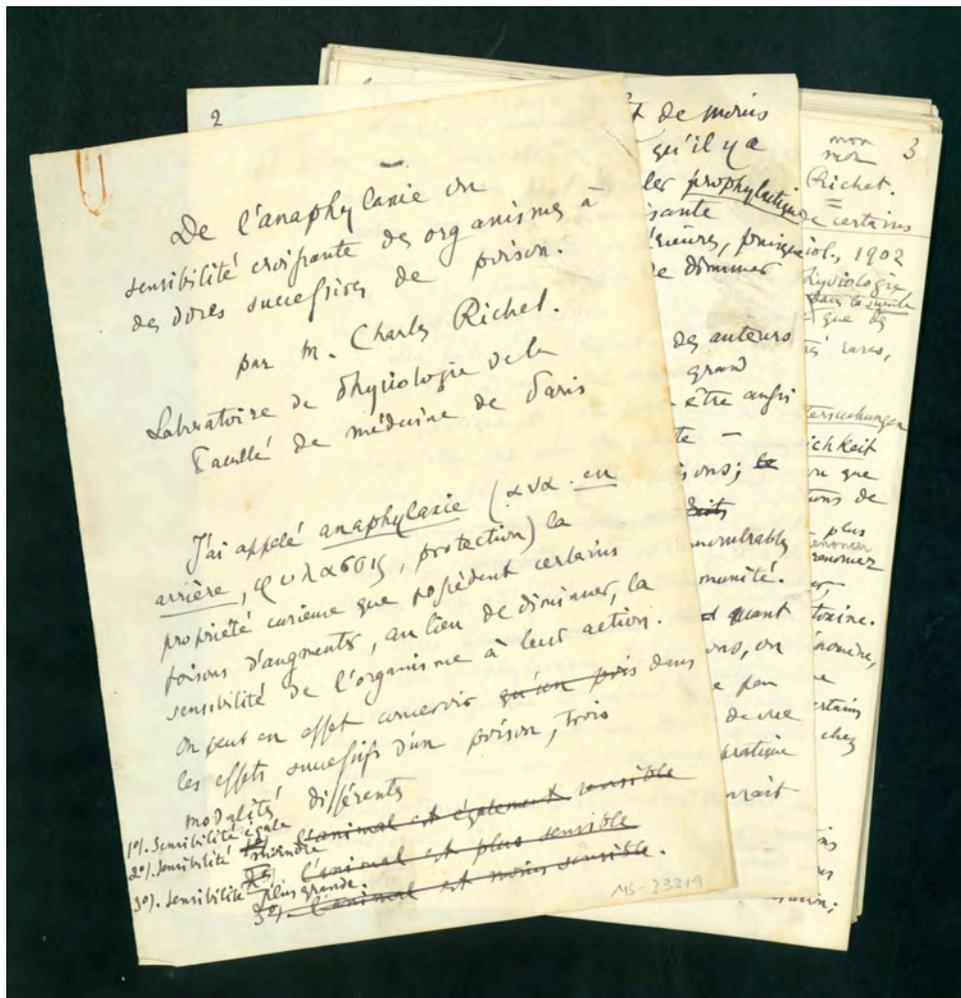
**46.** [Reil, Johann Christian (1759-1813)] *Rhapsodien über die Anwendung der psychischen Curmethode auf Geisteszerrüttungen*. 8vo. 504pp. Halle: Curt, 1803. 207 x 122 mm. Boards ca. 1803, gilt-ruled spine with gilt-lettered label, a little worn and soiled. Fine copy. \$4500

**First Edition of One of the Famous Rarities in Psychiatry.** Reil coined the term “psychiatry,” and was the first to recognize that psychic methods of treatment belong on an equal footing with physical ones. He radically reformed the treatment of mental diseases, advocating such methods as psychotherapy, occupational therapy and shock treatment, which have been taken up again in our own time. He insisted that psychiatry be elevated to an independent branch of study at the universities, and also had enlightened views on the organization of mental hospitals, to which he ascribed two functions: the safekeeping of the terminally insane, and the treatment and cure of those with temporary illnesses. He described what we would now call psychoneuroses, and observed cases of multiple personality and depersonalization.

In the *Rhapsodien*, Reil proposed “a medical and quasi-physiological interpretation of mind, identifying mental powers quite closely with underlying forces of the brain and nervous system. ‘The brain,’ he argued, ‘may be conceived as a synthetic product of art, composed of many sounding bodies that stand in a purposeful



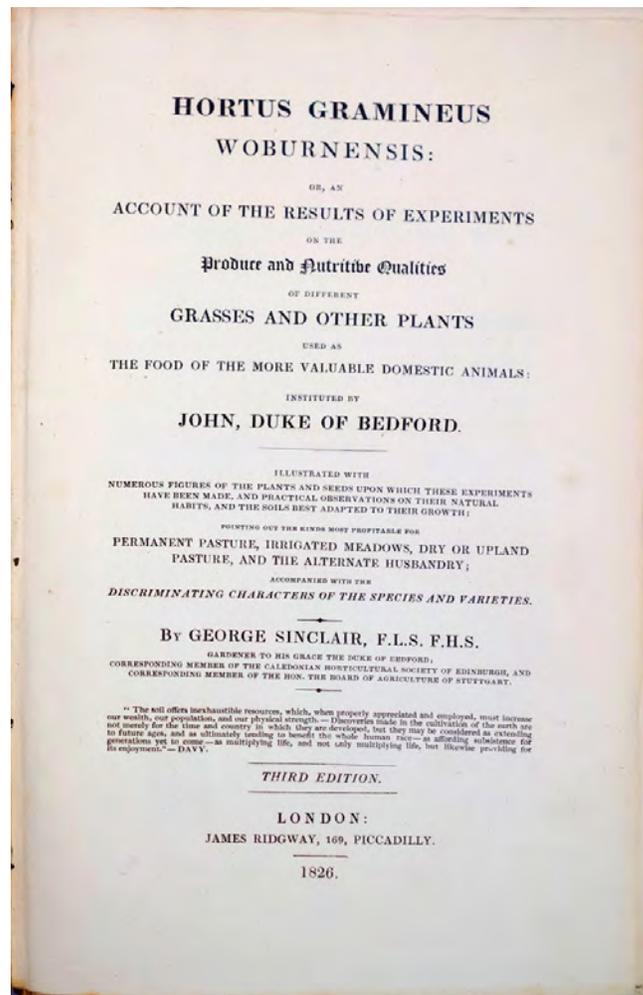
relationship (that is, in rapport) with one another' (*Rhapsodien*, p. 46). Any change in the brain's components from external sources would then change the orchestration of the whole. The ordering of these relations of the parts of the soul's organ is grounded in a determined distribution of forces in the brain and the whole nervous system. If this relationship is disturbed, then dissociations, volatile character, abnormal ideas and associations, fixed trains of ideas, and corresponding drives and actions arise. The faculties of the soul can no longer express the freedom of the will. This is the way the brain of a mad person is produced . . . In the *Rhapsodien*, Reil distinguished three chief forces of the soul, whose disruption could produce pathology. These were self-consciousness, prudential awareness, and attention. He devoted most of his effort in the *Rhapsodien* to the analysis of a force now considered the most crucial for understanding pathologies, that of self-consciousness" (EMB. "Johann Christian Reil." Psychiatry and History. N.p., n.d. Web. Accessed 14 Aug. 2012). Garrison-Morton 4923. Norman 1821. Zilboorg & Henry, pp. 287-89. 41888



### Anaphylaxis—Autograph Manuscript

**47. Richet, Charles** (1850–1935). De l’anaphylaxie ou sensibilité croissante des organismes à des doses successives de poison. **Autograph manuscript signed**, 33 numbered loose leaves, prepared for the printer with numerous erasures and corrections. [Paris, probably before 1911.] 210 x 157 mm. Light horizontal crease where previously folded, minor soiling, rust-marks from paper clip on first and last leaves. Very good. Preserved in a cloth folder. \$7500

Richet and his colleague Paul Portier discovered the phenomenon of anaphylaxis, a hitherto unknown property of the immune system; the discovery was fundamentally important to physiology and pathology and opened up “an immensely important field of study” (Magill, p. 173). In 1902, while researching the toxins produced by the Portuguese man-of-war and sea anemone, Richet and Portier injected dogs with sublethal doses of these poisons in an attempt to convey immunity and determine experimentally the parameters of toxicity. To their surprise, they discovered that second doses of the poison caused shock and death in some of their experimental animals, leading them to conclude that the poison had an effect exactly opposite to the immunizing properties of serums, vaccines, etc.—instead of reinforcing the body’s resistance to a foreign substance, a sublethal dose of the poison created a prolonged and sometimes deadly hypersensitivity to future doses. Richet continued his investigations on anaphylaxis, constructing a general theory of the phenomenon in 1907 (see Garrison–Morton 2599), and attempting to explain the function of anaphylaxis in evolutionary terms. In 1913 he received the Nobel Prize in physiology or medicine for his discovery. Magill, *The Nobel Prize Winners: Physiology or Medicine*, p. 173. 33314



*Source of Darwin's Principle of Divergence; The First Ecological Experiment*

**48. Sinclair, George** (1786–1834). *Hortus gramineus woburnensis*: Or, an account of the results of experiments on the produce and nutritive qualities of different grasses and other plants used as the food of the more valuable domestic animals. . . . Large 8vo. xx, 438, [6, adverts.]pp. 60 lithographed plates by Hullmandel. London: James Ridgway, 1826. 260 x 160 mm. (uncut). Original gray boards, spine worn and chipped, remains of original printed paper label. Internally fine. **With:** A second copy of the same work bound in very attractive green blind-stamped and embossed cloth, and with all the plates **hand-colored**. Leaf of manuscript notes bound in before half-title. A few leaves starting to come loose and occasional minor foxing but a very good copy in an unusual contemporary cloth binding. Armorial bookplate of Abercrombie of Birkenbog, Bart. 240 x 162 mm. \$1850

Third edition, and the **First** to contain the results of the first ecological experiment, which was the source Darwin's principle of divergence as discussed in the first edition Darwin's *On the Origin of Species*. In his experiment Sinclair, head gardener for the Duke of Bedford at Woburn Abbey, compared the performance of different species and mixtures of grasses and herbs growing on different types of soil. Sinclair first mentioned the experiment in the first edition of *Hortus gramineus woburnensis* (1816); however, the results, which were so significant for Darwin's theory of evolution by natural selection, were not published until the third edition of 1826. They showed that a greater diversity of grasses planted resulted in greater production of plant matter.

Sinclair's experiment provided the foundation of Darwin's "principle of divergence," a building block of his theory of evolution by natural selection, by illuminating a central question in ecology and evolution: How is

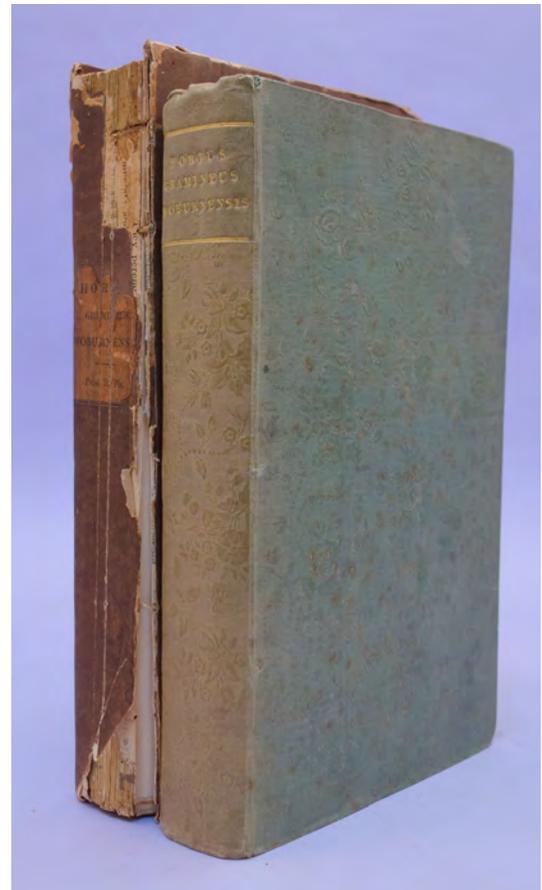


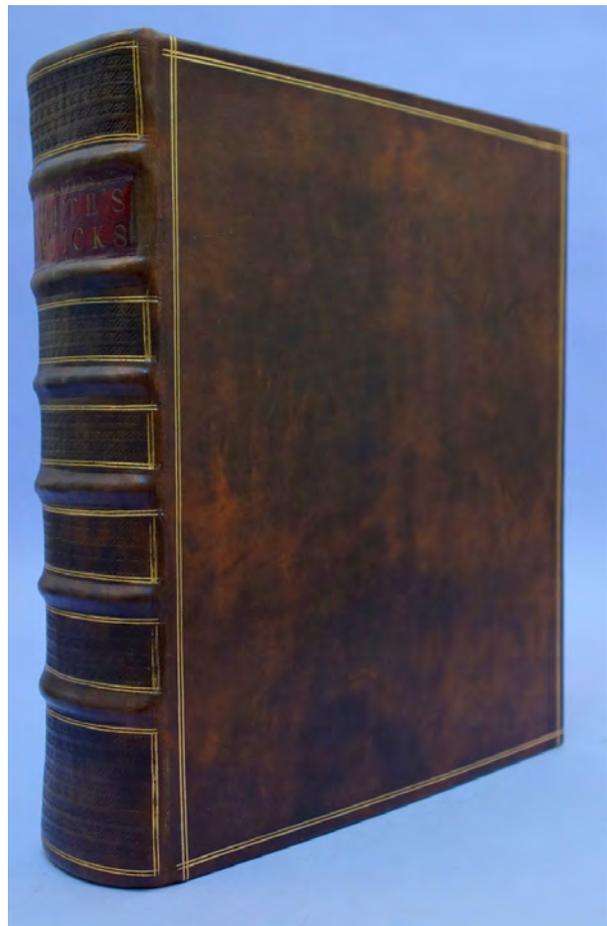
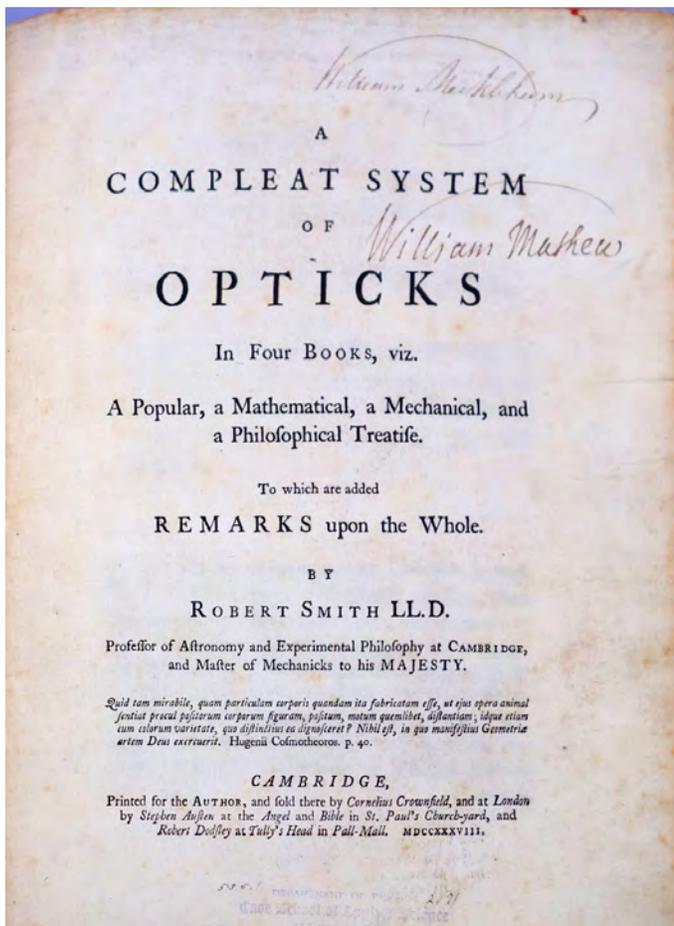
diversity of species in the natural world maintained? In chapter 4 of the *Origin*, which discusses the mechanisms of natural selection, Darwin referred to Sinclair's experiment and the conclusions he drew from it:

It has been experimentally proved, that if a plot of ground be sown with one species of grass, and a similar plot be sown with several distinct genera of grasses, a greater number of plants and a greater weight of dry herbage can thus be raised. The same has been found to hold good when first one variety and then several mixed varieties of wheat have been sown on equal spaces of ground. Hence, if any one species of grass were to go on varying, and those varieties were continually selected which differed from each other in at all the same manner as distinct species and genera of grasses differ from each other, a greater number of individual plants of this species of grass, including its modified descendants, would succeed in living on the same piece of ground (*On the Origin of Species* [1859], p. 113).

Because Darwin did not mention Sinclair's name or cite his work, the source of his knowledge about Sinclair's experiment remained obscure until 2002, when two British scientists revealed that Sinclair's 1826 edition of *Hortus gramineus woburnensis* had provided Darwin the information (see Andy Hector and Rowan Hooper, "Darwin and the first ecological experiment," *Science Magazine* 295, no. 5555 [25 Jan. 2002]: 639-40).

This is an unusual opportunity to acquire this work in its two variant states with the plates black & white and hand-colored. 42641

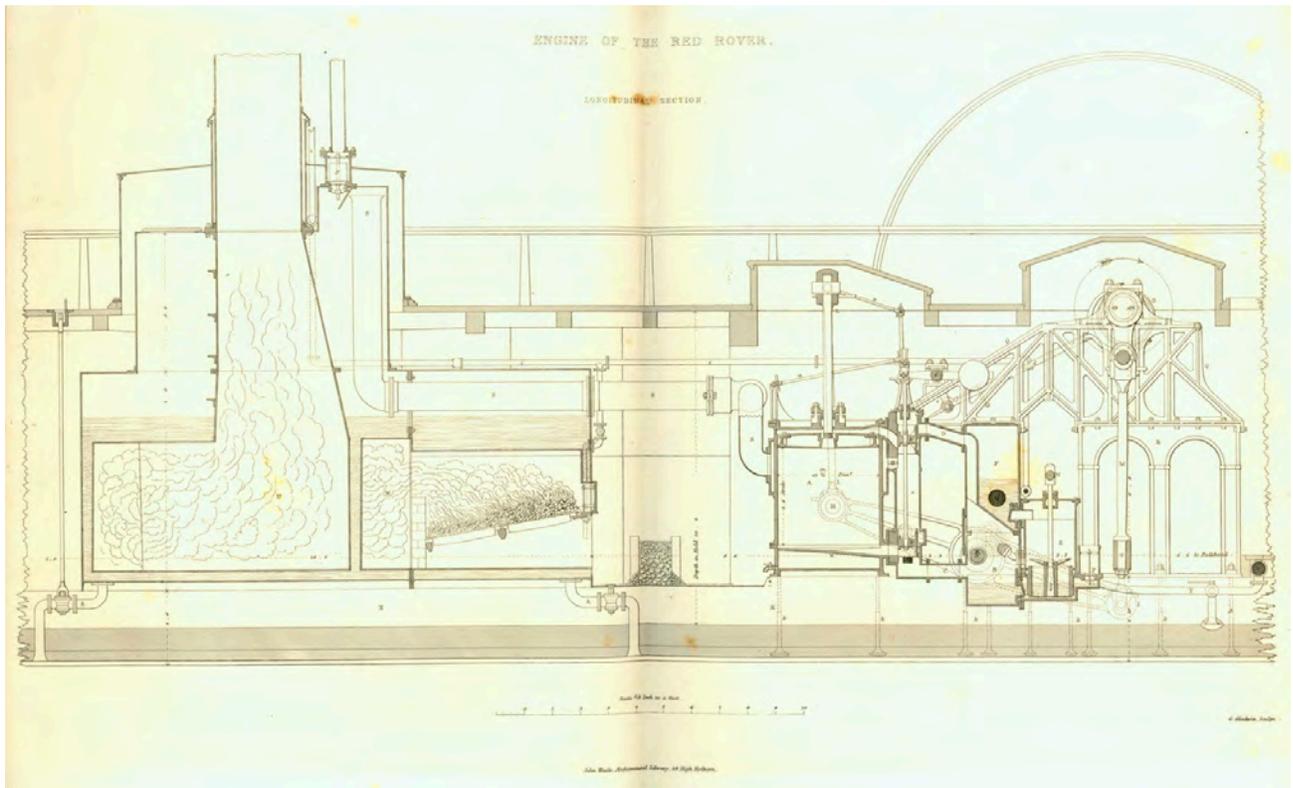




### *Most Influential 18<sup>th</sup> Century Work on Optics*

**49. Smith, Robert** (1689–1768). A compleat system of opticks. . . . 4to. [6], vi, [8], 455, [1], 171, [13] pp. 83 folding engraved plates. Cambridge: for the author, 1738. 288 x 225 mm. Full modern calf, gilt, 18th century style, preserving original gilt morocco spine label. Faint stamp on title, a little foxing, browning & soiling, but very good. 18th century signatures of William Meckleham & William Matheu on title, initials W. M. on fore-edge. \$3500

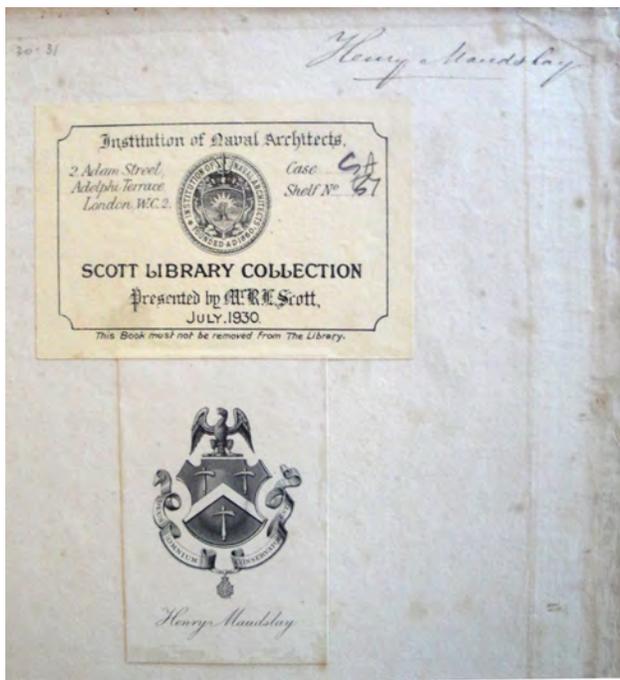
**First Edition.** Smith held the Plumian professorship of astronomy at Cambridge from 1716 to 1760, and in 1742 he succeeded Richard Bentley as Master of Trinity College, Cambridge. Smith was in large part responsible for establishing Newtonian science at Cambridge, through both his teaching and his *Compleat System of Opticks*, which was probably the most influential textbook on its subject published in the 18<sup>th</sup> century. The work covers light, color, theory of vision, construction of microscopes and telescopes (including papers on refracting telescopes by Huygens and Molyneux), methods of grinding and polishing lenses, astronomical discoveries, and concluding with “An essay upon distinct and indistinct vision” by physician James Jurin (1684–1750, see Garrison–Morton 1689). It became widely recognized as the primary authority on Newtonian optics after Newton’s own work on the subject (1704), and was influential in establishing the corpuscular theory of light as the dominant theory of light in 18<sup>th</sup>-century Britain. Jungnickel, *Cavendish*, pp. 120–121. 7281



**50. Tredgold, Thomas** (1788–1829). *The steam engine: Its invention and progressive improvement. . . A new edition, enlarged by the contributions of eminent scientific men, and extended to the science of steam naval architecture.* Edited by W. S. B. Woolhouse. 2 vols., 4to (text and atlas). Engraved frontispiece, xix, [1], 500, 250, [2]pp., plus 16–page publisher’s catalogue (text); engraved frontispiece, vi, [2]pp. plus 123 engraved plates (plate CXVI, not present in the plate numeration, was never issued, as noted in the text). London: John Weale, 1838. 302 x 243 mm. Original cloth-backed boards, a bit worn, rebaked preserving original paper spine labels (worn to near illegibility). Minor foxing and toning, otherwise a fine copy, from the library of [Thomas] Henry Maudslay (1792–1864) with his bookplate and signature in each volume. Publisher’s notice tipped to inside front cover of Vol. I. Bookseller’s ticket of E. & F. N. Spon. Library bookplates in both vols. \$1850

Second edition, revised and considerably expanded from the one-volume first edition of 1827. Tredgold’s work on the steam engine was long considered the best and most complete work of its kind; it went through three editions at widely spaced intervals, each double or more the size of the last. Tredgold died shortly after the publication of the first edition; the later editions, issued by the well-known engineering publisher John Weale, were prepared by different editors and augmented with contributions from other technical authors. The three editions (the third appeared in 1850–53) trace the progress of steam power from the time of Watt to the mid-nineteenth century, and illuminate the development of two new practical engineering sciences: thermodynamics and machine design.

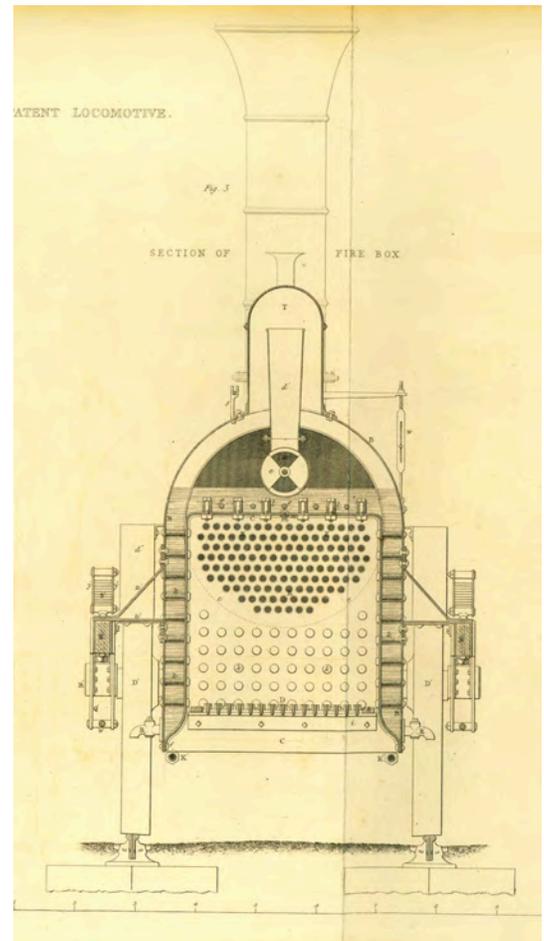
“Few details of engine design escaped Tredgold’s attention . . . his book is a curious combination of fact, theory, and speculation, and its author uses every opportunity to display his mathematical knowledge. Yet it undoubtedly was a notable contribution to steam engine design and theory in its day. Tredgold held that in his book ‘for the first time those minute causes which affect the action of steam are not only stated but reduced to measure . . . in such manner as to be most useful, both to those who wish to apply, and those who wish to



improve . . . the steam engine” (Finch, p. 110). Tredgold discussed the history of the steam engine, the design and uses of both condensing and noncondensing engines, and the proper specifications for steam engine boilers, pistons, cylinders, valves, etc. The last chapter of the first edition was devoted to steam navigation.

The second edition of Tredgold’s work contains a corrected and enlarged version of his 1827 text, and an appendix expanding Tredgold’s final chapter on steam navigation, consisting of 11 papers by other authors. Among these are “On the motion of steam vessels” by Peter W. Barlow (1776–1862), noted for his experimental researches in steam locomotion (see DNB); and “On the steam boats of the United States of America,” by the American engineering authority James Renwick (1792–1863), professor of natural philosophy and experimental chemistry at Columbia College in New York. The second edition’s 125 plates (increased from the first edition’s 20) include illustrations of “the best sea and river vessels, practically illustrating the application of steam-machinery to the purposes of navigation,” as well as “a very lucid and elaborate description, still further illustrated by the aid of numerous wood-cuts in the text, of [Robert] Stephenson’s newest patented locomotive engine” of 1833. This last account was also published separately.

This copy is from the library of [Thomas] Henry Maudslay, son of the engineer Henry Maudslay (1771–1831), inventor of the screw-cutting lathe and numerous other machines, and founder of the firm Maudslay and Field, manufacturer of marine engines. The younger Maudslay took over his father’s business and ran it very successfully; the DNB notes that under his management the firm “constructed the engines for the ships of the royal navy for more than a quarter of a century.” Maudslay’s company is mentioned several times in this edition of Tredgold’s work. DNB. Finch, *Engineering Classics*, pp. 104–110. 38446



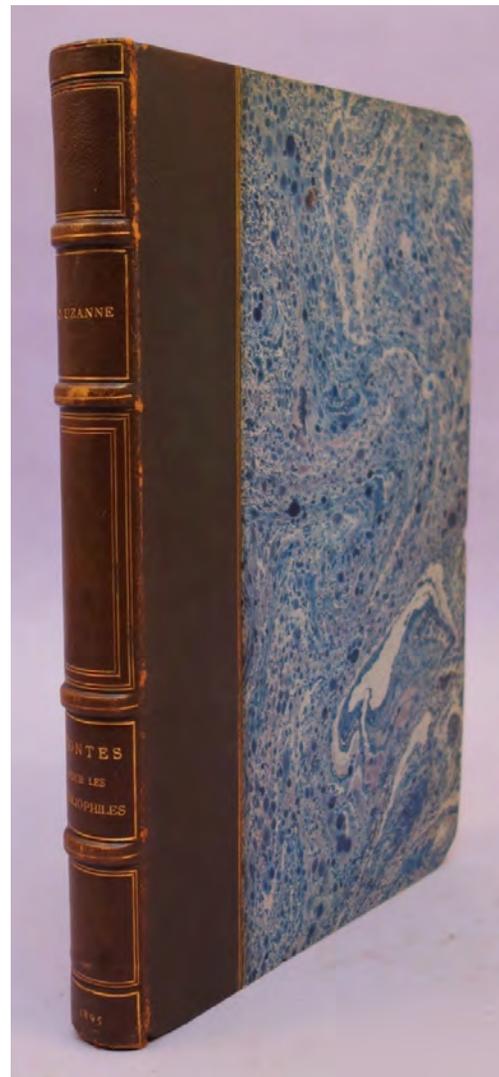
**51. Tredgold, Thomas** (1788–1829). *The principles and practice and explanation of the machinery of locomotive engines . . .* [Vol. II: *The principles and practice and explanation of the machinery used in steam navigation . . .*; Vol. III: *The principles and practice and explanation of the construction of the steam engine . . .*]. 3 vols. in 4, 4to. Multi-volume set. 227 plates, mostly folding, plus folding table. London: John Weale, 1850–53. 310 x 235 mm. Half maroon vellum, cloth sides ca. 1853, light wear & staining, spines faded. Tears along folds of some plates, light toning, fore-edges a bit frayed, otherwise very good. Stamp of the Oxford & Cambridge University Club on verso titles. \$5000

Third edition of Tredgold's *The Steam Engine*, revised and considerably expanded from the one-volume first edition (1827) and two-volume second (1838). Tredgold's work on the steam engine was long considered the best and most complete work of its kind. Tredgold died shortly after the publication of the first edition; the later editions, issued by the well-known engineering publisher John Weale, were prepared by different editors and augmented with contributions from other authors describing recent technological advances. The three editions trace the progress of steam power from the time of Watt to the mid-nineteenth century, and illuminate the development of two new practical engineering sciences: thermodynamics and machine design.

The third edition of Tredgold's work is divided into three volumes: Vol. I is devoted to locomotive engines, Vol. II (consisting of separate text and atlas vols.) is on steamship engines, and Vol. III discusses the construction of steam engines, boilers and the turbine wheel. DNB. Finch, *Engineering Classics*, pp. 104–110 (discussing the first edition). 38435



The opening page of Uzanne's "Fin des Livres" shows a woman and a man listening to "phonographic texts" via "storyographe." At the lower left is a menu of selections (novels, poetry, gazettes, etc.)



### *Predictor of the Electronic Book 100 Years before the Internet*

**52. Uzanne, Octave** (1851–1931) and **Albert Robida** (1848–1926). *Contes pour les bibliophiles*. [4], iv, 230, [2, colophon]pp. 17 plates (4 hand-colored) in various media, printed advertisement for Fragonard's "Les Fricatrices" after p. 184, hand-colored vignette on title, numerous text illustrations. Paris: Ancienne Maison Quantin, Librairies-Imprimeries Réunies, 1895. Quarter morocco, marbled boards c. 1895, light wear at hinges; original printed wrappers, with illustrations and typography by Art Nouveau artist **George Auriol** (1863–1938), bound in. Minor foxing and toning, bookplate removed from one of the front flyleaves, but very good. No. 989 of 1000 copies printed on Japanese vellum. \$1450

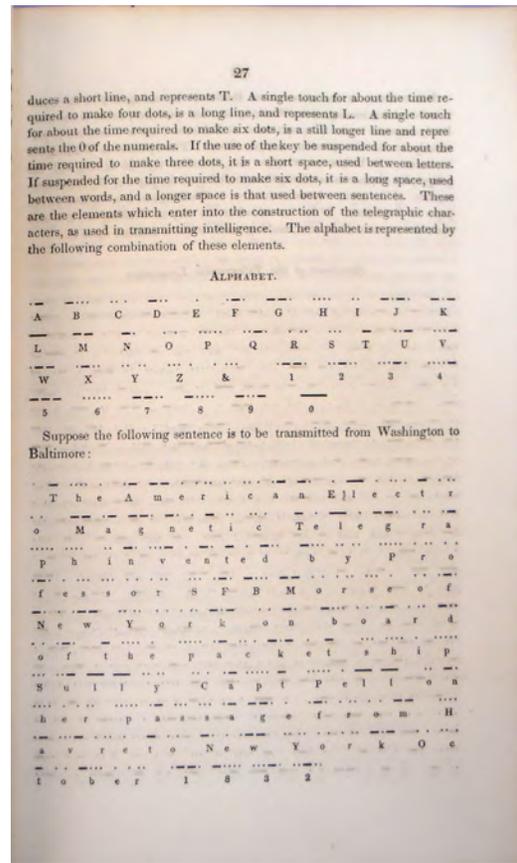
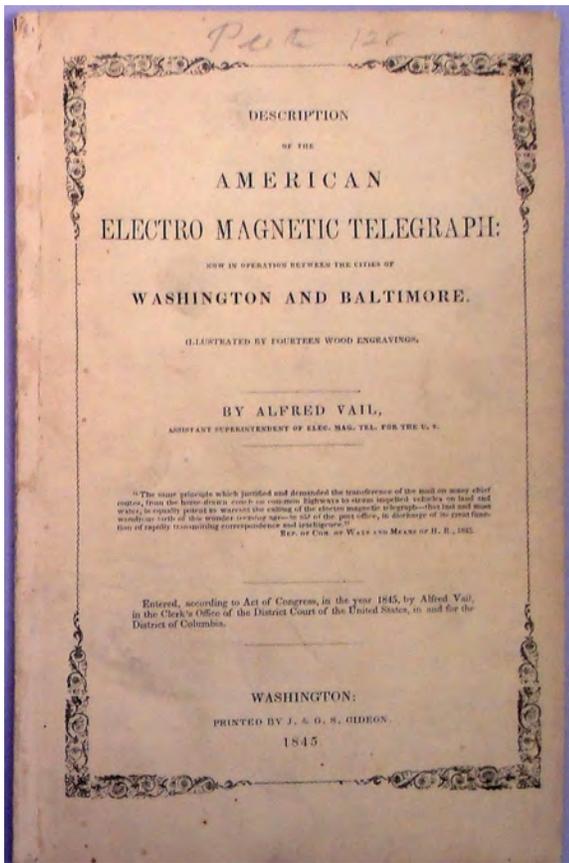
**First Edition.** Uzanne's collection of bibliophilic fairy tales includes his famous and prescient "La fin des livres," in which he predicted, one hundred years before the rise of the World Wide Web, that the printed book would be replaced by electrical devices capable of transmitting both visual and auditory signals into the home. Written at a time of great technological innovation—the telephone, phonograph and motion picture had all appeared during the previous two decades—Uzanne's story drew upon both his excitement and his ambivalence about these revolutionary changes in the means of distributing information and how they would affect the books of the future, themes that are certainly familiar to us today in the age of the Internet and electronic books.



The story's narrator claims that

the phonograph will soon replace the printing press for reasons technical, cultural, and even physiological. . . . The promise of enhanced transmission of the phonographic “texts” that books would soon become . . . would in turn bring pleasure to the “man of leisure” for whom this product was destined. While the act of reading, Uzanne’s fictional bibliophile insists in “La Fin des livres,” provoked “a great weariness,” consuming cerebral phosphates and forcing bodies to bend themselves uncomfortably, the act of listening encouraged nothing but “bliss and restfulness.” In addition to affording greater leisure, the bibliophile argues, the compact *storyographe* offered a technological solution to the problem of overproduction and thus storage of print matter . . . Technological progress, leisure culture, and overproduction of print would thus combine, in Uzanne’s vision, to make the book obsolete (Silverman, pp. 207–208).

Uzanne was himself a great lover of books: Silverman characterizes him as “the high priest of fin-de siècle bibliophilia” (p. 14), and he was the founder of no fewer than three influential book reviews and two bibliophilic societies. He was also a nineteenth-century technophile who had met Thomas Edison and who believed that “the future and success will belong to innovators” (Silverman, pp. 15–16). Uzanne’s co-author and illustrator for the *Contes*, Albert Robida, was an early science fiction writer, author of a futuristic trilogy set in the twentieth century describing a technological utopia. Among the fantastic inventions Robida conceived for his trilogy was the *téléphonoscope*, a forerunner of television and the smartphone, which provided Uzanne the inspiration for “La fin des livres.” Silverman, *The New Bibliopolis: French Book Collectors and the Culture of Print 1880-1914* (2008). 42654

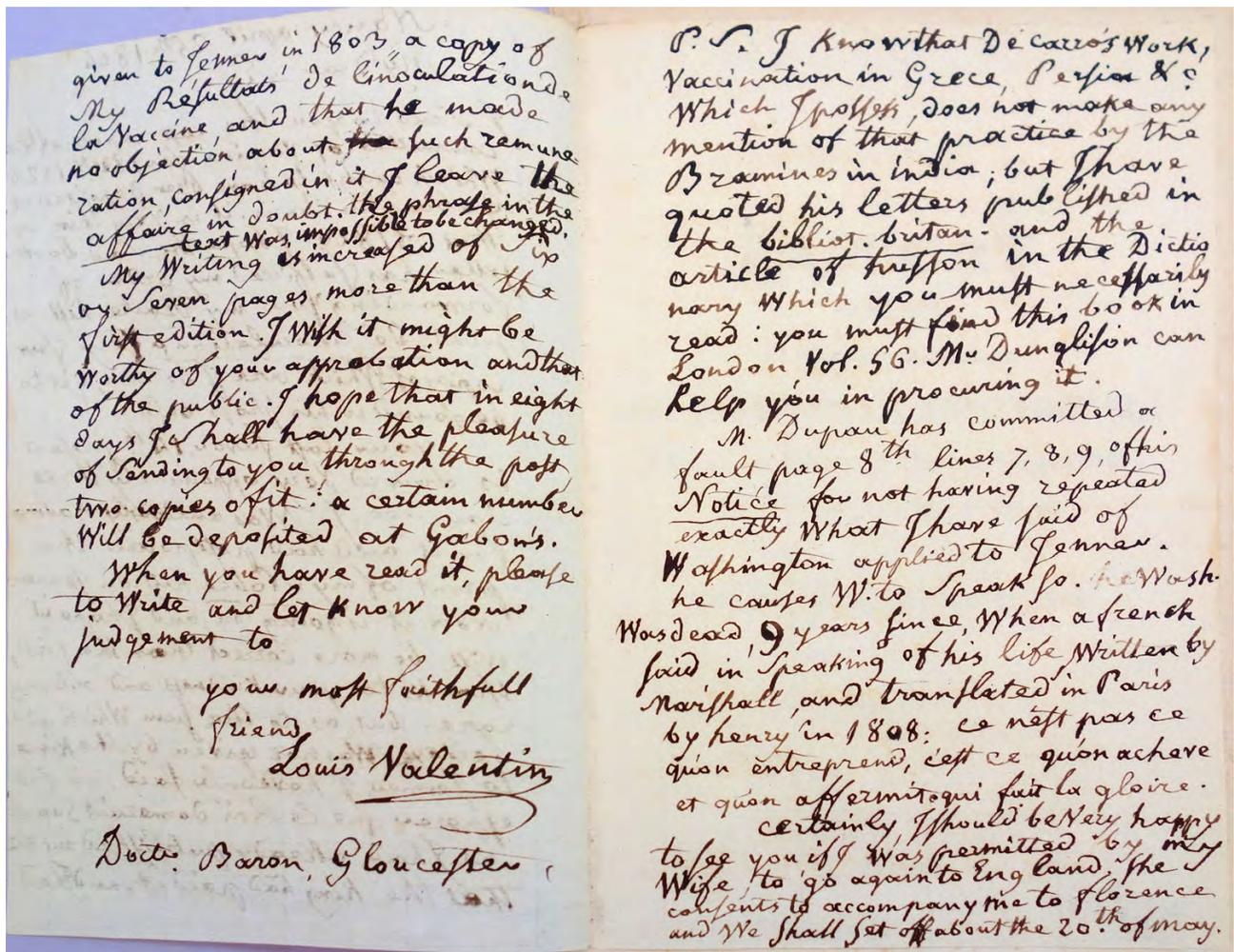


## Morse Code—Bern Dibner's Copy

**53. Vail, Alfred** (1807–59). Description of the American electro magnetic telegraph: Now in operation between the cities of Washington and Baltimore. 24pp. Woodcut text illustrations. Washington: J. & G. S. Gideon, 1845. 229 x 147 mm. Original printed wrappers. Fine copy in a cloth case, from the library of Bern Dibner (1897–1988), with his bookplate on the front cover of a cardboard folder, Burndy Library stamp and withdrawal stamp on the inside front cover of folder. Commemorative Samuel F. B. Morse postage stamp originally pasted by Dibner to front wrapper removed and enclosed in mylar envelope, all enclosed in the case. \$2750

**First Edition.** Probably the first publication of Morse code, the first widely used data code. On May 24, 1844 Samuel F. B. Morse transmitted the first telegraph message (“What hath God wrought?”) on an experimental telegraph line strung between Baltimore and Washington D.C., using the version of “Morse code” that became standard in the United States and Canada. The recipient of the message was Albert Vail, Morse’s partner in developing the telegraph. Vail, who had worked with Morse since 1837, expanded Morse’s original experimental numeric code (based on optical telegraph codes) to include letters and special characters so that it could be used more generally. Vail determined the frequency of use of letters in English by counting the moveable type he found in the typesets of a local newspaper. The code consisted of arrangements of shorter marks (“dots”) and longer marks (“dashes”); the letters most commonly used were assigned shorter sequences of dots and dashes. Vail was thus responsible for inventing the most useful and efficient features of Morse code. Vail published the code in 1845 in the present pamphlet and in a 208-page book; the pamphlet most likely preceded the book.

This copy is from the library of Bern Dibner, electrical engineer, bibliophile and founder of the Burndy Library, whose vast collection of rare books on science and engineering is now housed at the Smithsonian Institution and Huntington Library. Hook & Norman, *Origins of Cyberspace* 208. 42233

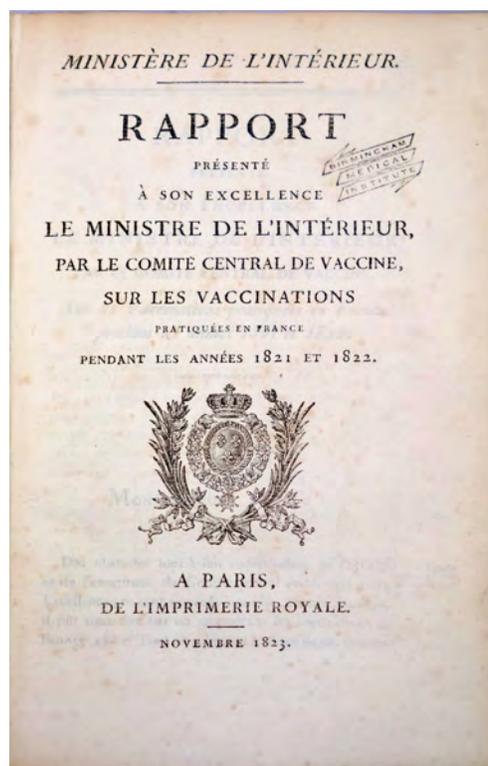


**54. Valentin, Louis** (1758-1829). Autograph letter signed, in English, to John Baron (1786-1851). 3pp. Nancy, April 25, 1824. 182 x 119 mm. **With:** Rapport présenté à son excellence le Ministre de l'Intérieur, par le comité central de vaccine, sur les vaccinations pratiquées en France pendant les années 1821 et 1822. 8vo. [4], 99pp. Paris: L'Imprimerie Royale, November 1823. Together 2 items; Valentin's autograph letter tipped to the first leaf of the *Rapport*. Quarter morocco, marbled boards in period style *Rapport* a little foxed, but fine otherwise. \$3250

Excellent letter discussing vaccination and Edward Jenner from French physician Louis Valentin, the leading promoter of vaccination in France, to John Baron, Jenner's first biographer, whose two-volume *Life of Edward Jenner* was published in 1838.

A native of Nancy, Valentin spent seven or eight years in Haiti and the United States where he practiced smallpox inoculation. He returned to France in 1798, the year in which Jenner's famous *Inquiry* was published, and in the following year published *Traité historique et pratique de l'inoculation* (1799-1800), co-authored with François Dezoteux, which was the first French book to mention Jenner's work. Although at first skeptical, Valentin soon adopted Jenner's methods and became actively involved in the spread of vaccination throughout France. He traveled to London in 1803 to meet Jenner and two years later published a *Notice biographique sur le docteur Jenner* (1805); in 1824, the year after Jenner's death, he reissued this in a revised and expanded edition under the title *Notice historique sur le docteur Jenner*.

Valentin's letter to Jenner's biographer mentions the *Notice historique*, which he was then working on, and other works by him on vaccination and inoculation, as well as the present copy of the Comité Central de Vaccine's *Rapport* for 1821-22, which he enclosed with the letter:



I send to you the last report of the Committee of Vaccine for 1821 & 1822 which ought to have been deposited at Gabon's in Paris. It is very thin as that of 1820. . . .

Your last favor 14<sup>th</sup> present is arrived very opportunely three days ago. I was anxiously waiting for it and had postponed the print of my *Notice hist. on Jenner*. Now, it is going on, and I hope it will be more correct than the first, thanks to your kindness and obliging care. But, as to the sum which you believe was not given by the King to Jenner, I have only said: *On fit espérer que le Roi donnerait 500£* [it was hoped that the King would give £500] as I had already published in 1802 that the King had paid it, and I had given to Jenner in 1803 a copy of my *Résultats de l'inoculation de la vaccine* and that he made no objection about such remuneration, consigned in it. I leave the affaire [sic] in doubt. The phrase in the text was impossible to be changed.

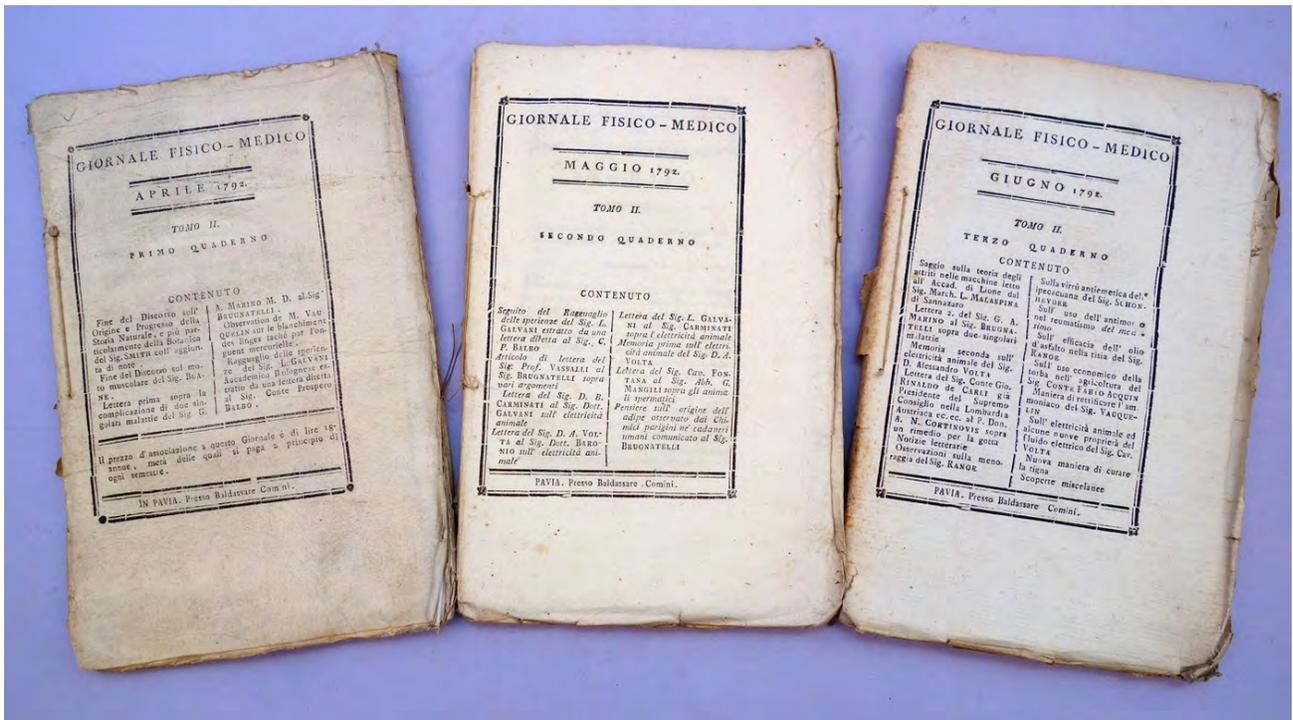
My writing is increased of six or seven pages more than the first edition. I wish it might be worthy of your approbation and that of the public. I hope that in eight days I shall have the pleasure of sending to you through the post two copies of it . . . When you have read it please to write and let know your judgment to your most faithfull friend Louis Valentin.

Valentin added a long postscript to his letter in which he further discusses vaccination and Jenner:

P.S. I know that De Carro's work, *Vaccination in Grece, Persie &c.* [i.e., Joannes de Carro's *Histoire de la vaccination en Turquie, en Grèce, et aux Indes orientales* (1804)], which I possess, does not make any mention of that practice by the Bramines in India, but I have quoted his letters published in the *Bibliot. britan.* . . .

M. Dupau [i.e., J.-Amédée Dupau, author of *Notice historique sur le Dr. Edward Jenner, inventeur de la vaccine* (1824)] has committed a fault page 8<sup>th</sup> lines 7, 8, 9 of his *Notice* for not having repeated exactly what I have said of Washington applied to Jenner. He causes W. to speak so. Wash. was dead, 9 years since, when a French[man] said, in speaking of his life, written by Marshall, and translated in Paris by Henry in 1808: *ce n'est pas ce qu'on entreprend, c'est ce qu'on achève et qu'on affermit qui fait la gloire* [it is not what we undertake, it is what we achieve and establish that gives us glory] . . .

Bazin, *Vaccination—A History* (2011), *passim*. 42652



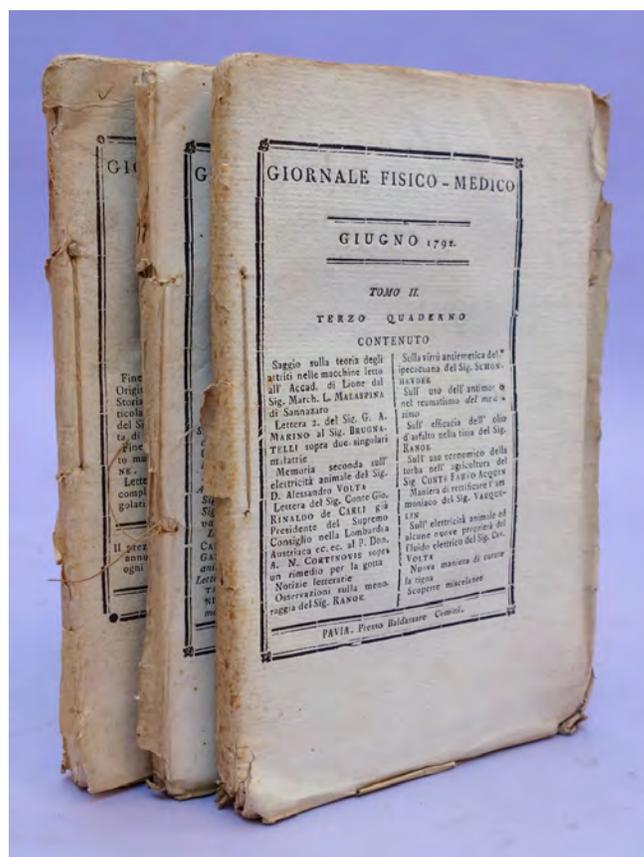
*Galvani-Volta Debate on Electrophysiology—Extremely Rare Journal Issues Includes Volta’s First Memoirs on Electrophysiology and the Galvani-Carminati Correspondence*

**55. Volta, Alessandro** (1745–1827). (1) Memoria prima sull’ elettricità animale. In *Giornale fisico-medico* 2 (1792): 146–187. (2) Memoria seconda sull’ elettricità animale. In *Giornale fisico-medico* 2 (1792): 241–270. (3) **Carminati, Bassano**. Lettera del Signor Don Bassano Carminati . . . diretta al chiarissimo Sig. Dottore Galvani dell Instituto di Bologna. In *Giornale fisico-medico* 2 (1792): 115–121. (4) **Galvani, Luigi** (1737–98). Lettera del chiarissimo Sig. Dottore Luigi Galvani . . . al Sig. Prof Don Bassiano Carminati. In *Giornale fisico-medico* 2 (1792): 131–145. Together three journal numbers (April – June, 1792), containing the papers cited above *plus four more* on electrophysiology. 221 x 142 mm. (uncut). Original printed wrappers, spines a little worn, minor dust-soiling, spotting and fraying, but very good.

\$7500

**First Editions**, *Extremely Rare Journal Issues in the Original Printed Wrappers, Uncut*. This 18<sup>th</sup> century Italian scientific journal is rare in any form—issues in printed wrappers, uncut, are of the greatest rarity.

In March 1791 Galvani published his famous *De viribus electricitatis*, in which he described the production of muscle contractions in prepared frogs’ legs by electricity. Galvani had inadvertently discovered the central phenomenon of galvanism—the production of electric current from the contact of two different metals in a moist environment—but he interpreted his results as proving the existence of a special “animal” electricity present in muscle tissue, distinct from the frictional electricity produced by electrical apparatus such as the Leyden jar. Galvani sent an offprint of his paper to Alessandro Volta, professor of experimental physics at the University of Pavia, who had been investigating electrical phenomena since the 1760s. Volta initially dismissed Galvani’s results as “unbelievable” and “miraculous,” but he began replicating Galvani’s experiments in late March 1792 and by April 1 “had begun the brilliantly planned and executed experiments that step by step brought him to the invention of the [electric] pile” (*Dictionary of Scientific Biography*). Volta’s first response to Galvani came on May 5, 1792, when he gave a lecture at the University of Pavia devoted to a detailed critique



of Galvani's hypothesis. "The convulsive movements, according to [Volta's] belief, were due to electric currents generated by the contact of dissimilar metals affecting the preparation—in short, 'metallic' electricity rather than 'animal' electricity" (Fulton & Cushing, p. 245). This important discourse, which marks the beginning of the Galvani-Volta debate on electrophysiology, was published in the May 1792 issue of L.V. Brugnatelli's *Giornale fisico-medico* as "Memoria prima sull' elettricità animale" (no. [1] above); it was followed by his "Memoria secunda" in the June 1792 issue (no. [2] above) and several later papers on the subject. By the end of 1792, after countless experiments on animals, Volta had concluded that "all galvanic excitations arose from external electrical stimulation" (*Dictionary of Scientific Biography*).

Bassano Carminati, professor of medicine at the University of Pavia, had also been given a copy of Galvani's 1791 paper. On April 3, 1792 Carminati wrote a letter of acknowledgement to Galvani (no. [2] above); this letter, published in the May 1792 number of the *Giornale fisico-medico*, is extremely important in the history of electricity as "it first drew the attention of the learned world to Galvani's studies, and thus inaugurated the controversy with Volta which immediately followed" (Fulton & Cushing, p. 258). Galvani sent Carminati a response dated May 8 (no. [3] above) containing further observations on "animal" electricity, including experiments on an amputated human arm and leg.

Along with the papers described above, these issues of the *Giornale fisico-medico* contain four other papers dealing with Galvani and Volta's electrophysiology research, including Eandi's letter to Prospero Balbo describing Galvani's experiments; Volta's letter to Dr. Giuseppe Baronio; and Volta's memoir on "Animal electricity and some new properties of the electric fluid". Presumably in response to demand for separate issues that he could not supply, Brugnatelli re-issued most of these papers as a book titled *Memorie sull' elettricità animale inserite nel Giornale fisico-medico del Sig. Brugnatelli*. This edition, from reset type, and omitting Eandi's letter and Volta's final memoir, was also published in 1792; see the Norman catalogue, no. 870 (mischaracterizing the separate edition as an offprint). Fulton & Cushing, "A bibliographical study of the Galvani and the Aldini writings on animal electricity," *Annals of Science* 1 (1936): 239-268. 42448

M.H. Wilkins

## MOLECULAR STRUCTURE OF NUCLEIC ACIDS

Franklin Crick

### A Structure for Deoxyribose Nucleic Acid

WE wish to suggest a structure for the salt of deoxyribose nucleic acid (D.N.A.). This structure has novel features which are of considerable biological interest.

A structure for nucleic acid has already been proposed by Pauling and Corey<sup>1</sup>. They kindly made their manuscript available to us in advance of publication. Their model consists of three intertwined chains, with the phosphates near the fibre axis, and the bases on the outside. In our opinion, this structure is unsatisfactory for two reasons: (1) We believe that the material which gives the X-ray diagrams is the salt, not the free acid. Without the acidic hydrogen atoms it is not clear what forces would hold the structure together, especially as the negatively charged phosphates near the axis will repel each other. (2) Some of the van der Waals distances appear to be too small.

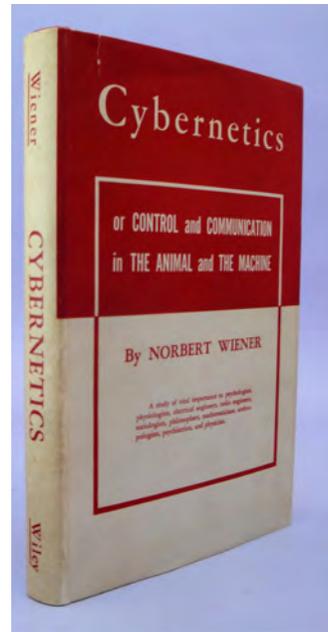
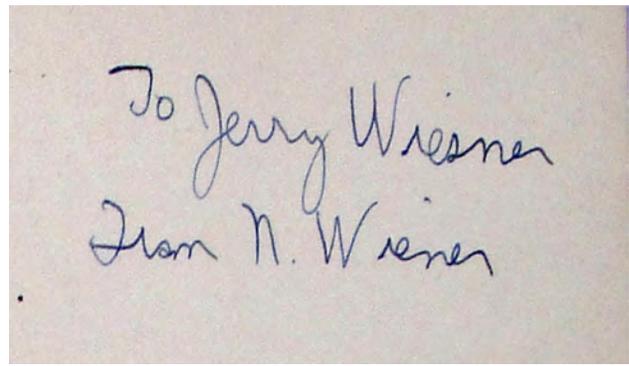
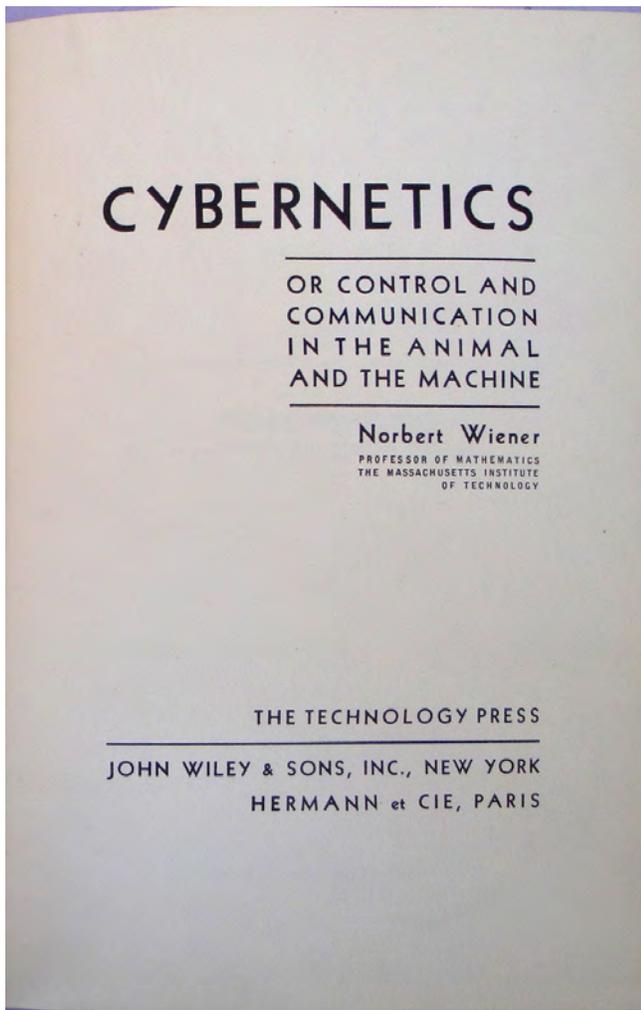
Another three-chain structure has also been suggested by Fraser (in the press). In his model the phosphates are on the outside and the bases on the inside, linked together by hydrogen bonds. This structure as described is rather ill-defined, and for this reason we shall not comment on it.

We wish to put forward a radically different structure for the salt of deoxyribose nucleic acid. This structure has two helical chains each coiled round the same axis (see diagram). We have made the usual chemical assumptions, namely, that each chain consists of phosphate di-ester groups joining 5-D-deoxyribofuranose residues with 3',5' linkages. The two chains (but not their bases) are related by a dyad perpendicular to the fibre axis. Both chains follow right-handed helices, but owing to the dyad the sequences of the atoms in the two chains run in opposite directions. Each chain loosely resembles Furberg's<sup>2</sup> model No. 1; that is, the bases are on the inside of the helix and the phosphates on the outside. The configuration of the sugar and the atoms near it is close to Furberg's 'standard configuration', the sugar being roughly perpendicular to the attached base. There is a residue on each chain every 3.4 Å. in the z-direction. We have assumed an angle of 36° between adjacent residues in the same

### Discovery of the Double Helix: The "Three-Paper" Offprint, Signed by Five of its Authors

**56. Watson, James D.** (1928- ) & **Crick, Francis H. C.** (1916- ). Molecular structure of nucleic acids. A structure for deoxyribose nucleic acid. **With: Wilkins, Maurice** (1916- ); **Stokes, A. R.;** & **Wilson, H. R.** Molecular structure of deoxypentose nucleic acids. **With: Franklin, Rosalind** (1920-58) and **Gosling, R. G.** Molecular configuration in sodium thymonucleate. Together three papers in a single offprint from *Nature* 171, no. 4356 (April 25, 1953). 8vo. 13, [1]pp. 211 x 141 mm. Without wrappers as issued. Signed by Francis Crick and Maurice Wilkins on the first page, by H. R. Wilson and A. R. Stokes on p. 9, and by R. G. Gosling on p. 14. Fine copy. \$40,000

**First Separate Edition.** Watson and Crick's discovery of the double helical structure of DNA is the most important medical and biological discovery of the twentieth century. Their paper first appeared in the scientific journal *Nature*, grouped, under the general title "The molecular structure of nucleic acids," with two other seminal papers on DNA: "Molecular structure of deoxypentose nucleic acids," by Maurice Wilkins, A. R. Stokes and H. R. Wilson; and Rosalind Franklin and Raymond Gosling's "Molecular configuration in sodium thymonucleate," which contains Franklin's famous x-ray photograph of DNA that supplied evidence crucial to Watson and Crick in their solution of the structure. The original offprint, offered here, included the papers from all three research groups. This copy is signed by all researchers except Watson and Franklin. No copies of the offprint exist with Franklin's signature. Dibner, *Heralds of Science*, 200. Grolier, *100 Books Famous in Medicine*, 99. Judson, *Eighth Day of Creation*, pp. 145-56. 38485



*The First Book on Electronic Computing  
 Inscribed to Jerome B. Wiesner, Director of MIT's Research  
 Laboratory of Electronics Where Wiener Did his Research*

**57. Wiener, Norbert** (1894–1964). *Cybernetics or control and communication in the animal and the machine*. 8vo. [2], 194pp. New York: John Wiley & Sons; Paris: Hermann et Cie., 1948. 229 x 152 mm. Original red cloth, red and gray printed dust-jacket (a little spotted, front flap corner clipped, very small tear repaired). Very good. *Inscribed by Wiener to Jerome B. Wiesner on the front free endpaper: "To Jerry Wiesner from N. Wiener."* Wiesner's signature on the front pastedown. \$6000

**First American Edition**, following shortly after the French edition that appeared in English the same year. We have never seen or heard of a presentation copy of the French edition, and this is the *only presentation copy of the American edition we have ever heard of*. Wiener presented this copy to fellow MIT scientist Jerome B. Wiesner (1915–94), director of MIT's Research Laboratory of Electronics, where Wiener did much of his research. Wiesner served as MIT's president from 1971 to 1980; he was also a science advisor to Presidents Eisenhower, Kennedy and Johnson.

Wiener's widely circulated and influential treatise on feedback applied theories of information and communication to both biological systems and machines; it was the first conventionally published book (as opposed to technical report) to include a serious discussion of electronic digital computing. Wiener, independently of Claude Shannon, conceived of communications engineering as a brand of statistical physics

and applied this viewpoint to the concept of information; writing as a mathematician rather than an engineer, his discussion was theoretical rather than specific. Computer-related words beginning with the “cyber-” prefix, including “cyberspace,” originate from Wiener’s book.

Wiener’s chapter on “Time series, information, and communication” contained the first publication of Wiener’s formula describing the probability density of continuous information. This is remarkably close to Shannon’s formula dealing with discrete time published in “A mathematical theory of communication” (1948). *Cybernetics* also contained a chapter on “Computing machines and the nervous system.” This was a theoretical discussion, influenced by McCulloch and Pitts, of differences and similarities between information processing in the electronic computer and the human brain. It contains a discussion of the difference between human memory and the different computer memories then available. Tacked on at the end of *Cybernetics* were speculations by Wiener about building a chess-playing computer, predating Shannon’s first paper on the topic.

*Cybernetics* is a peculiar, rambling blend of popular and highly technical writing, ranging from history to philosophy, to mathematics, to information and communication theory, to computer science, and to biology. Reflecting the amazingly wide range of the author’s interests, it represented an interdisciplinary approach to information systems both in biology and machines. It influenced a generation of scientists working in a wide range of disciplines. In it were the roots of various elements of computer science, which by the mid-1950s had broken off from cybernetics to form their own specialties. Among these separate disciplines were information theory, computer learning, and artificial intelligence.

Wiley had the first edition of Wiener’s book typeset and printed by letterpress in France by the French publishers Hermann et Cie, probably because the French firm was a specialist in mathematical publications. The first edition was thus issued in Paris. The first American edition was printed offset from the French sheets and issued by John Wiley in New York, also in 1948. Because the typesetting was done in Europe Wiener likely did not have the opportunity to read proofs carefully, as the first edition contained many typographical errors which were repeated in the American edition. These remained uncorrected through the various printings of the American edition until a second edition was published by John Wiley and MIT Press in 1961.

Though the book contained a lot of technical mathematics, and was not written for a popular audience, the first American edition went through at least five printings during 1948, as well as several later printings. Sales of Wiener’s book were helped by notices in popular journals such *Time Magazine*, which published its review, titled “In Man’s Image,” on December 27, 1948. *Origins of Cyberspace* 992. 42611