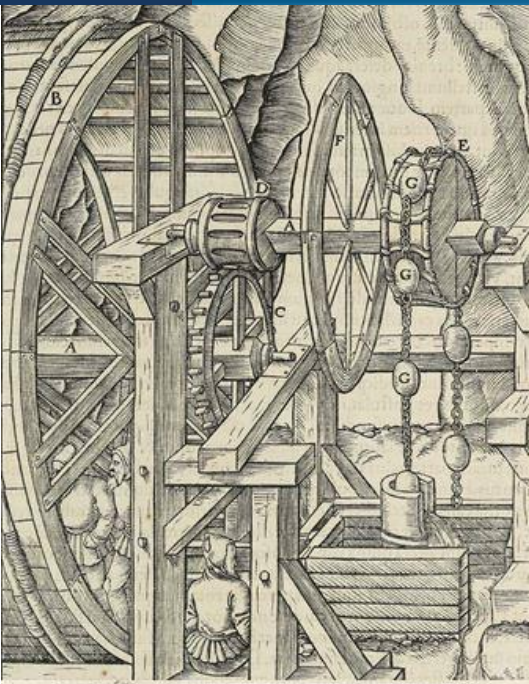
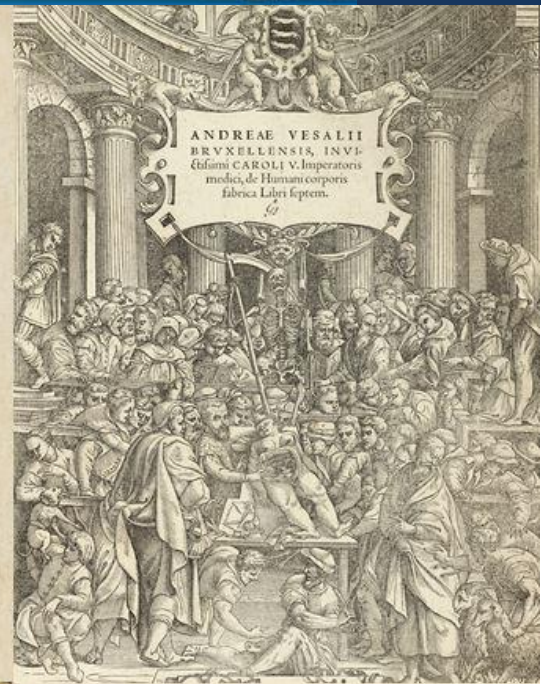


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Sectionibus septem comprehensa.
CVM PRIVILEGIO.

INTRODUCTIO
IN ANALYSIN
INFINITORUM.

AUCTORE
LEONHARDO EULERO,
*Professore Regio BEROLINENSI, & Academia Im-
periali Scientiarum PETROPOLITANÆ
Socio.*

TOMUS SECUNDUS.



LAUSANNÆ,
Apud MARCUM-MICHAËLEM BOUSQUET & Socios.

MDCCLXVIII

TRAITÉ
ÉLÉMENTAIRE
DE CHIMIE,
PRÉSENTÉ DANS UN ORDRE NOUVEAU
ET D'APRÈS LES DÉCOUVERTES MODERNES;
Avec Figures:

Par M. LAVOISIER, de l'Académie des
Sciences, de la Société Royale de Médecine, des
Sociétés d'Agriculture de Paris & d'Orléans, de
la Société Royale de Londres, de l'Institut de
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1. Books listed in Grolier/Medicine

Haskell Norman. *One Hundred Books Famous in Medicine*. The Grolier Club, NY, 1995, 390 pp.

Grolier 13A - The first printed textbook on midwifery and of utmost rarity

1 **RÖSSLIN, Eucharius [ROESSLIN]**. *Der Swangern Frauen und Hebammen Rosgarten*. Strassburg: Martinus Flach, 6 March 1513. 4to (207 x 150 mm). [114] pp. Collation: A-N⁴ O⁶ (-O6), title with woodcut border of four blocks by Hans Baldung Grien, four full-page woodcuts comprised of two illustrations in duplicate and twenty smaller woodcuts. Colophon: "Argentine Martinus Flach iunior impressit ... Anno.Mccccvij." Lacking final blank only. Leaves D2 misbound after D3, N1 after N2 and N3 after N4. Early 20th century full calf over thick wooden boards with single brass clasp, spine with three raised bands, boards ruled and decoated in gilt, binding in the style of Roesslin's dedication copy to Katherine (extremities little rubbed). Text little browned throughout, light soiling and spotting in places, light dampstaining to first three gatherings, old paper repairs to corners or blank margins of fourteen leaves (with browning of repair-paper), small wormtracks throughout (more frequent in first leaves) partially affecting text. Blank verso of title-page backed with thin paper, author's name and year added in contemporary hand, illegible old ownership inscription "Ex bibliotheca Stoles(?)". Provenance: from a French private medical library. Still a very good, wide-margined copy. (#002586) € 60,000

EXTREMELY RARE FIRST EDITION OF THE EARLIEST PRINTED TEXTBOOK ON MIDWIFERY, first published by Martin Flach in Strassburg on March 6, 1513. The Hagenau edition, sometimes erroneously stated as the first



edition is actually a reprint dated by Benzing ca. 1515 (see Benzing, Norman and Garrison-Morton online for correction). The Cologne edition - sometimes erroneously assigned as second Hagenau issue (which is nonexistent, see Benzing) - is dated ca. 1518. Roesslin's book is based on the manuscripts of Soranus of Ephesus who wrote in the second century AD and the c. sixth-century Moschion Codex in the Royal Library at Brussels. In all probability Roesslin got his inspiration for the illustrations of the fetus in utero from the Heidelberg Codex in the Vatican Library. Martin Flach had them cut in wood by the noted Formschneider Erhard Schön and they continued to be used by Roesslin's successors until the 18th century. The twenty woodcuts in the text present for the first time illustrations of positions of the fetus in utero, a birth chair, and twins, including Siamese twins. The figures of the fetus were derived from those found in the manuscripts by Soranus and Moschion. For almost 200 years, these woodcuts were reprinted in editions of Roesslin's work or copied in the works of later writers, including Jacques Guillemeau and Jacob Rueff. The full-page dedicatory woodcut depicts the author presenting his book to

Katherine, Duchess of Brunswick and Lüneburg, who is thought to have encouraged Roesslin to produce the work and to whom he dedicated the volume. The binding and style of decoration of our copy is based on this presentation copy given to Katherine as depicted in the woodcut.

Eucharius Roesslin was an apothecary of Freiburg im Breisgau in 1493. In 1506 he became physician to the city of Frankfurt am Main, and in 1508 he entered service at the court of Katherine. When he published the first edition of his Rosgarten, Roesslin had become town physician and a supervisor of midwives in Worms. In 1517, he returned to Frankfurt holding the post of town physician until his death in 1526. His son Eucharius the younger,

who published the first Latin translation of the Rosengarten in 1532, succeeded him as town physician of Frankfurt. (Norman, p.51)

Thanks to the fact that two undated editions (Hagenau and Cologne) appeared around the time of the first dated Strassburg edition, the question of priority remained uncertain for long time. Benzing however has clearly shown that the two undated issues must have been of a later date. The earliest date for the first (Strassburg) edition is fixed by both, the granted imperial privilege to the author on 24. September 1512 and his dedication to the Duchess Catherine of Brunswick and Lüneburg of 20. February 1513. The woodcuts (dedication image and fetus representations) are completely identical impressions from the same originals in all the three editions. The dedication image (the author presents his book to Duchess Catherine) has the monogram "MC" (interwined) at the bottom left, according to K.W. Zülch a work of the Frankfurt-based painter Martin Kaldenbach, an assignment that appears to be correct based on its style. Rösslin - who knew Martin Kaldenbach from his first job as town physician in Frankfurt - may have mediated him with the woodcut making. The sketch then passed into the possession of Johann Knobloch of Strasbourg, who had it cut in wood and the other woodcuts manufactured by a different artist. Knobloch certainly had the first edition made by his stepson Martin Flach the Younger, to whom he had a good relationship and who had printed for him several times, however, without mentioning the publisher. Knobloch was undoubtedly a strenuous printer and publisher - the latter more as Benzing says - who not only occasionally printed for other parties, but more than this, had other printers working for him, both in Strassburg and abroad. At the time when the stock of the first (Flach's) edition was exhausted, Knobloch gave the woodcuts to Gran in Hagenau for a new edition. Benzing says that Gran did about 20 prints for Knobloch, including the Heldenbuch (book of heroes) of 1509 that appears as odd for Gran's press as Rösslins "Rosengarten" does. Further, the Heldenbuch is set in the same type (Type 13 according to Proctor) as Rösslins "Rosengarten", a type that certainly has a Strassburg character. Gran's edition of the "Rosengarten" can hardly be dated before 1515. When this edition sold out, Knobloch set up a third by Arnt von Aich in Cologne using the same woodcuts, but without mentioning publisher or printer. Based on the typography, the assignment to Arnt von Aich is without any doubt. For the same typographical presentation Benzing refers to Johannes de Sacrobosco's "Sphaera materialis" geteutsch 1519 (Weller 1270, Proctor 10577). Just the print year is questionable, as is the start of printer activity by Arnt von Aich in general. The first dated prints by Arnt von Aich are from 1519. (see Benzing 1956)

A book of extraordinary rarity. Three copies only have appeared at auction in the past 50 years of which only two were complete (the Bonhams sale of the Hellmann collection, Oct 11, 1979, lot 258 sold GBP 25,000 and Hartung & Hartung, Nov. 5, 1991, lot 172 sold DM 75,000). We can trace a total of fifteen institutional copies worldwide, with eight outside Germany only including two in the United States: 1. Munich, Ludwig-Maximilians Universität; 2. Erlangen, Universitätsbibliothek; 3-4. Wolfenbüttel, Herzog August-Bibliothek (two copies, one incomplete); 5. Worms, Stadtbibliothek (incomplete); 6. Nürnberg, Germanisches Nationalmuseum; 7. Tübingen, Universitätsbibliothek; 8. Vienna, Österreichische Nationalbibliothek (incomplete); 9. London, British Library; 10. Strassburg, Bibliothèque Nationale et Universitaire; 11. Paris, Bibliothèque National de France; 12. Bethesda, MD, United States National Library of Medicine; 13. Syracuse University Library; 14. Montreal, McGill library; 15. Crawley, University of Western Australia.

Literature: Benzing, *Zu den ersten Ausgaben des "Rosengarten" von Eucharius Rösslin*. In: Das Antiquariat, vol. 12 (1956) p. 57-58; Norman, *One Hundred Books Famous in Medicine*. New York: The Grolier Club, 1995, no. 13, pp. 47-51; VD16 R 2848; not in Adams; Wellcome or Norman Cat.; Bibliotheca Walleriana has only the second edition of 1513; Garrison-Morton 6138 (incorrectly stating the first printing to be Hagenau in the printed 5th edition); Garrison-Morton online by Jeremy Norman's historyofmedicine; Choulant, *History and Bibliography of Anatomic Illustration* (1945) pp 73-75; Klein G., *Eucharius Rösslin's 'Rosengarten' gedruckt im Jahre 1513*. Facsimile mit Begleit-Text von G.Klein (Munich 1910); Klein G., *Zur Bio- und Bibliographie Rösslins und seines Rosengartens*. Sudhoffs Archiv, 1910, 3: pp. 304-34; Stillwell, *Awakening Interest in Science during the first century of printing*, 507; NLM/Durling, *Sixteenth century printed books in the National Library of Medicine*, 3893; Green M. H., *The Sources of Eucharius Rösslin's 'Rosegarden for Pregnant Women and Midwives' (1513)*. Med. Hist. 53(2), April 2009, pp. 167-192; Radcliffe W., *Milestones in midwifery*. Bristol: John Wright and Sons, 1967, p.6; Ballantyne J. W. *The "Byth of Mankynde": its authors, editions and contents*. London: Sherratt and Hughes, 1908; Hellmann A. M. *A Collection of Early Obstretical Books*, New Haven: privately printed, 1952.

Grolier 14 - A high point of medical illustration of the early 16th century

2 GERSDORFF, Hans von. *Feldtbuch der Wundtartzney*. Augsburg: Heinrich Stayner, 1542. Folio (285 x 190 mm). 88 leaves, ff. [4], LXXXIII. Double column text in Fraktur type. 24 large woodcut illustrations, mostly full page, attributed to Hans Wechtlin, the first on the title-page, one inserted woodcut plate printed as broadside on full sheet and bound in as folding plate after f. a4. Signatures: a⁴ A-O⁶. Bound in 17th-century restored vellum, spine with later hand-lettering (vellum soiled and spotted, slight wear to corners). Minor browning and spotting internally, some occasional finger soiling, short marginal tears, f. A1 with clean tear at upper margin repaired, ink smudge to f. C3. A few old ink annotations. A very good copy. (#003596) € 28,000

EXCEPTIONALLY RARE THIRD Augsburg edition (the others undated around 1530 and 1532 after VD 16). The original edition was published in 1517 by Johann Schott in Strassburg, who also published the two following prints (1526 and 1528). The work went through at least twelve editions between the time of its first publication and the early seventeenth century. VD16 lists 14 editions in the 16th century.



The book is written on the basis of Gersdorff's 40 years experience as a military surgeon. A summary of the available knowledge of human anatomy derived from old Arabic writings, Guy de Chauliac, and other sources is followed by a guide to the surgical treatment of wounds, with a subsidiary part on the treatment of leprosy, followed by three Latin-German glossaries at the end - one of anatomic terms, one of diseases, and one of simples. "The book [. . .] was translated into Latin and Dutch, and was widely quoted, referred to, and plagiarised in subsequent medical texts. Eminently practical in its instructions on the care and treatment of the wounded, it had admirably graphic wood engravings. The twenty-seven illustrations show clear diagrams of instruments and prostheses, such as a mechanical iron-hand, in addition to scenes of operations, including the first printed picture of an amputation. Several illustrations, such as of the ambe, became standard in subsequent German surgical texts. The full-sheet anatomical skeleton existed in its own right as a broadside print and is often missing.

(William Lefanu, *Notable Medical Books from the Lilly Library*, p. 19). Herrlinger comments that "The illustrations . . . belong to the early phase of 16th-century medical illustration and represent one of its high points" (*History of medical illustration*, London, 1970. p. 142).

"Gersdorff [. . .] had gained wide experience during the course... of campaigning and was an expert in the care and treatment of battlefield injuries [. . .] [He] emphasized a well-founded knowledge of anatomy because the surgeon was frequently called upon to deal with extensive bodily trauma [. . .] The surgical portion of the work was devoted to wound surgery and covers in some detail the methods he employed for extracting foreign objects and amputating limbs. He used a tourniquet to control bleeding when amputating and covered the stump with the bladder of a bovine or swine to help control postoperative hemorrhaging. He also included information on various remedies and medications that might be employed by the surgeon. Of special interest are the sedatives and analgesics, although he appears not to have employed them in his practice. The section on leprosy is given over largely to remedies for a disease he did not believe could be cured" (Heirs of Hippocrates 149).

Bibliography: VD 16, G 1626 (two locs only); this edition not in NLM/Durling, Wellcome or Waller; for 1st edition see Grolier/Norman Medicine 14; NLM/Durling 2059 (incomplete); VD-16 G-1618; Choulant, pp. 162-66; Garrison & Morton 5560; Stillwell 387; Lilly Library, p.19; Herrlinger, *History of Medical Illustration*, pp. 140-43; Waller 3506. Heirs of Hippocrates 149 (1530 edition).

Grolier 18 - The most important anatomical treatise of the 16th century

3 **VESALIUS, Andreas.** *De humani corporis fabrica libri septem.* Basel: Johannes Oporinus, August 1555. Large folio (430 x 287 mm). [12], 824, [48] pp. Woodcut title-page, author's portrait on f. a6v, numerous woodcut illustrations (of which 17 full-page), ornamental initials (ranging in size from 7 to 12 lines), 2 folding tables with woodcut diagrams, errata on f. Bb1r and printer's device on verso of final leaf Ee6 which is otherwise blank. Signatures: a-z⁶, A-V⁶, X², Y-Z⁶, aa-zz⁶, Aa⁸, Bb-Ee⁶. Colophon: Basileae, ex officina Ioannis Oporini, Anno Salutis Christum partæ MDLV. Mense Augusto. The folded bifolium insert (nervous system) is bound between bb5 and bb6 (numbered pp. 553-554). The single unnumbered f. X2 (consisting of eight anatomical figures, originally intended to be cut out and superimposed on veno-arterial figure on previous leaf) is bound between f. V6 and Y1; leaf X1 is a folded double leaf. Contemporary pigskin over thick boards, spine with 5 raised bands, covers with elaborate blind-tooling including floral bands, portraits of saints and bible verses as well as the date 1568 and initials G.B.M.A. of the first owner on front cover; brown-dyed edges (soiling and spotting of leather, spine ends partly chipped, corners bumped and scuffed, lacking first flyleaf). Protected in modern slipcase. Generally bright and clean throughout internally. The title-page dust-soiled and with old repair at lower corner, f. a2 dust-soiled at lower corner, some minor marginal dust- and finger-soiling elsewhere, occasional traces of light dampstaining to outer edges, ink smudge at upper corner of p.755, upper blank corner of final 3 leaves stained and frayed; the two folding plates backed on lowermost versos, first plate with a tear along fold between two lines of text, the second with three tears, one longer and affecting image, one diagonally through some of the text. Provenance: Walter Parviainen (1922-1999), Switzerland; list of selected illustrations in 19th century manuscript on final flyleaf, collation notes in pencil on front pastedown. Exceptional, tall copy in its first, untouched binding. (#003710) € 85,000

THIRD EDITION, SECOND FOLIO EDITION, OF THE MOST IMPORTANT ANATOMICAL TREATISE OF THE SIXTEENTH CENTURY. It represents a significant improvement over the first edition of 1543 as it contains Vesalius' final text revisions. The text was reset with 49 lines instead of 50 to the page, and printed on a heavier paper stock of better quality. The ornamental initials and title-page were recut, but the anatomical illustrations and portrait of Vesalius were printed from the wood blocks of the first edition.



Vesalius' final text revisions. The text was reset with 49 lines instead of 50 to the page, and printed on a heavier paper stock of better quality. The ornamental initials and title-page were recut, but the anatomical illustrations and portrait of Vesalius were printed from the wood blocks of the first edition.

"This work is the first modern treatise on anatomy based upon dissections of the human body. Vesalius really described the body as who knows it, for the first time fully, and for the first time accurately" (Osler). "The impression of the woodcuts is often clearer, and more beautiful than in the previous editions; some of the figures have been somewhat improved upon in the cutting and in the lettering. The presswork is more splendid; the fancy initials throughout are larger and more beautiful and also adorned with drawings different from those in the first edition. This second [folio] edition therefore has advantages over the first on account of additions in the text and in the illustrations and particularly on account of its more splendid makeup" (Choulant-Frank). Vesalius' groundbreaking work on the anatomy of the human body was first published in 1543, the same year as Copernicus' work on heliocentrism, though Vesalius' work was most notable for its detailed woodcut illustrations which were an integral part of the

textual content. Vesalius had studied in Louvain, Paris and finally Padua, where he was appointed to the chair of anatomy in 1537. The study of Galen was becoming central to medical education in sixteenth-century Europe; in particular Galen described dissection as indispensable to the full understanding of the workings of the human body. Vesalius performed numerous dissections in Padua and elsewhere which demonstrated to him the errors in Galen (who had had to rely mostly on animal dissection) which he decided to correct through the *Fabrica*.

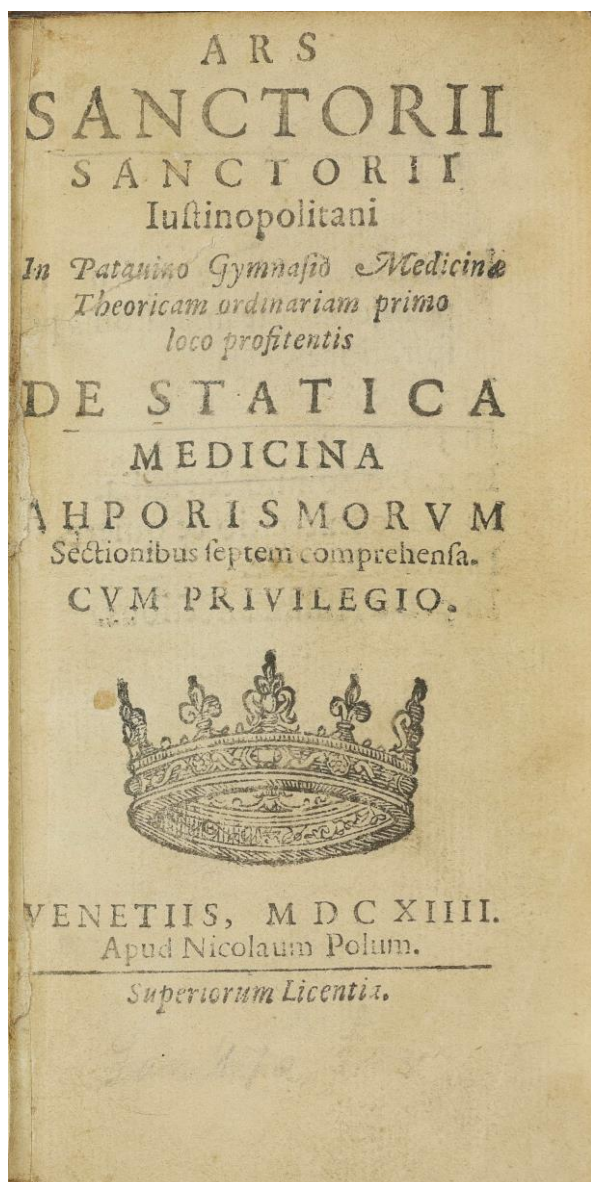
References: Grolier/Medicine 18 (1st ed.); Adams V-605; Choulant-Frank pp. 181-182; Cushing VI.A.-3; Garrison-Morton 377; NLM/Durling 4579; Norman 2139; Osler 568; PMM 71 (1st ed.); Waller 9901; Wellcome 6562.



Grolier 25 - Introducing quantitative experimentation into biological science

4 **SANTORIO, Santorio [Sanctorius].** *Ars ... de statica medicina aphorismorum sectionibus septem comprehensa.* Venice: Niccolo Poli, 1614. 12mo (135 x 75 mm). [10], 84 leaves. Bound without initial blank leaves A1-2. Signatures: a¹² A-G¹². (-A1-2). Title with woodcut device, woodcut initials; woodcut and typographic head- and tailpiece ornaments. Bound in 19th century marbled cardboard, spine with hand-lettered paper label and printed shelf-mark label (upper corners bumped and scuffed, wear to extremities). A few pages partly unopened, lower margin of some leaves uncut. Except for title-leaf (which is browned and dust-soiled) crisp and clean throughout; the final gathering G with oblique close trimming of fore-margin slightly shaving the outer digit of page number on f. 78 and f. 83; a few leaves with short inner margin including the title which also has a clean tear and two repaired tears at gutter touching letter "A" of the word "aphorismorum." Provenance: Library of M.D. Johannes Büttner, Germany. Still a very good, tall and textually complete copy. (#003776) € 65,000

FIRST EDITION OF THIS MILESTONE WORK OF MEDICINE, AND OF UTMOST RARITY. Ranked with Harvey's *De motu cordis* throughout the 17th and 18th centuries, called by Boerhaave the most perfect of all medical books,



Santorio's *Ars de statica medicina* "introduced quantitative experimentation into biological science" (DSB).

"This collection of aphorisms is the work by which Santorio's ideas became widely known. Throughout most of the seventeenth and eighteenth centuries, Santorio's name was linked with that of Harvey as the greatest figure in physiology and experimental medicine because of his introduction of precision instruments for quantitative studies. He was also the founder of metabolic research. Using himself as a subject, Santorio conducted a long series of experiments with a scale and pulse-clock (first mentioned in Santorio's *Methodi vitandorum errorum omnium* [1603]), a thermometer and other measuring instruments. He used these and still other instruments to measure such metabolic phenomena as pulse rate, respiration, body temperature and the daily variations in the weight of his body relative to ingestion and excretion. He determined that most excretion takes place invisibly through the skin, proved that this invisible excretion could be measured by systematic weighing, and showed that the rate of excretion varied considerably as a function of both physiological and environmental factors. Santorio's work introduced quantitative experimentation into biological science and opened the way to mathematical and experimental analysis of physiological phenomena. The first edition of this much-reprinted work is extremely rare" (Norman).

"The slow process by which Hippocratic and Galenic medicine was modified and finally abandoned is well illustrated in the career and writings of Santorio. While remaining faithful to many of the key assumptions and doctrines of classical medicine, Santorio nuanced and updated them sufficiently to position physiology within

the compass of the new iatrophysics of the seventeenth century. The son of a Venetian nobleman, Santorio was educated at Padua and later taught there. His family's connections and social standing brought him into close contact with such eminent intellectuals and scientists as Paolo Sarpi, Girolamo Fabrici, Giambattista della Porta, and Galileo; he even sent the last-named a copy of his most important work, *De statica medicina*, in 1615. Cautious, even conservative, *De statica medicina* nevertheless broke enough new ground to be widely esteemed and praised by contemporaries. In the seventeenth and eighteenth centuries, Santorio was frequently associated with Harvey as one of the founders of the new medicine. Santorio made two related and fundamental

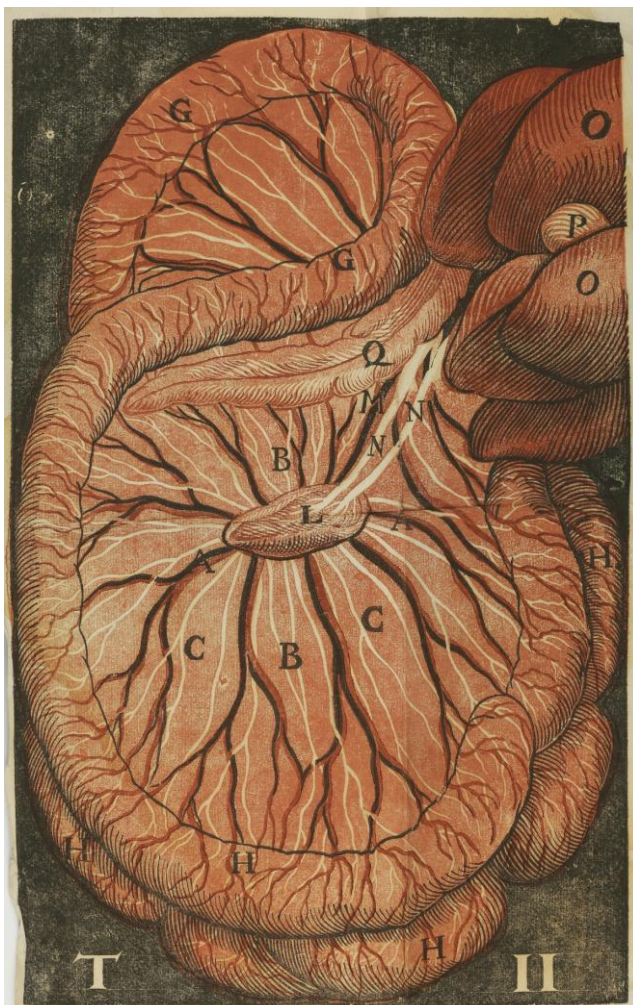
contributions to seventeenth-century medicine. He was foremost among physicians of his time in introducing quantitative techniques and experimentation into biology. The 'static medicine' Santorio described and developed was essentially Hippocratic and was founded on a conception of health as the proper balance of the bodily humors, health being defined as an equilibrium and pathology as a disequilibrium. In Santorio's view, however, this balance was expressed not only in terms of kind but of degree as well - static medicine therefore required exact methods of detection, description, and measurement of degree with respect to what the body consumes and expels. Part of Santorio's originality here was in verifying his hypothesis that much of what is eliminated by the organism is discharged through the skin and lungs and that the relationship between these and visible excretions is a function of various factors, including age, diet, and activity" (Grolier Medicine 25).

Of this exceedingly rare first edition only two copies are recorded in America. Copies have rarely come up to market. The (not perfect) copy of Haskell F. Norman sold at Christie's auction in 1998 for USD 63,000.

References: Grolier *Medicine* 25; Norman 1890 (defective, E11 torn with loss); DSB XII, pp. 101-104; Garrison-Morton 573; no copy listed in Book Auction Records 1974-97; no copy of 1st ed. in Waller and NLM/Krivatsy; Wellcome I, 5760 (defective); not in Lilly Library; Eimas, *Heirs of Hippocrates* 399 (later ed.).

Grolier 26 - The first book with anatomical illustrations printed in color

5 ASELLI, Gaspare. *De lactibus sive lacteis venis quarto vasorum mesaraicorum genere novo invento... dissertatio.* Milan: Giovanni Battista Bidelli, 1627. 4to (245 x 188 mm). [8] (of [14], 79 [1], [8] pp., with the engraved author's portrait by Cesare Bassano, 4-leaf Index bound at end. Lacking the engraved title, two blanks and 3 preliminary leaves a2-5. With 3 (of 4) LARGE FOLDING CHIAROSCURO WOODCUT PLATES (lacking plate I), printed in black, dark red and light red bound at the beginning, woodcut initials and head-piece. All pages untrimmed, dampstaining and light browning throughout, occasional spotting, tear to plate IV without loss, minor fraying of leaf edges. Contemporary wrappers (damaged, front cover wanting). (#002148) € 6000



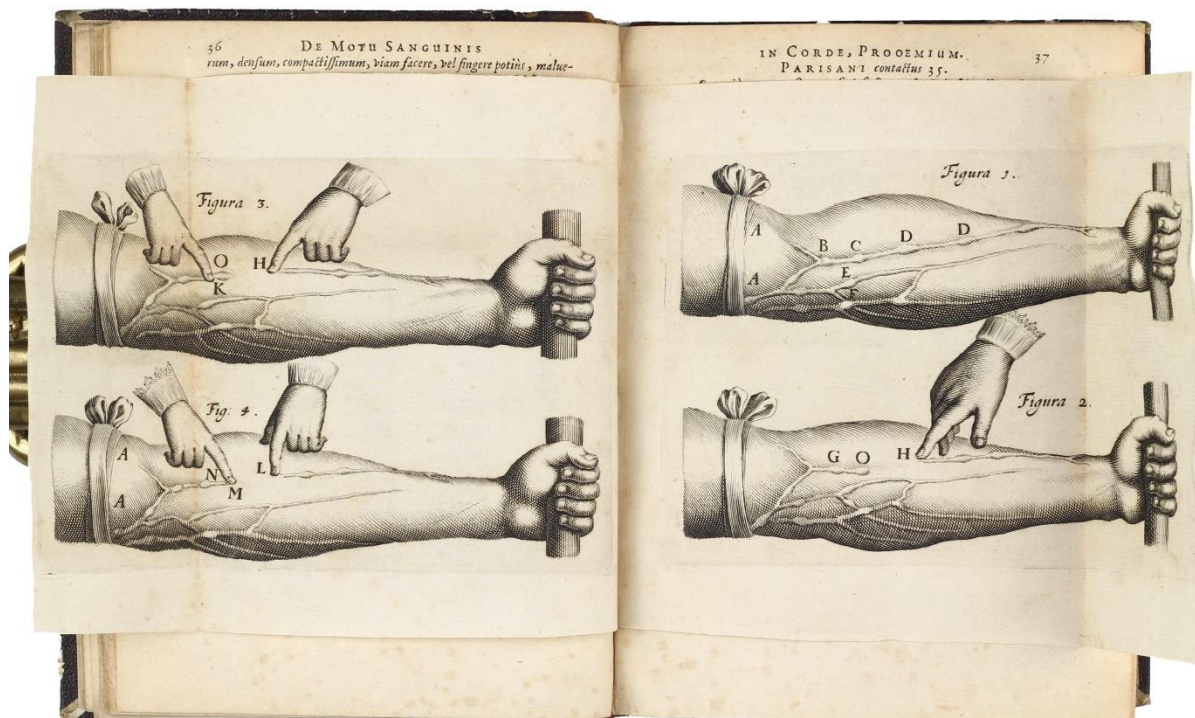
Choulant-Frank, pp. 240-241; Garrison-Morton 1094; Grolier Medicine 26; Heirs of Hippocrates 453; NLM/Krivatsy 446; Norman 76; Osler 1846; Waller 502; Wellcome I:6837. - FIRST EDITION OF THE FIRST BOOK WITH ANATOMICAL ILLUSTRATIONS PRINTED IN COLOR. In 1662, during a vivisection performed upon a dog that had just fed, Aselli rediscovered the chylous or lacteal vessels, which Galen and Eristratus reported to have been documented by Hippocrates and Aristotle, but which had been overlooked by the anatomists of the sixteenth century. Aselli undertook a systematic study of the vessels in different species of animals, and established the cause and effect relationship of their turgidity with the intake of nourishment. Although he thus recognized their nature and function, he failed to trace them to the thoracic duct, instead mistakenly construing a connection with the liver, still considered the center of the venous system in the decade before publication of Harvey's *De motu cordis*. Aselli's error was rectified in the 1650s, when three scientists working independently, Jean Pecquet, Thomas Bartholin and Olof Rudbeck, nearly simultaneously discovered the thoracic duct. Harvey himself apparently did not know of Aselli's work. Aselli's report of his findings -- the only one of his studies to appear in print -- was published after his death by his friends Senator Settala and Alessandro Tadino. In its use of color printing to more accurately distinguish the

different types of vessels depicted, *De lactibus* was the "first publication to use colored illustrations in the interest of scientific accuracy" (Grolier Medicine). The striking woodcuts, which appear in this edition only, have been attributed to either Cesare Bassano or to his associate Domenico Falcini. Subsequent editions were illustrated with black and white reduced engraved copies of the original woodcuts.

Grolier 27 - The single most important and famous medical book ever published

6 HARVEY, William. *De motu cordis & sanguinis in animalibus, anatomica exercitatio: cum refutationibus Aemylii Parisani et Iacobi Primirosii in Londinensi collegio doctoris medici.* Leiden: Johann Maire, 1639. Two parts in one volume. 4to (180 x 138 mm). [8], 267 [1], [2] 3-84 pp., including title with woodcut printer's device, separate half-title to second part, woodcut initials and tail-pieces, two engraved folding plates. The two unsigned leaves 'Ad lectorem' bound after first title. Signatures: (?)2 [pi]2 A-Kk4 Ll2 a-i4 l2. Pages 159-60 omitted. 19th century half sheep, spine lettered in gilt (leather dry and rubbed, upper spine chipped, light wear to extremities). Text only little browned throughout, occasional minor spotting, small hole in first title not affecting text. A very good copy internally. (#003263) € 24,000

Keynes 3; Heirs of Hippocrates 417; Grolier/Medicine 27 (first ed.); NLM/Krivatsy 5329; Parkinson and Lumb 1147; PMM 127 (first ed.); Waller 4089; Wellcome I, 3070; Norman 1006 (first ed.). - Third, but second complete, edition of the single most important and famous medical book ever published, containing Harvey's discovery and experimental proof of the circulation of the blood, which created a revolution in physiology comparable to the Copernican revolution in astronomy. Harvey's discovery was to become "the cornerstone of modern physiology and medicine" (Garrison-Morton). *De motu cordis* "is probably the most important book in the history of medicine. What Vesalius was to anatomy, Harvey was to physiology; the whole scientific outlook on the human body was transformed, and behind almost every important medical advance in modern times lies the work of Harvey" (Heirs of Hippocrates). This is the earliest edition that collectors can reasonably expect to obtain, the first edition (Frankfurt, 1628) is of the greatest rarity with only about 68 copies having survived, nearly all in institutions (Norman, 1006). The second edition (Venice, 1635), published with the *Exercitationes* of Emilio Parigiano (known as Parisanus), one of Harvey's many opponents, was fragmentary, lacking the plates, parts of the introduction and chapters I and XVI. In this edition, the publisher Maire restored these passages, included the illustrations, and also added the criticism and denials of James Primerose (*Animadversiones*, 1630) as a separate tract at the end of the book. The text of Harvey's treatise is printed passage by passage alternatively with the refutations of Parigiano.

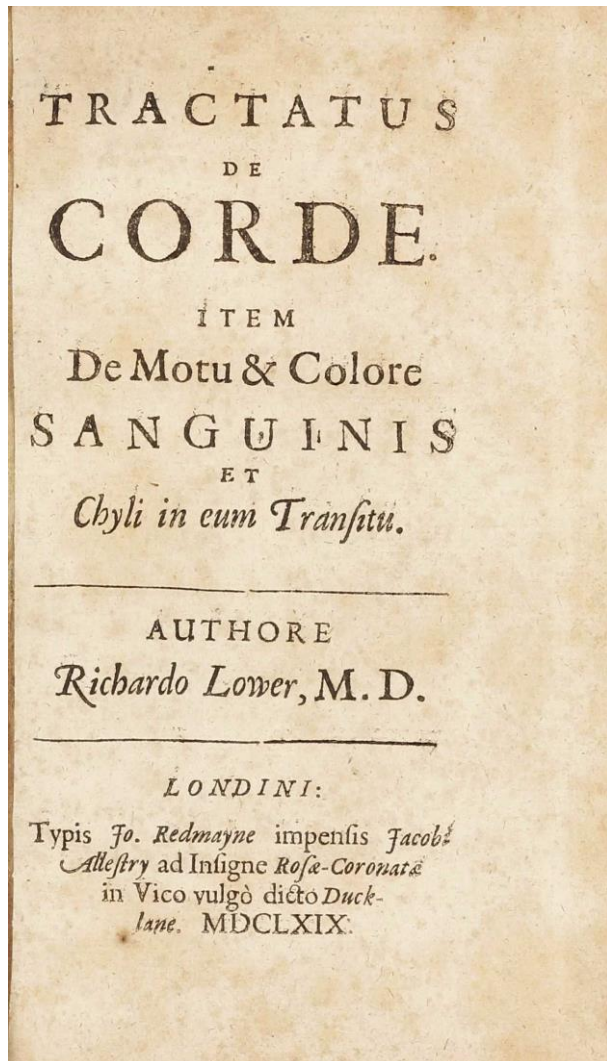


In 1603 Harvey's teacher, Fabricius of Aquapendente, published a monograph on the valves in the veins - previously noted by others - the purpose of which he only partially understood. "It was left for Harvey to combine these discoveries, to conceive the idea of a circulation of the entire blood system, and demonstrate it conclusively by an exhaustive series of dissections and physiological experiments. For twenty years Harvey pursued his objective in both human and comparative anatomy. He proved experimentally that the blood's motion is continuous and always in one direction, and that its actual amount and velocity makes it a physical impossibility for it to do otherwise than return to the heart by the venous route, the heart being itself a muscle and acting as a pump. He showed how the whole of the blood passes through the lungs, is returned to the left side of the heart, then passes through the general circulation and returns to the right side; he even suspected the existence of the capillaries connecting the smallest arteries with the smallest veins, but without the microscope he could not see them. They were discovered in 1661 by Malpighi. The arguments and demonstrations marshaled by Harvey were too cogent to admit of long resistance, and his work was accepted by medical men in his lifetime. Descartes used the discovery as a basis for his mechanistic physiology; English experimental scientists regarded the discovery as of equal importance with Copernican astronomy or Galilean physics; Lower supplemented Harvey's work by discovering the role of the lungs in supplying the arterial blood with air. With all this, Harvey's work did not effect any change in medical practice nor fundamentally alter contemporary views on physiology" (PMM).

"Since antiquity, ideas about the physiology and pathology of most parts of the body had been based to an important degree on assumptions made about the function of the heart and blood vessels. In fundamentally changing the conception of these functions, Harvey pointed the way to reform of all of physiology and medicine. By the middle of the seventeenth century new mechanical and chemical systems of physiology incorporated the circulation as a basic assumption in the explanation of a wide range of vital phenomena, and while subsequent developments in physiology have led to great changes in our conception about the function of the circulation, they have confirmed the importance of Harvey's discovery." (Norman, 1006).

7 **LOWER, Richard.** *Tractatus de corde. Item de motu & colore sanguinis et chyli in eum transitu.* London: John Redmayne for James Allestry, 1669. 8vo (175 x 109 mm). [16], 220, [20] pp., including 7 engraved folding plates bound at end (plate 1 misbound after 2), preliminary leaf A6 a cancel, ornamental woodcut initials and typographical headpieces; bound without initial blank A1. Contemporary mottled calf, rebaked with blind-stamped spine and gilt-lettered morocco label, marbled edges, original endpapers present (minor rubbing to extremities). Text with light even browning, occasional minor spotting, lower edge of plates 5 to 7 shaved into platemark affecting a few mm of image, plate 1 with repaired clean tear outside platemark. Provenance: Sir Henry Mainwaring, baronet of Over Peover (armorial bookplate with motto "Devant, si je puis" to front pastedown). Generally a clean and crisp copy with ample margins. (#003160) € 6500

PMM 149; Norman 1397; Garrison-Morton 761; Grolier Medicine 34; NLM/Krivatsy 7157; Waller 6046; Wellcome III, p. 552; Wing L-3310; J.F.Fulton, *The Oxford Physiologists: Richard Lower 1631-1691*. FIRST EDITION, SECOND



ISSUE of 'the most important contribution to circulatory physiology after William Harvey's *De motu cordis*' (Grolier Medicine). Lower was a London physician who had studied at Oxford, where he knew Thomas Willis, Robert Boyle and Robert Hooke. *Tractatus de corde* reports his observations on the scroll-like structure of the cardiac muscle, the velocity of blood flow and its quantity, as well as the effects of aeration on the blood as it passes through the lungs. He also described a blood transfusion between dogs, thus demonstrating the safety of a method that was later to revolutionize surgery. "Lower's main work was on the anatomy and physiology of the blood system. He gave the most accurate description of the structure of the heart to date, and explored the structure and function of the veins and arteries. He elucidated the mechanism of respiration. It had been known since antiquity that venous and arterial blood differed in colour; Lower showed conclusively that this difference was caused purely by the admixture of air as the blood from the right side of the heart flowed through the lungs. He even showed that venous blood could be made to resemble arterial blood by shaking a sample in air. He concluded that the change in colour was caused by the blood's absorption of air, which explained why air is necessary to life. His experiments were admirably devised and conducted, and *De Corde* ('A Treatise on the Heart') is a worthy successor to Harvey's *De Motu Cordis*" (PMM).

The *Tractatus de corde* exists in two issues, the first with the original leaf A6 containing the catchword 'Im-', the second (ours) with a cancel leaf containing the catchword 'quic-'. According to Fulton, the reason for

the change was "to modify (very slightly) a scurrilous remark that Lower had originally made concerning the Irishman O'Meara" (Fulton, p. 17). It is often stated that the first issue of the first editin is rarer than the second. Fulton recorded only 14 copies of the first edition, all but four were the second issue. However, of the 8 copies we could trace at auction in the past 30 years 5 are of the 1st and only 3 of the 2nd issue.

Grolier 43B - the first accurate anatomical illustrations of the fetus in utero

8 **SMELLIE, William.** *A Sett of Anatomical Tables, with Explanation and an Abridgement of the Practice of Midwifery, with a view to illustrate a treatise on that subject, and collection of cases.* London: D. Wilson, 1754. Large folio (540 x 366 mm). [2] leaves (title and preface) and 39 engraved plates, each with a letterpress explanation, by Grignion after Jan van Rymsdyk, Pieter Camper, and the author. Errata on final leaf. 20th century three-quarter calf over cloth, spine with 7 raised bands and



gilt lettering, new endpapers (little rubbing to extremities). Text and plates very little browned, minor occasional foxing, thumb- and marginal dust-soiling, plates II and XVI with single brown spot, closed tear (repaired on verso) to plates X, XXIII and XXX without loss, small marginal dampstain to final two plates. Provenance: P. Manning (pencil inscription to title-page). Very good copy. (#002786) € 7000

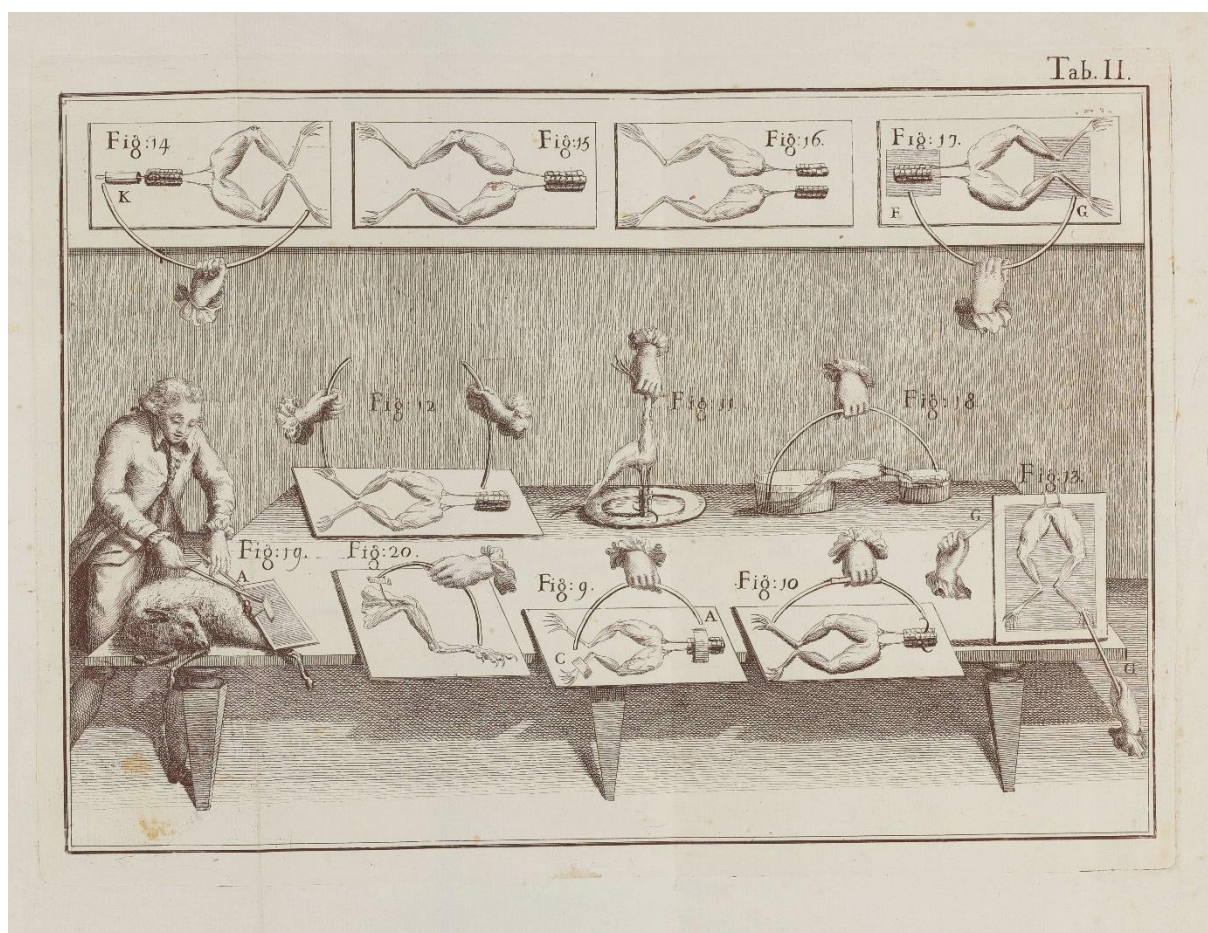
Norman 1955; Grolier Medicine 43B; Heirs of Hippocrates 826, NLM/Blake, p.420; Russell 753 (recording more than 14 editions); Waller 9012; Garrison-Morton 6154.1. - RARE FIRST EDITION, presumably issued in only 100 copies. "Smellie was the leading forceps practitioner in London, and several of the plates illustrate the use of this instrument in various presentations of the fetus. These engravings are the first accurate anatomical illustrations of the fetus in utero" (Norman). "Not until Smellie (1754) and William Hunter (1774) published their monumental volumes do we actually find illustrations of the foetus in utero which were really observed and faultlessly reproduced from an anatomic point of view" (Choulant-Frank, pp. 75, 284). The life-size pastel drawings Rymsdyk made for Smellie were far superior in accuracy to any that had appeared previously. William Hunter bought them at the posthumous sale of Smellie's

collection in 1770, and they are now part of the Hunterian Collection at the University of Glasgow.

Grolier 50 - "Animal Electricity"

9 **GALVANI, Luigi.** *De viribus electricitatis in motu musculari commentarius cum Joannis Aldini dissertatione et notis. Accesserunt epistolae ad animalis electricitatis theoriam pertinentes.* Modena: Societatem Typographicam, 1792. 4to (278 x 210 mm). xxvi, 80 pp. and 3 folding engraved plates (plate III in first state with the letter 'E' in fig. 22 uncorrected); woodcut headpieces; bound without intermediate blank leaf C6 as usual. Contemporary Italian cardboard, pasted over with orange metallic paper, red-sprinkled boards, original endpapers (some paste-paper chipping to extremities and spine). Title-leaf with erased circular stamp (resulting in some paper-thinning outside printed area); crisp and bright throughout with just some minor occasional spotting of text and plates; small hole in blank fore-marging of plate I. Provenance: from an Italian private collection. This copy comes with an official export permit issued by Italian government. A near fine, wide-margined copy. (#003732) € 9500

RARE FIRST EDITION IN BOOK FORM. Galvani first published his theory in 1791 in volume V of the proceedings of the Bologna Academy of Science. He believed that "animals possess in their nerves and muscles a subtle fluid quite analogous to ordinary electricity" (DSB). The offprint of his 1791 article, the first separate edition of the work, is known in only a dozen copies. Galvani's nephew, Aldini, became his uncle's most ardent supporter, and published this edition - the first in book form - the following year with his extended notes and commentary. At the end appears an exchange of letters between Don Bassano Carminati and Galvani, containing Carminati's report of Volta's repetition of Galvani's experiments, which Volta interpreted correctly as the result of contact electricity.



"By the end of the eighteenth century the connexion between nervous action and electricity had been the subject of investigation for some time. Newton, when discussing the properties of aether, had made suggestions that an electric spirit might convey sensations to the brain along the nerves and produce muscular reactions: see Book m of *Opticks* and the General Scholium concluding the second edition of the *Principia*. Haller also made experiments trying to prove a connexion between electrical action and reflexes of the muscles. It was left to Luigi Galvani, professor of anatomy at Bologna, in 'On the Effects of Electricity on Muscular Motion', to provide, as he thought, dramatic experiments on what was called 'animal electricity' and afterwards 'galvanism'. Galvani observed in his laboratory that when a nerve in a frog's leg was touched with a scalpel, violent contractions of the muscles occurred simultaneous with the sparks discharged from a nearby electrical machine. He further

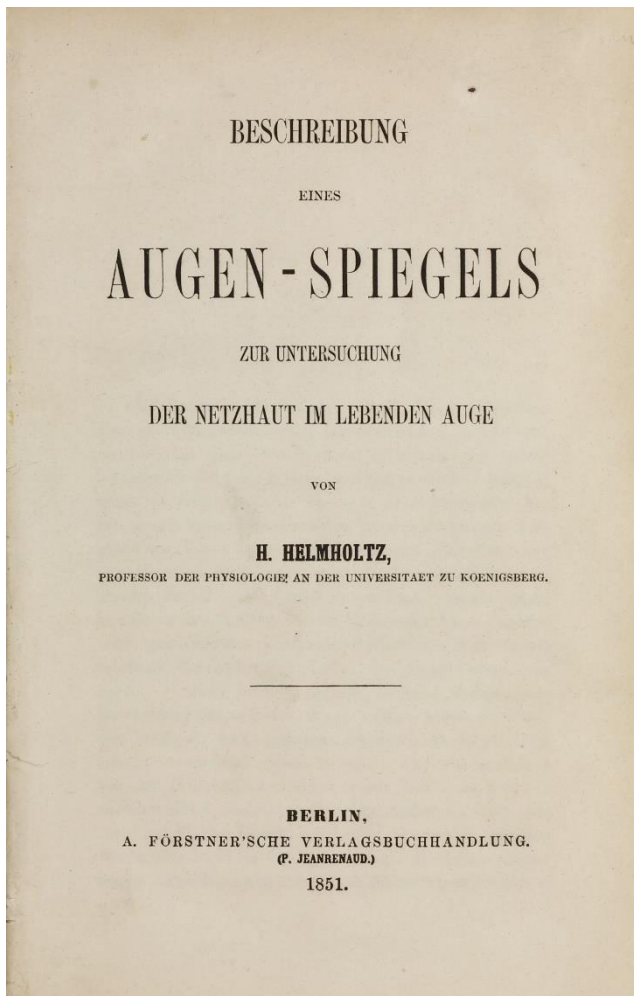
discovered that when one metal was placed in contact with a frog's nerve, another with a muscle, and the metals touched, contraction of the muscle took place, without needing a spark from an electrical machine. As a physiologist, Galvani thought that this action was due to the presence of electricity in the animal itself, as in the 'electric eel', and that the metal wires simply served as conductors. He did not realize that he had not discovered just a new physiological source of electricity, but a new source of continuous electric flow in chemical action. Hitherto electricity had been produced only in high-voltage, intermittent surges from frictional machines. It was Alessandro Volta, a physicist, who proved that animals were inessential to 'galvanic' electricity, and who constructed the first battery to cause a current to flow by chemical action. Galvani's paper immediately aroused great interest in the scientific world, and it involved him in controversy with Volta (largely carried on by Galvani's nephew, Giovanni Aldini, on his uncle's behalf). Galvani's influence on the modern development of energy, electrochemistry and electromagnetism is an indirect one. But there is no doubt that modern electrophysiology, as was emphasized by one of its foremost representatives, Du Bois-Reymond in Germany, derives from those observations of the behaviour of the frog's legs" (PMM 240).

"In his experiments on the irritable responses provoked by static electricity in prepared frogs, Galvani inadvertently discovered the central phenomenon of galvanism: the production of electric current from the contact of two different metals in a moist environment" (Norman).

References: Grolier/Medicine 50; Norman 869; PMM, *Printing and the Mind of Man*, 240 (journal issue); Dibner 59 (Journal issue); Fulton and Stanton, *A bibliography of Galvani's Writings on Animal Electricity*, 5; Osler 1243; Waller 11346; Wellcome III, p. 86; Wheeler Gift 575; DSB V, pp. 267-69.

Grolier 65 - The Invention of the Ophthalmoscope

10 HELMHOLTZ, Hermann von. *Beschreibung eines Augen-Spiegels zur Untersuchung der Netzhaut im lebenden Auge.* Berlin: A. Förstner'sche Verlagsbuchhandlung (P. Jeanrenaud), 1851. 8vo



(203 x 130 mm). 43 [1], [2] pp. and one engraved plate by Afinger after drawings by Helmholtz. Bound in contemporary German marbled paper over card board, spine with hand-lettered paper label, red sprinkled edges, original endpapers (minor rubbing of extremities, corners slightly bumped, minor chipping to foot of spine). Protected in half-calf and cloth clamshell box with gilt-lettered spine. Text and plate little age toned, very minor occasional spotting. Provenance: pencil note on plate verso "complete/Norman". A very good and clean copy. (#003646) € 4500

FIRST EDITION of Helmholtz' announcement of his invention of the ophthalmoscope. This was a by-product of Helmholtz's attempt to demonstrate to his physiology students that when the human eye is made to glow with reflected light, the light emitted from the pupil follows the same course it took in entering. Realizing that if the light could be brought to a focus the details of the retina would be made visible, he invented a device to accomplish this objective. The ophthalmoscope greatly improved the ability of ophthalmologists to diagnose eye disease and revolutionized visual science.

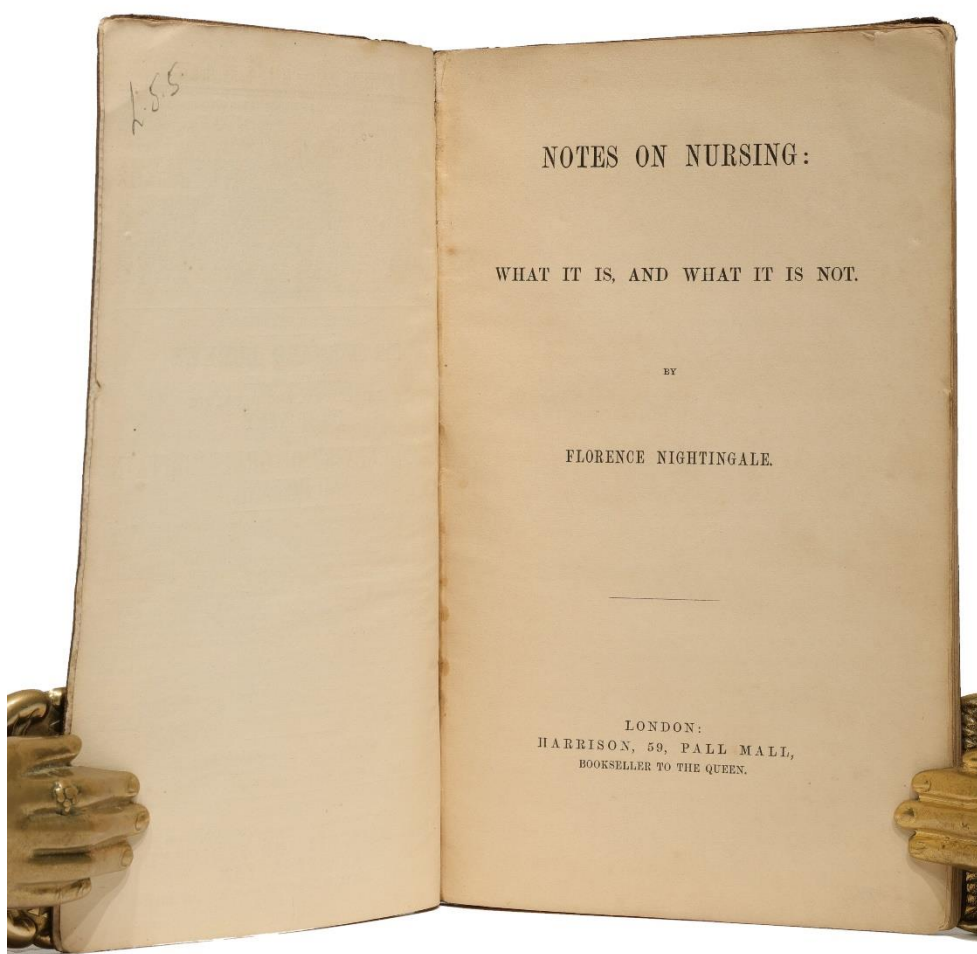
Literature: Norman 1041; Garrison-Morton 5866; Grolier Medicine 65; Heirs of Hippocrates 1886; Waller 4294; DSB VI, p. 246.

Grolier 71 - First issue copy of the first edition

11 NIGHTINGALE, Florence. *Notes on Nursing: What it is, and what it is not.* London: Harrison, [1860]. 8vo (218 x 140 mm). [1-5] 6-79 [1] pp. Original dark-brown pebbled cloth, title in gilt on front cover, blind-ruling to covers, endpapers with publisher's adverts (spine mostly gone, cloth rubbed and spotted, some minor wear to corners). Text with minor even browning, slight dust-soiling mostly to outer margins of pastedowns. Provenance: from a private Durch collection. (#003742) € 5000

VERY RARE FIRST EDITION, FIRST ISSUE, without the notice "[The right of translation is reserved]" on the title-page and the textual errors uncorrected, but with the publisher's printed adverts and not the plain yellow endpapers. "The earliest known copy of the *Notes* is in the Nurses' Home at St. Thomas's Hospital and bears the inscription in Florence Nightingale's hand: 'For my dear Beatrice from her loving F.N. New Year's Day 1860. This copy does NOT carry '[The right of translation is reserved]' on the title page under the publisher's imprint and the end papers are plain yellow. Almost immediately the publishers put in advertisement end papers. Some time in February 1860 the book was reissued, its many textual errors still uncorrected, but with '[The right of translation is reserved]' inserted on the title page" (Bishop & Goldie. *A Bio-Bibliography of Florence Nightingale*, London, 1962, p.16). "Defining nursing as 'helping the patient to live,' Nightingale 'introduced the modern standards of training and esprit de corps, and early grasped the idea that diseases are not 'separate entities, which must exist, like cats and dogs,' but altered conditions, qualitative disturbances of normal physiological processes, through which the patient is passing. While she did not know the bacterial theory of infectious diseases, she realized that absolute cleanliness, fresh air, pure water, light, and efficient drainage are the surest means of preventing them" (Garrison-Morton, *History of Medicine*, p. 773). "A disciple of the pioneer statistician Adolphe Quetelet, Nightingale supported all of her writings with statistical evidence; a chart on page 78 of the *Notes* shows the number of women employed as nurses in 1851-- some of them as young as five years of age!" (Norman 1600).

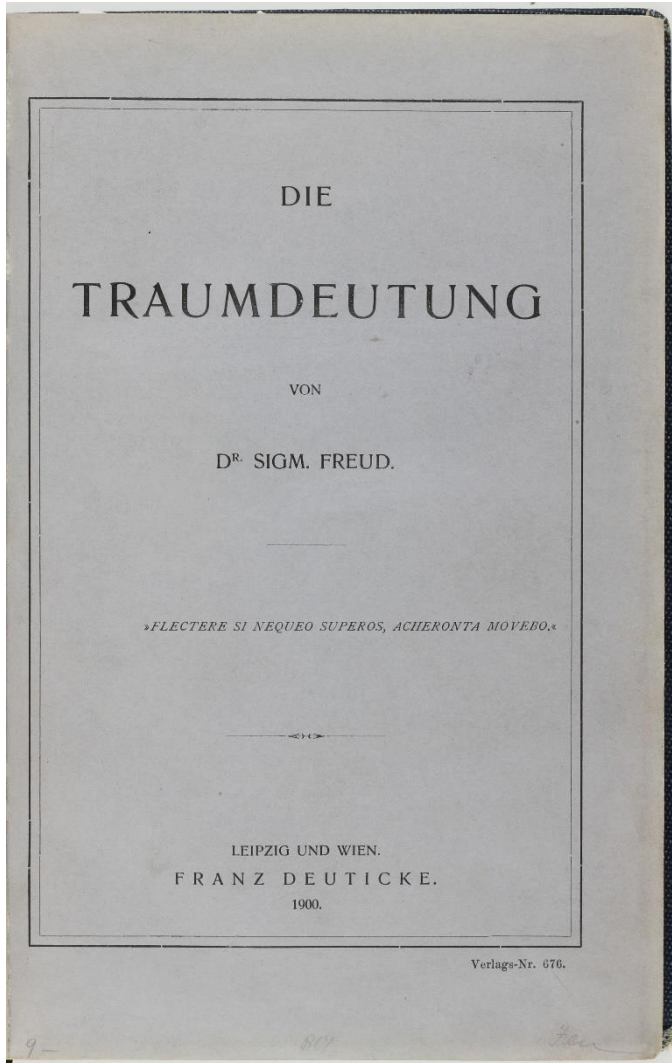
References: Norman 1600; Bishop & Goldie 4(i); Lilly p. 215; Garrison-Morton 1612; Grolier *Medicine* 71; Eimas, *Heirs of Hippocrates* 1884; Osler 7737; Waller 6872.



Grolier 87 - With the original printed wrappers

12 **FREUD, Sigmund.** *Die Traumdeutung*. Leipzig and Vienna: Franz Deuticke, 1900. 8vo (230 x 152 mm). [4], 371, [5] pp., a few text diagrams. Contemporary dark-blue cloth with the original upper and lower printed wrapper bound in, spine lettered in gilt, marbled endpapers (spine ends and extremities slightly rubbed, lower corners bumped). Lower- and fore-edge uncut, all pages expertly opened. Text very little age-toned only, short tear to blank fore-margin of p. 195/6. Provenance: Löwis? (inscribed in pencil on final free endpaper), short manuscript entry on title verso. An exceptional copy, clean and bright throughout and with the rare printed wrappers present. (#003674) € 39,000

FIRST EDITION of *The Interpretation of Dreams*, Freud's greatest single work and the foundation of psychoanalysis. Freud's first major work on psychology, *Die Traumdeutung* contains "all the basic components of



psychoanalytic theory and practice" (PMM): displacement, regression, the libido, Oedipal impulses and the erotic nature of dreams. "Freud gave an unprecedented precision and force to the idea of the essential similarities of normal and abnormal behaviour, opening up the door to the irrational that had been closed to Western psychology since the time of Locke" (Norman). Freud has been ranked "with Charles Darwin and Karl Marx as one of the three great revolutionary thinkers of the nineteenth century" (pace I. Bernhard Cohen, cf. Grolier Medicine). Freud's biographer and colleague Ernest Jones recorded that the manuscript of *Die Traumdeutung* was finished by 11 September 1899. Freud sent a copy to his close associate Wilhelm Fleiss which was inscribed with the date 24 October 1899 (cf. Norman F33, Fleiss' copy). According to Jones, the work was "actually published on November 4, 1899, but the publisher chose to put the date 1900 on the title page" (Jones, I, p. 395). The first edition was of 600 copies, and as Eimas notes, the book "is now quite scarce". Initially, the work went virtually unnoticed. Jones notes that eighteen months after publication, "no scientific periodical, and only a few others, had mentioned the book. It was simply ignored [. . .] Seldon has an important book produced no echo whatever. It was ten years later, when Freud's work was coming to be recognized, that a second edition was called for" (Jones, op. cit., pp. 395-396).

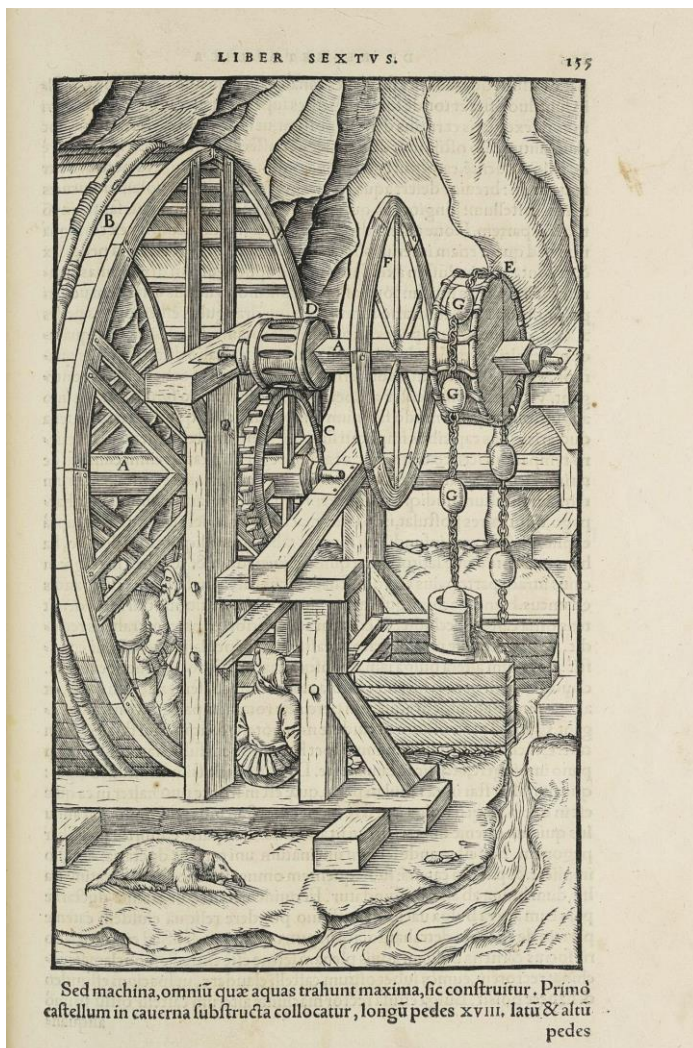
References and literature: PMM 389; Norman F33; Horblit 32; Grolier/Medicine 87; Heirs of Hippocrates 2176; Garrison-M. 4980; E.Jones, *Sigmund Freud: Life and Work*, London, 1956-1957.

2. Books listed in PMM

John Carter & Pery Muir, *Printing and the Mind of Man*. London: Cassell & Co., 1967

PMM 79 - The First Systematic Treatise on Mining and Metallurgy

13 **AGRICOLA, Georgius.** *De re metallica libri XII. - De animantibus subterraneis liber.* Basel: Hieronymus Froben and Nicholas Episcopius, March 1556. Folio (332 x 223 mm). [10], [2: blank], 538 [i.e. 502], [74] pp. With woodcut printer's device on title and final leaf verso, large woodcut initials, 2 folding woodcut plates bound after i2 (the first folded in at fore-margin), 273 woodcut illustrations and diagrams in text (many full page); bound without blank leaf alpha6. Signatures: [alpha]6, a-z6, A-Z6, Aa-Bb6 (-alpha6). Contemporary French calfskin, spine with 6 raised bands and tooled with small gilt flourons in compartments, boards with blind fillets and gilt fleurons including 4 smaller at corners and a large in the center; the spine expertly rebaced preserving most of the original compartment leather, corners restored, all edges gilt, original endpapers preserved (leather over boards spotted, wear to extremities, upper board slightly bowed, endpapers soiled and spotted, lower joint split c. 5 cm at head). Internally clean and crisp throughout with just very minor occasional spotting and soiling; early edge repair at fore-margin of 4 leaves u3-6 (done at the time of binding likely using-up the paper of the blank leaf and not affecting illustrations or text), small hole (paper flaw) in blank area of leaf z1; minor edge chipping at head of three leaves A3-5; errors in pagination and signatures pen corrected; minor brown-staining of two leaves K1-2; light damp-staining at top gutter of gatherings P and Q. Provenance: M. Duperray, Rouen (inscribed on front pastedown "Duperray Rhotomagensis 1677"), inscriptions "J. Gale" and "Pigault" on title-page; further illegible inscription on title and on p. 285. An exceptional, very wide-margined copy, rarely found with the plate woodcuts unaffected by the binders knife as here. (#003764) € 35,000



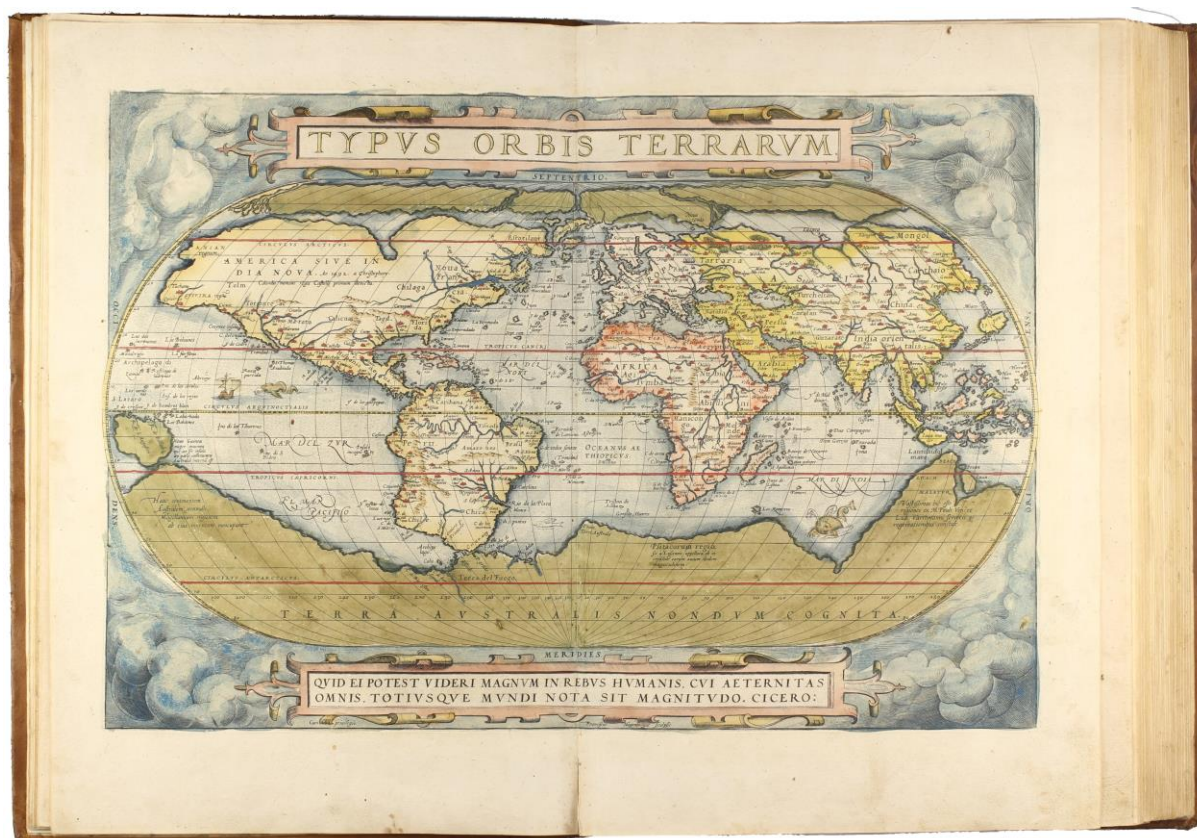
FIRST EDITION OF 'THE FIRST SYSTEMATIC TREATISE ON MINING AND METALLURGY AND ONE OF THE FIRST TECHNOLOGICAL BOOKS OF MODERN TIMES' (PMM). "Agricola - he latinized his name from Georg Bauer - studied at Leipzig, Bologna and Padua, became town physician of the mining centre of Joachimsthal in Bohemia and physician at Chemnitz in Saxony from 1534 until his death. Living in mining regions all his life made it possible for him to study mining practices at first hand and these direct observations made his books particularly valuable and effective. Mining has been practised from primitive times; gold and silver, copper and lead have been used for thousands of years, and even iron, a late-comer, is prehistoric. Though the actual consumption of metals was slight in the Middle Ages as in preceding epochs, craftsmen then wrote the first coherent treatises on the treatment and fabrication of metals (e.g. the *Schedula Diversarum Artium* of Theophilus Presbyter). In the late Middle Ages there were very important advances in mining and metallurgy, reflected first in the *Proberbüchlein* of c. 1510 (the first printed book on the subject), then in Biringuccio's fine *Pirotechnia* (1540) and finally in this great work of Agricola's, by far the most authoritative account of south German technology. The *De Re Metallica* embraces everything connected with the mining

industry and metallurgical processes, including administration, prospecting, the duties of officials and companies and the manufacture of glass, sulphur and alum. The magnificent series of two hundred and seventy-three large woodcut illustrations by Hans Rudolf Manuel Deutsch add to its value. Some of the most important sections are those on mechanical engineering and the use of water-power, hauling, pumps, ventilation, blowing of furnaces, transport of ores, etc., showing a very elaborate technique. In Book V, and also in the *De Ortu et Causis Subterraneorum*, Basle, 1546, Agricola made an important contribution to physical geology. He recognized the influence of water and wind on the shaping of the landscape and gave a clear account of the order of the strata he saw in the mines. Writing on the origin of mountains, he describes the eroding action of water as their cause with a perspicacity much in advance of his time. The most important of Agricola's many other treatises was the *De Natura Fossilium* (also Basle, 1546), which has earned him the title of 'Father of Mineralogy'. After the classical writings of Pliny and Theophrastus on the subject, mineralogy during the Middle Ages was chiefly concerned with the medicinal and magical properties of stones. Agricola supplied a new scientific classification of minerals based on their physical properties. He described eighty different minerals and metallic ores (including twenty new ones), their mode of occurrence and mutual relation. The *De Re Metallica* was frequently reprinted and is said to have reached China in the seventeenth century. Interest in it was revived in the eighteenth century by Abraham Gottlieb Werner; and in 1912 it was translated into English by Herbert Hoover, afterwards President of the United States" (PMM 78).

References: Dibner 88, Horblit 2b, PMM 79, Norman 20, Adams A-349; Brunet I, 113; Duveen pp.4-5; Hoover 17; E. Darmstaedter, *Georg Agricola*, München, 1926.

PMM 91 - A landmark of cartographic publication

14 ORTELIUS, Abraham. *Theatrum orbis terrarum*. Antwerp: Gillis van den Rade, 1575. Large folio (428 x 295 mm). 10 unnumbered leaves, including engraved, hand-coloured and gold-heightened architectural title; the *Catalogus Auctorum* with 106 names; 91 maps on 70 hand-colored double-page plates mounted on guards, 48 text leaves of index. Signatures: A⁶ B⁴, a-h⁶. Early 18th-century mottled calf, spine with 7 raised bands richly gilt in compartments and with gilt-lettered label, original marbled endpapers (minor rubbing of spine and extremities, corners bumped). Paper somewhat browned throughout, very little occasional spotting, loss to lower blank corner of text leaf e4, foot of world map with short split along center fold, 14 maps with old paper repairs of tear along folds (without loss), small hole near center fold of plates 7 and 35, two small patches with abrasion to image of plate 14. Provenance: Conti Lamberti (armorial bookplate with the motto "Cosa fare capo ha" to first flyleaf). (#003636) € 130,000



SPECTACULAR COPY, IN FINE CONTEMPORARY COLOR AND UNTOUCHED SINCE ITS BINDING IN THE 17TH CENTURY, of this fifth edition in Latin of the *Theatrum*, and the only edition limited to approximately 100 copies from the presses of Gillis van den Radea. The *Theatrum*, first published by G. Coppens Diesthensis in 1570, can be regarded a milestone in the history of cartography that outlined the standards of all subsequent atlases. The Latin edition was the first to be equipped with scientific appendices with the "Synonymia Locorum Geographicum", an alphabetical list of Latin toponyms with their translation into the vernacular, followed by another list with names in the vernacular and the translation into Latin, and finally with the "De Mona Druidum Insula ... Epistle", a letter on the island of Mona (Anglesey or Ynys Mon in Gaelic, called "island of the Druids"), written by the Welsh geographer Humphrey Llwyd (1527-1568). Llwyd is credited with inventing the term "British Empire", as well as being the first cartographer to have illustrated Wales (in fact depicted here as "Cambriae Typus Auctore Humfredo Lhuydo"). The World map in our copy is in Shirley's first plate, second state, with the crack in lower left corner roughly mended and cloud border reworked (Shirley 122).

References: PMM 91 (1570 1st ed.); Adams O-335; Alden 575/22; Koeman III, Ort 13; Van der Krogt IIIA, 31:013; Phillips 382; Shirley 122.

PMM 125 - The rare first edition of the foundation work of modern international law

15 GROTIUS, Hugo. *De jure belli ac pacis libri tres : In quibus ius naturae & gentium: item iuris publici praecipua explicantur.* Paris: Nicolas Buon, 1625. 4to (238 x 175 mm). [36], 1-506, [2], 553-786, [78] pp. Signatures: ã⁶ ë⁴ ÿ⁴ ö⁴ A-3B⁴ 3C² 3D-3S⁴ 4A-5Q⁴. Including blank leaves o4 and 3S4, addenda leaves 5Q2-3, and errata leaf 5Q4. Title printed in red and black, roman and italic type, a few words or phrases in Greek type, shoulder notes. Woodcut printer's device on title, woodcut head and tail-pieces and floriated initials. Contemporary vellum binding, spine lettered in ink, original endpapers (ties gone, vellum soiled and partially split along board edges). Text somewhat browned, scattered minor spotting (a bit stronger towards the end). Two pages with early ink annotations, few pages at beginning with light pencil markings. Provenance: Bibliothèque du couvent des Feuillants de Paris (ink stamp on title-page and p.1, a further ink-cancelled illegible stamp on title-page). A very good, unsophisticated copy in untouched first binding. (#003614) € 65,000

FIRST EDITION, third state, of the 'foundation of modern international law' (PMM). A prodigy in his youth, Grotius became a statesman and thinker of the greatest integrity whose influence on modern European thought can scarcely be overestimated. In 1619, cutting short a successful career in the law and diplomacy, Grotius was sentenced to life imprisonment in the Louvestein fortress in Holland by order of the stadtholder, Prince Maurice of Nassau, for having attempted to orchestrate a compromise between the Calvinist and anti-Spanish party, led by Maurice, and the more moderate Remonstrant party, who advocated self-government of the Dutch states in matters of religion. After a dramatic escape two years later (his wife smuggled him out of jail in a book trunk)



Grotius took refuge in France, where he survived on meagre pensions, setting in 1623 in the country house of the President de Meme near Senlis, close to the property of deThou fib, who gave him free access to his father's splendid library. There Grotius began writing his master work, *De jure belli ac pacis*. Many of the ideas developed therein had been outlined in an unpublished work of his youth, the *De jure praedae*, the manuscript of which he had brought with him, enabling him to finish the treatise in under a year. The fundamental importance of the mature work is its attempt, a century before the spread of the Enlightenment, 'to obtain a principle of right, and a basis for society and government, outside the church or the Bible' (M. Pattison, art."Grotius", Ency. Brit. 1911,12, p.623).

"The distinction between religion and morality is not clearly made, but Grotius' principle of an immutable law, which God can no more alter than a mathematical axiom, was the first expression of the 'droit naturel', the natural law which exercised the great political theorists of the eighteenth century, and is the foundation of modern international law" (PMM).

Nicolas Buon commenced printing the work in November 1624. By using two or three presses, a few copies, presumably of the first state (see Ter Meulen and Diermanse, p.565), were ready to be sent to the Frankfurt fair in March 1625. This first state (of which Ter Meulen and Diermanse record only one copy, at the Bodleian), contains no table,

indices, addenda or errata; all but the errata were added, constituting a second state (Ter Meulen and Diermanse 565"), copies of which are also extremely rare, as it appears not to have been published. Both first and second states contain substantive textual variants, principally in bifolium 3Q2.3 and in quires 5E-5G, which were modified under the author's supervision, probably in the course of printing, forming a third and final state. While 3Q2.3 appear to have been entirely re-typeset, other corrections or revisions, according to Grotius's

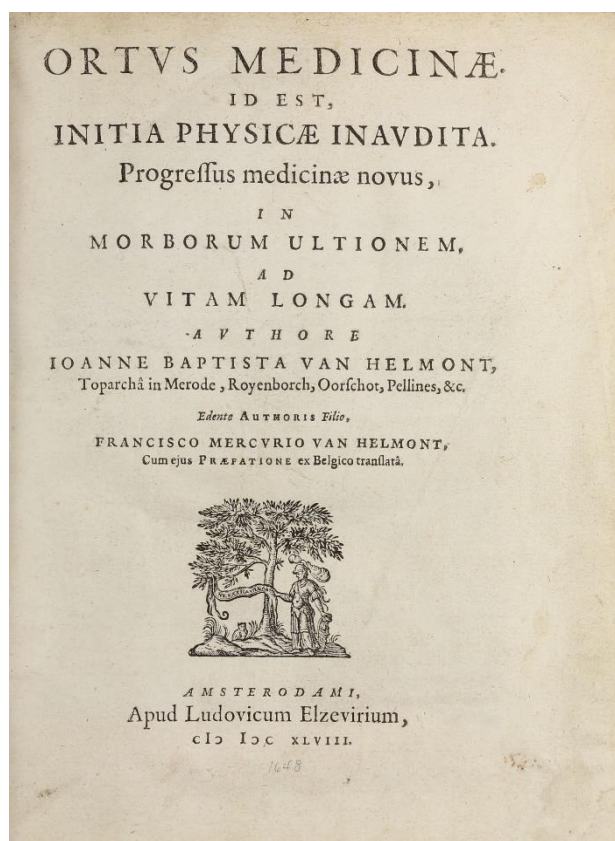
bibliographers, appear erratically in different copies. States II and III have title in red and black, in both, book 3, ch. 24 begins on p. 781 and text ends on p. 786, and both are complete, except that state II lacks the errata.

Our copy conforms to state III, with the following points present: mis-signing ð3 as o3 and 3C2 as 3C3, mis-printing of p. 212 as 213, 407 as 707, 410 as 41, 456 as 458, 492 as 462; gathering 3C² (pp. 385/386-391/392) has double page numbering to fill up the count preceding 393 on 3D1r; that sequence continues through 464 (3M4v), then reverts to the actual count beginning with 461 on 3N1r. Book 3 begins on leaf 4A1r (p. 553), as if preceded by A-3Z⁴ (which would end with p. 552), indicating that its printing was begun before completion of the preceding text. State III leaves 3Q2-3 (p. 487-490) are a resetting of states I and II, with incorrect headline "LIB. III" on p. 489 (perhaps an unmodified re-used headline from book 3), though it has not been determined whether the inner bifolium 3Q2.3 only, or the whole of 3Q, was reprinted.

PMM 125; J. Ter Meulen. *Liste bibl. de 70 editions et traductions du De lure bell acpaxis*, p. 9-10; J. ter Meulen and P.J.J. Diermanse, *Bibliographie des écrits imprimés de Hugo Grotius*, La Haye, 1950.

PMM 135 - The seminal work by one of the founders of biochemistry

16 HELMONT, Johan Baptist von. *Ortus medicinae. Id est, initia physicae inaudita. Progressus medicinae novus, in morborum ultionem, ad vitam longam. Edente authoris filio, F. M. van Helmont.* Amsterdam: Elzevir, 1648. 4to (205 x 160 mm). [36], 1-88, 87-158, 161-176, 175-382, 373-452, 457-800 pp. With engraved portraits of Helmont and his son on *4v and some woodcuts in text, frequent mispagnations. [Bound with:] *Opuscula medica inaudita. Editio secunda.* Three parts in one. Amsterdam: Elzevir, 1648. [8], 110, [2]; 115 [1]; 88 pp., including general title and separate title-leaves to each part, with the final blank P4 of *De Lithiasi*. Two works in one volume. 4to (205 x 162 mm). Contemporary full vellum, spined titled in manuscript, red-dyed edges, original endpapers (vellum soiled and spotted, corners bumped). Text quite bright and crisp throughout, very minor occasional spotting, a few pages with light dampstaining to blank fore-margin, two ink spots to edge penetrating a few mm inside, sparse light ink annotations and text markings in contemporary hand; pp. 100-101 of *De Lithiasi* soiled and spotted, lower corner of general title repaired, old paper repair to upper corner of p.107/8 of first work not affecting text. Provenance: Joseph Luce (his book ticket and an early engraved armorial bookplate with no text on front pastedown). Fine, wide-margined copy in untouched original binding, collated complete. (#003589) € 7500



soiled and spotted, corners bumped). Text quite bright and crisp throughout, very minor occasional spotting, a few pages with light dampstaining to blank fore-margin, two ink spots to edge penetrating a few mm inside, sparse light ink annotations and text markings in contemporary hand; pp. 100-101 of *De Lithiasi* soiled and spotted, lower corner of general title repaired, old paper repair to upper corner of p.107/8 of first work not affecting text. Provenance: Joseph Luce (his book ticket and an early engraved armorial bookplate with no text on front pastedown). Fine, wide-margined copy in untouched original binding, collated complete. (#003589) € 7500

PMM 135; Norman 1048; NLM/Krivatsy 5447; Heirs of Hippocrates 254; Osler 2929, Waller 4307; Wellcome III, 241; Hirsch-H. III,153; Willems 1066; Garrison-Morton 665 - FIRST COLLECTED EDITION; second edition of *Opuscula medica inaudita*. "Helmont was one of the founders of biochemistry. He was the first to realize the physiological importance of ferments and gases, and indeed invented the word 'gas'. He introduced the

gravimetric idea in the analysis of urine. The above work is a collection of his writings, issued by his son" (Garrison-Morton).

"Helmont devoted his life to exploring the first principles of nature through chemistry. He is best remembered as the discoverer of gas, a term he coined to describe the 'specific smokes' that remain after the combustion of solids and fluids; among the gases he identified were carbon dioxide, carbon monoxide, chlorine gas and sulphur dioxide. He denied that metals dissolved in acid were either destroyed or transmuted, stating that such metals were recoverable in their original quantities, and correctly identifying the process of precipitation. Like

Paracelsus, he rejected traditional humoral pathology and advocated an ontological concept of disease, regarding each disease as a specific entity caused by a specific pathogenic agent. He demonstrated that acid is the agent in animal digestion and came near to identifying it as hydrochloric acid; he also identified the causes of asthma and correctly described fever as a part of the body's natural healing process... Though separately paginated 'Opuscula medica inaudita' is considered a part of the whole volume, as indicated by the 'Index tractatum' on 5*5 - 5*6. Originally published as a separate work in 1644, 'Opuscula medica inaudita' contains reprints of Helmont's treatises on the stone, on fevers, on the errors of humoral pathology, and on the plague" (Norman 1048).

PMM 155A - The first edition of the first modern encyclopedia and of surprising rarity

17 MORERI, Louis. *Le grand dictionnaire historique, ou le mélange curieux de l'histoire sainte et profane.* Lyon: Jean Girin & Barthelemy Riviere, 1674. Folio (355 x 228 mm). [36], 1346 pp., including half title, engraved frontispiece by G. Audran. Some mispaginations. Title printed in red and black, woodcut initials and headpieces. Contemporary French calf, spine with 6 raised bands, gilt lettering in second compartment and rich gilt tooling to the other compartments, red-sprinkled edges, original endpapers (joints, spine ends and corners repaired, extremities rubbed and scratched). Text with light foxing and browning throughout, occasional minor spotting and soiling, clean tear inside text area of leaf L6 without loss, a few torn lower corners not affecting text, light dampstain to upper corner of gatherings at beginning and end, small wormtrack to lower blank margin of few leaves. Provenance: Francois and Jacques Dorion (inscriptions on first flyleaf, also dated 1695), old ownership inscription on title-page (pasted over with paper strips). In all a very good copy. (#003807) € 7500



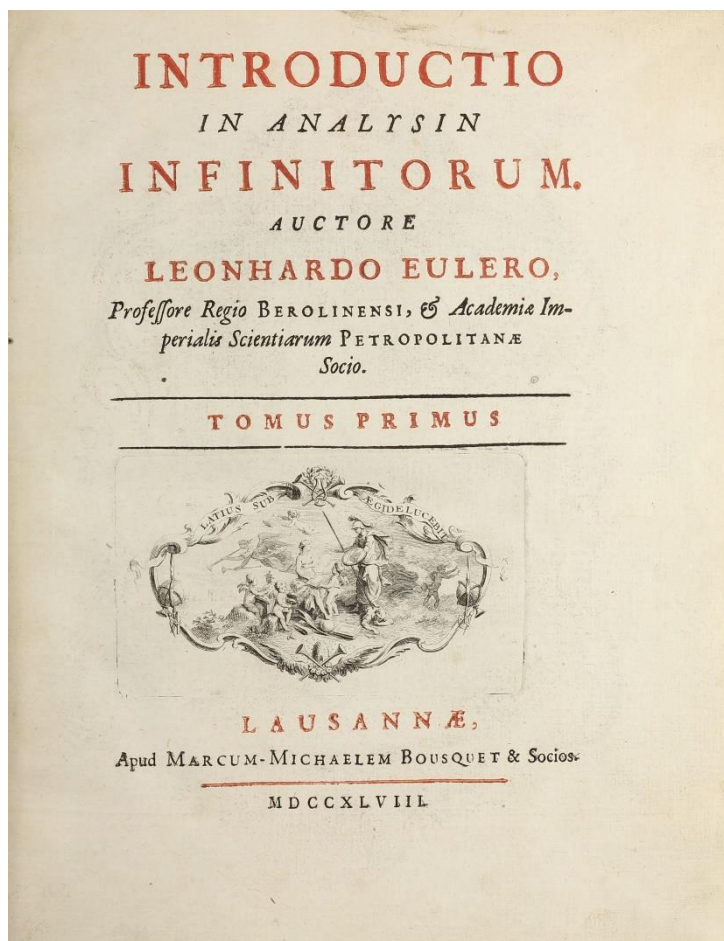
RARE FIRST EDITION OF THE FIRST MODERN ENCYCLOPEDIA. Moreri's work is ranked, along with Bayle's *Dictionnaire Historique et Critique*, as one of the first vernacular encyclopedias "to make an impact on the European world of letters" (PMM).

"The first Vernacular encyclopaedias [. . .] were two French Works, bringing into focus, as it were, the intellectual preponderance of the age of the *Roi Soleil* as well as its antithetical aspects of nominal devotion to the Roman Catholic Church and sceptical questioning of the very foundations of revealed religion. The Abbe Moreri deliberately designed his book as an apologia and defence of his church. It is also noteworthy for its emphasis on historical and biographical entries which for a long time were neglected by other compilers such as Bayle, Harris, and Chambers. Moreri's 'Great Historical Encyclopaedia' had by 1759 gone through twenty editions before it was ousted by the *Encyclopedie* [Diderot, 1751-65] a useful reminder of the strength of the traditional, anti-rationalist forces in the 'age of reason'" (PMM).

The first edition of this work is of surprising rarity with only three copies listed in KVK and OCLC/Worldcat (Zurich, BM Lyon and Paris BnF), no copy in public libraries in the USA. RareBookHub lists a single copy at auction only, sold at Bassenge in 2012.

References: PMM 155a; Brunet III, 1901;

18 EULER, Leonhard. *Introductio in analysin infinitorum. Tomus primus ... -secundus.* Lausanne: M.-M. Bousquet, 1748. Two parts in one volume. 4to (243 x 197 mm). [4], xvi, 320; [2], 398, [2] pp. Title to each part printed in red and black and with engraved vignette, engraved frontispiece by Soubeyran after De la Monce, engraved folding portrait of dedicatee Jean Jacques Dortous de Mairan by Frequet after Tocquet (supplied), 40 engraved folding plates bound at end, folding letterpress table bound after p. 274 of part I, leaf of directions to binder, woodcut head-pieces and initials. Bound without initial blank leaf to second part. Signatures: $[\pi]^2 * -2^{*4}$ A-2R⁴, $[\pi]^2 (-[\pi]1)$ A-3D⁴. Contemporary half calf over marbled boards, spine with 6 raised bands, ruled in gilt and with gilt-lettered morocco label (outer joints and corners repaired, some minor paper chipping along board edges, inner hinges reinforced). Crisp and clean internally, with light even age-toning, very minor occasional spotting, leaves



Hh1-2 of part I with uneven trimming of top blank margin not affecting headlines, the portrait remargined, fore-margin of plates uncut with edges slightly dust-soiled, plate XVI misbound before plate XV, 4 plates with pale dampstaining, tiny hole in leaf Aa1 of part I affecting one letter each side. Provenance; illegible signature on front-pastedown. A very good, wide-margined and unmarked copy. (#003628) € 7500

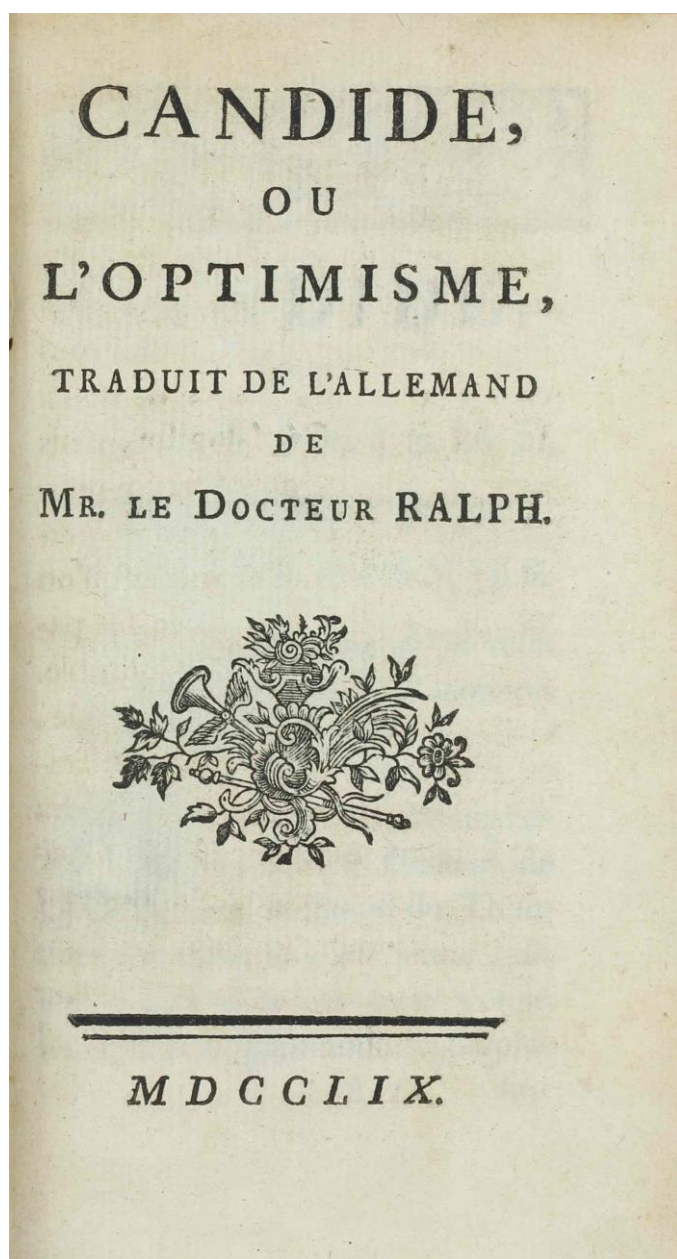
PMM 196, Norman 732. - FIRST EDITION. The first in a trilogy of works summarizing Euler's own and other discoveries in the mid-18th century. 'In his Introduction to Mathematical Analysis Euler did for modern analysis what Euclid had done for ancient geometry. It contains an exposition of algebra, trigonometry and analytical geometry, both plane and solid, a definition of logarithms as exponents, and important contributions to the theory of equations. He evolved the modern exponential treatment of logarithms, including the fact that each number has an infinity of natural logarithms. In the early chapters there appears for the first time

the definition of mathematical function, one of the fundamental concepts of modern mathematics. From Euler's time mathematics and physics tended to be treated algebraically, and many of his principles are still used in teaching mathematics' (PMM 196).

PMM 204 - With the rare 'avis au relieur' leaf

19 **VOLTAIRE, Francois Marie Arouet De.** *Candide, Ou l'optimisme, Traduit De l'allemand De Mr. Le Docteur Ralph.* [Geneva]: [Cramer], 1759. 12mo (163 x 95 mm). 299, [7] pp. Signatures: A-M¹² N⁸. Woodcut title vignette, repeated on p. 193 and 266, other woodcut ornaments and vignettes in text, binder's 'avis au relieur' leaf N8 and blank leaf N7 bound at the end. Leaves B4, B9, D6 and D7 are cancels. Contemporary calfskin, spine with 5 raised bands, gilt decoration and two gilt-lettered morocco labels, boards and board edges ruled in gilt, marbled edges and endpapers (joints and spine ends neatly repaired, leather over spine rubbed and cracked and with small patch of chipping near foot, corners somewhat scuffed). Text crisp and clean throughout with just a little even browning, leaves F9 and F10 with 2 mm of paper flaw along blank fore-margin not affecting any text. Provenance: Henry Fiennes Pelham-Clinton, 2nd Duke of Newcastle under Lyne (bookplate to front pastedown with British royal coat of arms and mottos "Loyalte na honte" and "Honi soi qui mal y pense" of the Order of the Garter). A near fine copy in original binding, exceptionally well preserved internally and with the 'directions to the binder' leaf which is mostly missing. (#003729) € 39,000

PMM 204; *En français dans le texte* 160; Barber 299G, Bengesco 1434; Morize 59a; Wade 1; Princeton 3298.323.1. RARE FIRST EDITION, identified as the true first of *Candide* by Giles Barber in 1978. The bibliographical history of this book has been exasperatingly complex and confused, not least because before



handing over a final manuscript to Cramer, Voltaire went behind his back and sent a slightly different version of the manuscript to John Nourse, a printer in London, who may well have dispatched copies to other publishers. The result was that within weeks of the first edition of *Candide* appearing in Geneva, sixteen other editions appeared in Paris, London and Amsterdam. Drawing on the Lisbon earthquake of 1755 for inspiration, this conte philosophique became an almost instant best-seller with about 20,000 copies selling in the first year, in spite of initial censorship.

"Voltaire made a number of changes to the text of *Candide* during the printing in Geneva. He made further corrections after the printing was finished, requiring the replacement of 4 leaves of text with corrected versions. These cancel leaves were included in the first edition in the final gathering of 12 leaves (effectively N9-12), together with a printed 'avis au relieur' leaf, i.e. instructions to the binder as to where to place the four corrected leaves in the text. The corrected leaves were inserted at pp. 31/32, 41/42, 83/84, 85/86, in each case as conjoint leaves, so no stubs were required, making the changes undetectable. The 'avis au relieur' leaf was almost always then discarded by the binder, as having served its purpose." (Nicholas Marlowe Rare Books, *List 3: The Candide Conspiracy*, pp. 11-12).

"It was Voltaire himself and his long career of disorderly, troubled and occasionally glorious opposition to established authority rather than his books which caught the imagination and occupied the mind of his contemporaries and succeeding generations. Whether writing frivolously to amuse, or seriously to put right injustice, he was never unnoticed: his best-sellers made him a rich man; when he tried to right injustice, as in the

case of Lally Tollendal, he was listened to. Voltaire lived for a very long time and from his youth on was always in some sort of trouble. In 1716 he was exiled for the first time for writing or being thought to have written lampoons against the Regent. In 1718 his first tragedy, *Oedipe*, was produced, and the next year he was exiled again. And so it went on, flattery, scribbling, insult and trouble taking equal shares in his life. In 1726, after some particularly bad trouble, Voltaire went to London. Here he stayed for three years; it was one of the most important visits of his life. The eighteenth-century English were more different from the eighteenth-century French than any two European nations can be imagined to be now, and the piquancy of this difference had the liveliest effect on Voltaire. Moreover, the English, unlike the French, who regarded Voltaire as a writer of elegant trifles, took him seriously, and paid him correspondingly. Voltaire responded by behaving seriously and even gratefully. Much struck by the admirable English phlegm and toleration of free thought and eccentricity, he wrote the *Lettres Philosophiques sur les Anglais*, the most sympathetic of critiques. Back in France, this only made more trouble, and he took refuge at Cirey in Lorraine with the talented Marquise de Chatelet. In the 1740s he was partially restored to favour and through the influence of Mme de Pompadour he was made historiographer royal on New Year's Day 1745. He was soon back in hiding, and Mme de Chatelet died. So in 1751 Voltaire yielded to the persistent invitations of Frederick of Prussia, and set out for Berlin. There, despite his farcical quarrels with the King, he remained for three years, until the breach became total. Then he fled to Geneva where he found and bought the ideal refuge, Ferney, four miles from the city. Here, just on French soil, he could enjoy the political liberty of Geneva with the social liberty of France. Here *Candide*, the most perfect of the light-weight parables which were his especial and peculiar forte, was written. Typically, it was published anonymously, and many times printed and pirated in its early years. Which of the editions of 1759 is the first is still open to doubt. But what does it matter? Voltaire would be pleased to know that his attempts to cover his tracks have been successful and even more to contemplate the book's continued popularity. For the optimistic, innocent *Candide*, and his equally guileless if more worldly-wise mentor, Dr Pangloss, and their delicious adventures, still command our attention. The folly of philosophic and religious optimism is displayed with a vigour and wit that carries the reader away. Irony without exaggeration, a perfect restraint in its admirable humour, a gift for the 'throwaway line' ('pour encourager les autres' is a classic example); all these show Voltaire's style and originality at their incomparable best." (PMM 204).

Literature: Wade Ida O., *The First Edition of Candide - A Problem of Identification*. In: The Princeton University Library Chronicle, 20, 1959, pp. 63-88. Bengesco, *Voltaire, Bibliographie de ses oeuvres*, 1882-90, I, 444 ff. Morize, André, *Candide; ou L'optimisme. Critical Edition*, Paris, 1913, pp. lxvi-lxxxvii. Barber, Giles. *Some Early English Editions of Voltaire*. British Library Journal, vol. 4, issue 2, 1978. Besterman, Theodore. *Some eighteenth-century Voltaire editions unknown to Bengesco*. Oxford, Voltaire Foundation, 1973.

PMM 238 - In the original wrappers, uncut and mostly unopened

20 LAVOISIER, Antoine Laurent. *Traité élémentaire de chimie, présenté dans un ordre nouveau et d'après les découvertes modernes; avec figures.* . . Two parts in two volumes. Paris: Chez Cuchet, 1789. 8vo (212 x 138 mm). xlv, 322; viii, 323-653, [3] pp., including half title to each part, woodcut vignette to titles, woodcut head- and tailpieces, 2 folding letterpress tables in volume I, 3-pages errata and 13 folding engraved plates bound at end of volume II. Original sprinkled drab boards, spines with ink-lettered paper labels, all edges uncut (light wear to extremities), vol. II mostly unopened. In custom folding box of brown morocco. Internally crisp and clean with little browning of text and engraved plates, occasional minor spotting and dust soiling to outer margins, marginal clean tears to pp. 111/2 and 307/8, folding tables in vol. I browned as usual, paper flaw at lower blank margin of p. 229/30. Provenance: collection of Roman Vishniac, Russian-American biologist, photographer and pioneer in photomicroscopy. (#003665) € 14,500

PMM 238; Dibner 43; Grolier/Horblit 64; Norman 1295; Wellcome III, p. 460; Duveen 340. - FIRST EDITION, second issue, and exceptionally rare in this unsophisticated state.



Antoine Laurent Lavoisier's *Traité élémentaire de chimie* is considered to be the first modern textbook of chemistry, presenting a systematic and logical approach to the study of chemistry. Lavoisier introduced the concept of conservation of mass in chemical reactions, which is one of the fundamental principles of modern chemistry. He also recognized the role of oxygen in combustion and respiration, and his experiments helped to debunk the long-held theory of phlogiston. Last but not least, Lavoisier's work paved the way for the development of the metric system of measurement, which is still used today. To summarize, Lavoisier's milestone work marked a major turning point in the history of chemistry and laid the foundation for the modern study of the subject.

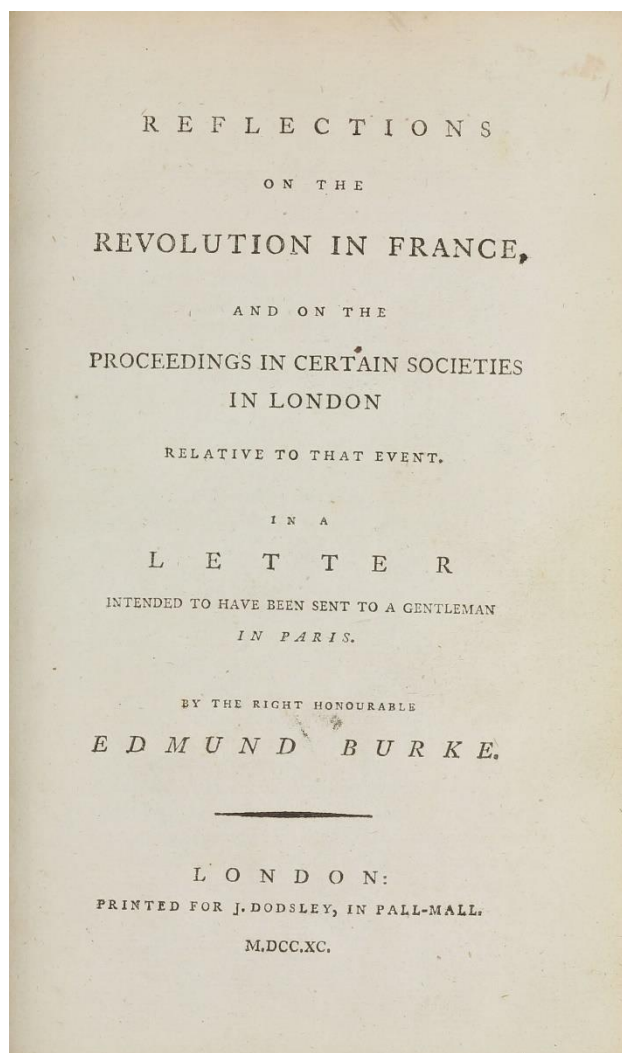
Lavoisier's *Traite* ". . . was a decisive move in the final overthrow of alchemy and the phlogiston theory introduced by Stahl a century earlier. By the use of the balance of weight determination at every chemical change and the building of a rational system of elements, Lavoisier laid the foundation of modern chemistry" (Dibner).

The illustrations for this edition were conceived and executed by Lavoisier's wife, a skilled painter and engraver who had studied under Louis David, and who collaborated with her husband in his scientific experiments and researches. The second issue contains tables and various approvals of the work not included in the single-volume first or trial issue, of which only two copies are known.

PMM 239 - The Price of Revolution

21 BURKE, Edmund. *Reflections on the Revolution in France, and on the Proceedings in Certain Societies in London Relative to that Event, in a Letter Intended to have been sent to a Gentleman in Paris.* London: J. Dodsley, 1790. 8vo (212 x 130 mm). iv, 356 pp. Small woodcut vignette to p. iv pointing to the right. Bound in contemporary calf, rebacked with original gilt-lettered and gilt-decorated spine leather laid down, gilt-tooled boards, board edges and turn-ins, all edges gilt, marbled endpapers (extremities rubbed, corners worn). Occasional very minor spotting and a few scattered marginal (light and removable) pencil marks, pp. 207-211 with pale brown staining at blank fore-margin, blank upper fore-margin of leaves M6 & M8 torn (or with paper flaw) with little loss not affecting text. Provenance: Thomas Bigge* (armorial bookplate to front pastedown), Duff Cooper* (armorial bookplate to first flyleaf). An exceptionally crisp and clean copy internally. (#003557) € 6500

PMM 239; Todd 53a; Rothschild 522; Goldsmiths-Kress 14518; Grolier 100 63. RARE FIRST EDITION, FIRST IMPRESSION of "one of the most brilliant of all polemics" (PMM). "It is strange that Burke, who for all his influence enjoyed less experience of the practical business of government than most of his acquaintances, should have



been written, in defence of an existing régime and against a liberating revolution, one of the most brilliant of all polemics. ... It is not to be wondered at that a man who desired justice for America but rejected Jefferson's doctrines would be deeply stirred by the events of 1789. To Burke an absorption with the end and neglect of the means was the most dreadful of sins. His anger and disgust were exacerbated by the dread that the aims, principles, methods and language which he detested in France might infect the people of England. This it was which provoked the *Reflections*, in which his distrust of the 'Perfectibilitarians' and of mere destructive criticism of institutions was magnificently voiced. To the view that the old régime was so rotten that Wholesale revolution was necessary, Burke replied that any revolution that did not bring real liberty, which comes from the administration of justice under a settled constitution without bias from the mob, was no liberty. 'Alas!' he said, 'they little know how many a weary step is to be taken before they can form themselves into a mass which has a true political personality.' The *Reflections* achieved immediate success all over Europe, even though it cost Burke the allegiance of the Whigs. Lonely now, he finally enjoyed a European authority which he had never attained in his own country or with his own party. The other side found a trenchant spokesman in Paine's *Rights of Man* ([PMM] 241), which took the discussion beyond the limits of the government of France, but as the Terror grew, Burke seemed almost to be a prophet. In the eternal debate between the ideal and the practical, the latter had never had a

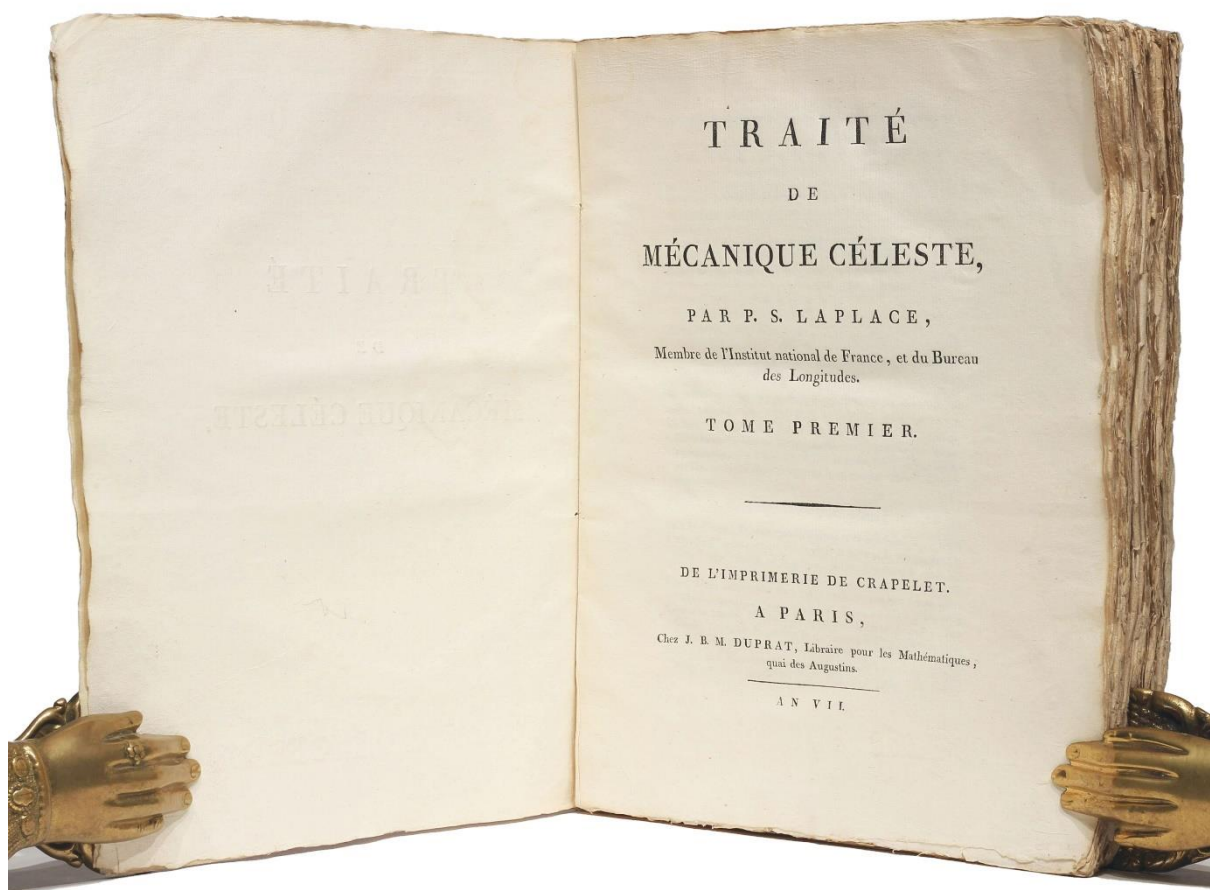
more powerful or moving advocate, nor one whose own ideals were higher." (PMM 239).

In this bibliographically complex work which conforms to Todd 53a: the M in the imprint date is immediately below D of Dodsley, the flower ornament on p. iv is pointing to the right, press figures 10: x, 116: none, 171 & 354: *; E2, F6, H2-3 are cancels and B8, E7-8 are cancellands.

*Thomas Bigge (1766-1851) was an English political writer and activist who wrote political tracts from the outbreak of the French Revolutionary Wars; Alfred Duff Cooper, 1st Viscount Norwich (1890-1954), known as Duff Cooper, was a British Conservative Party politician, diplomat and military and political historian.

PMM 252 - The complete set in the rare original wrappers

22 LAPLACE, Pierre Simon. *Traité de mécanique céleste*. 5 volumes and 4 supplements of the first edition plus 2 volumes of the second edition of part 1 and 2, all in the original wrappers as issued. Paris: Crapelet for Duprat, An VII [1799] (vol. I-II), Crapelet for Duprat, An XI-1802 (vol. III), Courcier, An XIII-1805 (vol. IV), Bachelier, 1825 (i.e., 1823-1827) (vol. V). Bachelier, 1829 (2nd edition, vol. I-II). 4to (270 x 215 mm). Half-title to each volume, vol. III with "*Supplément au Traité de mécanique céleste ...présenté au Bureau des Longitudes, le 17 août 1808*" (pp. 1-24) bound at end; vol. IV with folding engraved plate and two supplements, "*Supplément au dixième livre du Traité de mécanique céleste. Sur l'action capillaire*" (pp. [2], 1-65); and *Supplément à la théorie de l'action capillaire* (pp. 1-78), one unnumbered leaf with "*Table des matières*" on recto and the "*errata*" on verso bound at end; vol. V with "*Supplément au 5e volume du Traité de mécanique céleste. . .*" dated 1827 (pp. [2], 1-35) bound at end. Vol. V without the section titles as usual (not included in this issue). All volumes in the original pink mottled wrappers with original printed spine labels (additional hand-lettered shelf-mark labels to vols. III-V), all pages uncut, vols. I and II of first edition mostly unopened, housed in a custom-made slip-case (spines mostly sun-faded, chipping and wear to spines, spine ends and extremities, wrappers partially torn with some loss). A few pages in vols. III-V little browned, occasional minor spotting, light occasional dampstaining mostly to blank margin of few gatherings, but in all very crisp and clean. Provenance: from a French private collection. A very fine set in original condition, rarely found that complete as here with all the supplements present. (#003346) € 18,000



Dibner, *Heralds of Science* 14; Grolier/Horblit 63; PMM 252; Sparrow, *Milestones of Science* 125; Norman 1277; Roberts-Trent, p.197. **LAPLACE'S FUNDAMENTAL WORK ON CELESTIAL MECHANICS. FIRST EDITIONS OF ALL PARTS, with the first two volumes I and II in FIRST STATE** (without the added Berlin imprint). Also included here is the second edition of volumes I and II, which are reprints of the first edition shortly issued after the final vol. V appeared. With these, all French separate editions of the *Traité* are represented in our set in unsophisticated state.

Published over a period of 27 years, Laplace's monumental work codified and developed the theories and achievements of Newton, Euler, d'Alembert and his contemporary Lagrange. In the tradition of Newton's

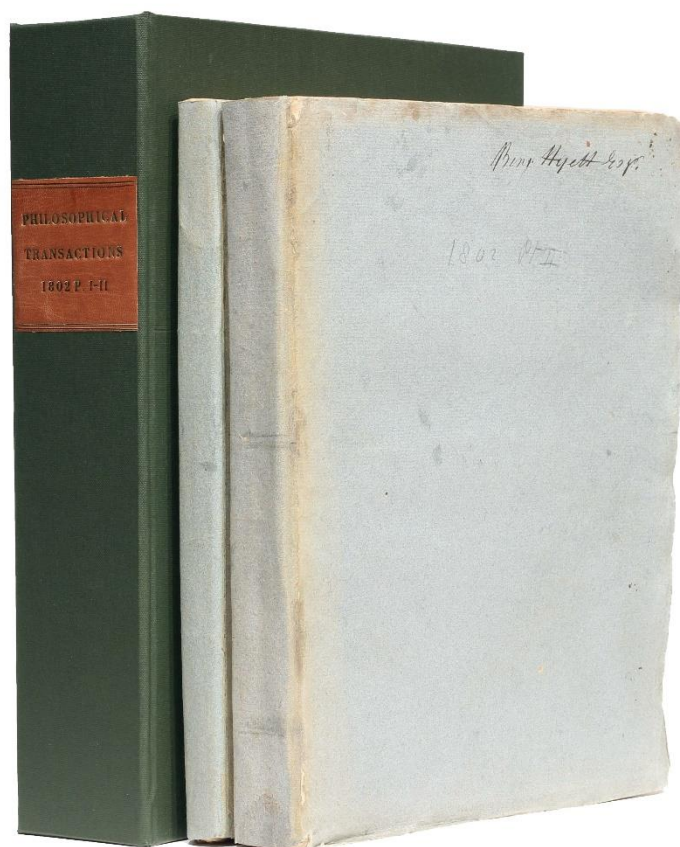
Principia, Laplace "applied his analytical mathematical theories to celestial bodies and concluded that the apparent changes in the motion of planets and their satellites are changes of long periods, and that the solar system is in all probability very stable" (Dibner 14). Newton remained uncertain with respect to the continuity of our solar system. In this work, Laplace also offered explanations unsolved by his predecessors and contemporaries. He "offered a brilliant explanation of the secular inequalities of the mean motion of the moon about the earth - a problem which Euler and Lagrange had failed to solve. He proved that these irregularities are connected with certain solar actions and changes in the orbit of the earth. He also investigated the theory of the tides and calculated from them the mass of the moon" (PMM 252). The first four volumes of the work appeared from 1799 through 1805, and contain the laws of mechanics for their application to the motions and figures of the heavenly bodies. The final parts of the fourth volume and the entire fifth volume really constitute a separate work and contain important material on physics not already included in the original sequence.

Only few volumes of the *traité* have survived in original wrappers and complete sets are of utmost rarity. The Haskell Norman set for example had the first 4 volumes in original wrappers but vol. V rebound in modern quarter morocco (see his sale at Christie's 1998, lot 597, sold at \$16,100).

PMM 259 - Uncut and in the original paper wrappers

23 YOUNG, Thomas. *On the Theory of Light and Colours [An Account of some Cases of the Production of Colours, not hitherto described]. The Bakerian Lecture.* In: Philosophical Transactions of the Royal Society of London, Volume 92, Part I, 1802, pp. 12-48, 1 plate & Part II, 1802, pp. 387-97. London: W. Bulmer for G. & W. Nicol, 1802. 4to (295 x 237 mm). Two parts in two volumes. vi, [2], 1-212, 26; iv, 213-535 [1], [8] pp., part titles, index bound at end, and 17 engraved plates. Original blue simple paper wrappers, all pages untrimmed and partially unopened (wrappers soiled and spotted, spine repaired using the original paper). Housed in custom-made clamshell box. Text and plates generally crisp and clean with only very little age-toning, some dust soiling mostly to edges and outer margins, first few pages of part II with light marginal dampstaining at upper corner and a single wormhole to second half. Provenance: Benjamin Hyett Esq. (signed on front wrapper of part II). A fine, unsophisticated copy in original wrappers, rarely ever found on the market. (#003564) €7500

Young's paper part 1: Dibner 152; PMM 259; Norman 2275. Paper part 2: Norman 2276 - FIRST EDITION. Part 1 is 'an epoch-making contribution to the theory of light in all its phases'. Read as the Bakerian lecture, November 12, 1801, Young firmly endorsed Huygen's wave theory of light, displacing Newton's corpuscular theory which had been favoured for most of the 18th century, and so found explanations for unresolved optical phenomena such as interference. Part 2 is a further explanation of the wave theory.

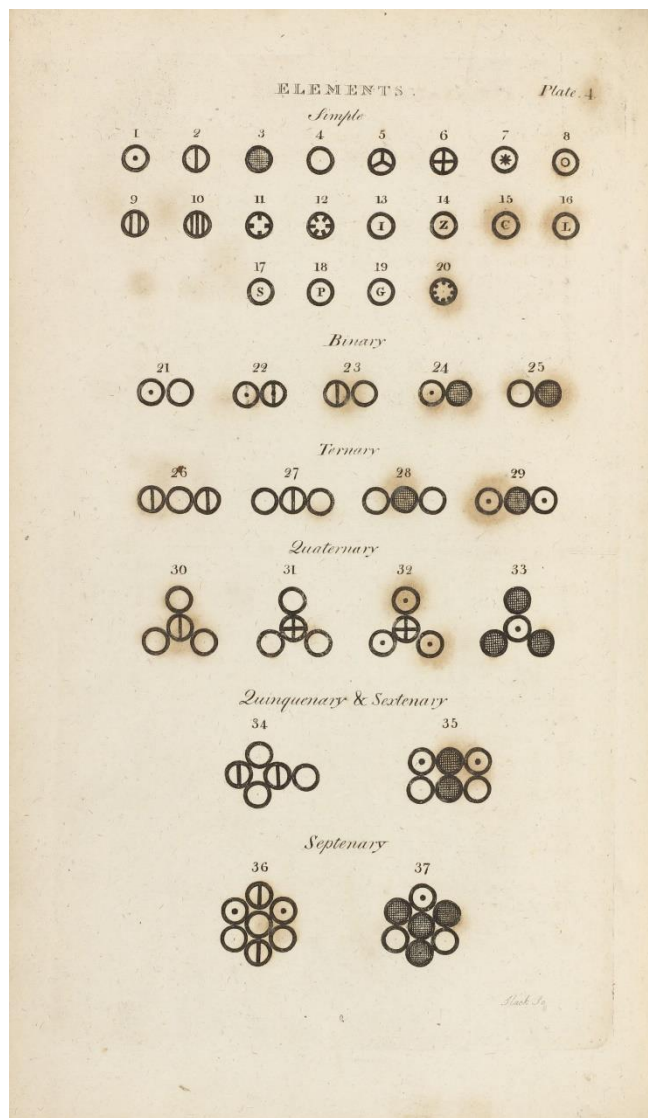


Also in this volume: WOLLASTON, William Hyde. *A Method of examining refractive and dispersive Powers, by prismatic Reflection.* In: Philosophical Transactions of the Royal Society of London 92, Part I, 1802, 4to. pp. 365-380 - Sparrow, Milestones of Science 198. - The third major scientific discovery announced in this volume of the Transactions is Wollaston's discovery of black lines crossing the colored band of the solar spectrum. 'The science of astrophysics began' with Wollaston's report of this phenomenon to the Royal Society (Singer, *Short History of Scientific Ideas to 1900*). Wollaston's examination of the solar spectrum, here described, revealed for the first time the numerous black lines afterwards connected with the name of Fraunhofer; and his paper is one of the most significant 'incunabula' of the discovery of spectrum analysis. Twelve years later the appearance of these dark lines (called 'Fraunhofer lines') was confirmed by the maker of Wollaston's original spectroscope.

PMM 261 - Dalton's atomic theory

24 DALTON, John. *A New System of Chemical Philosophy*. Part I. ... [Part II.]. Manchester: S. Russell for R. Bickerstaff, 1808 [vol. 1, part I]; Russell and Allen for R. Bickerstaff, 1810 [vol. 1, part II]. 8vo (204 x 125 mm), vi, [2], 220 pp., with four leaves of plates; [8], 221-560 pp., with four leaves of plates. Contemporary quarter calf (hinges repaired, some wear to spine ends, rubbed), internally little browned, occasional light spotting and staining. A very good copy. (#001757) € 8500

First edition of the two parts of the first volume (the second volume was published 17 years later in 1827). While the idea that all matter is composed of singular, indestructible particles goes back to speculative philosophers and scientists (Democritus and Lucretius among the ancients, Newton among the moderns), the great exposition of such a theory and its physical implications is by John Dalton (1766-1844), as presented in his *New System of Chemical Philosophy*. Here, for the first time, Dalton argued that each of the éléments of Lavoisier - as defined in



1789 - "is composed of atoms all alike ... the composition of each being constant" (PMM 261), the identity of each atom being established by its particular weight. Taking the lightest atom (hydrogen) as his integer, Dalton found that oxygen weighed 6.5 times as much, sulphur thirteen times as much, and so on, providing here (also for the first time) a 'periodic table' of the then-known elements: see pp. 213-15, and p. 219 and the facing plate. He proposed to express the age-old problem of chemical composition in terms of the number of atoms of each contributing element that combined into the smallest unit (later termed a 'molecule') of any compound substance; this model of all physical matter proved confirmable through experiment, and has dominated chemical theory (with modifications) ever since. Dalton's emphasis on the indestructibility of matter was also 'new' in 1808: "we might as well attempt to introduce a new planet into the solar system, or to annihilate one already in existence, as to create or destroy a particle of hydrogen" (p.212, see DSB III, p.537ff). Dalton explains the publication strategy of his *New System* in his Preface: he first intended "to publish it intire in one volume", but changed his mind in order to 'exhibit and elucidate . . . those primary Laws, which seem to obtain in regard to heat, and to chemical combinations' as swiftly as possible, being warned by colleagues that 'the interests of science, and his own reputation might suffer by delay'. Since his exposition of "the doctrine of heat, and the general principles of Chemical Synthesis, are in a good degree independent of the future details,

there can no detriment arise to the author, or inconvenience to his readers, in submitting what is already prepared, to the inspection of the public". Hence Dalton put into print the essential 'Part I' of his *New System* in May 1808, reserving the 'details' of his experiments and analysis for two years: that supplement, entitled 'Part II', appeared in 1810, with a prefatory apology for its two-and-a-half year delay, and with its pagination continued from that of Part I. A very belated third part (described as 'Volume II, Part I', but effectively a new work under the old title) saw print only in 1827, by which time "the theory had borne such widespread fruit that Dalton's own conclusions were almost all out-of-date" (PMM 261).

References: Dibner 44; Horblit 22; PMM 261; Sparrow 47, Norman 575. -

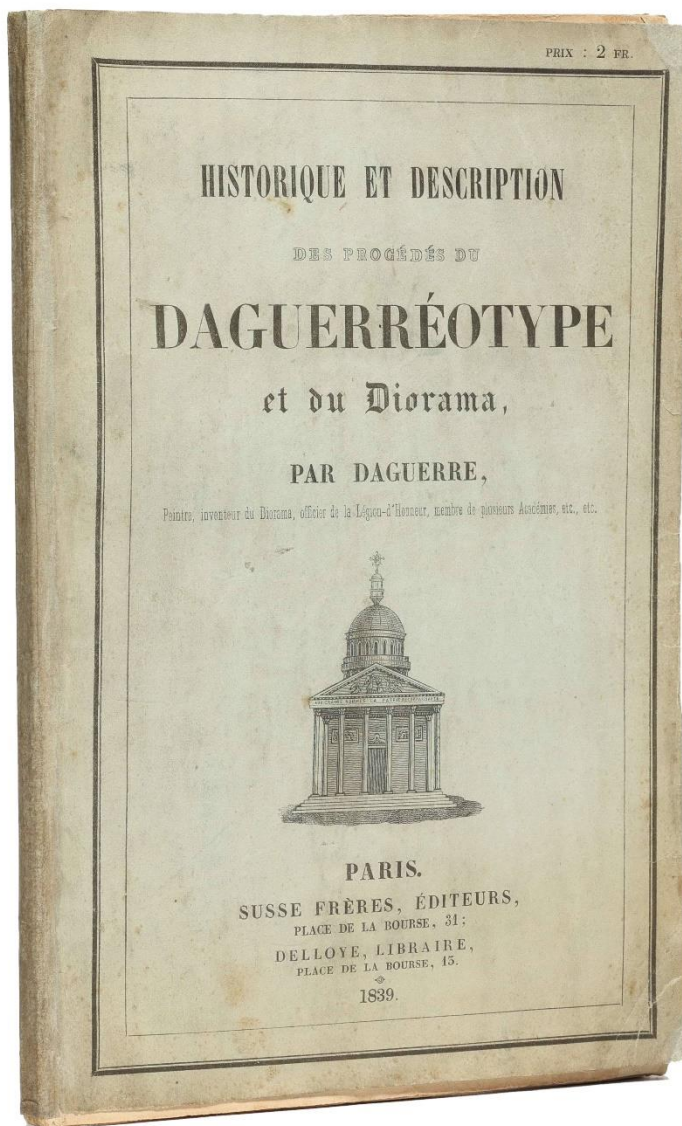
PMM 318B - The true first edition, first printing in the original printed wrappers

25 DAGUERRE, Louis-Jacques Mandé. *Historique et description des procédés du daguerréotype et du diorama.* Paris: Béthune and Plon for Susse frères and Delloye. 1839. 8vo (210 x 135 mm). [4], 79 [1], [4] pp., including half-title, 6 lithographed plates and 2 advertisement leaves at end. Original printed gray wrappers (dust-soiled and spotted, slight creasing, spine repaired), protected in custom slipcase. All pages uncut. Text little age-toned with minor occasional foxing. A very good, highly unsophisticated copy. (#003772) € 45,000

"THE BEGINNINGS OF PHOTOGRAPHY" (Horblit). "PERHAPS NO OTHER INVENTION EVER CAPTURED THE IMAGINATION OF THE PUBLIC TO SUCH A DEGREE AND CONQUERED THE WORLD WITH SUCH LIGHTENING RAPIDITY AS THE DAGUERREOTYPE" (Gernsheim).

FIRST EDITION, FIRST ISSUE of Daguerre's exposition of his photographic process. AN ATTRACTIVE COPY IN ITS ORIGINAL PRINTED WRAPPERS (GREEN VARIANT) OF THIS GREAT RARITY.

"At a joint meeting of the French Academies of Arts and Sciences, Count François Arago announced the miraculous invention of Daguerre, a method for making faithful impressions of objects on sheets of copper, coated with light-sensitive silver salts. Arago's announcement trumped the efforts of Talbot, much to the Englishman's chagrin" (Parr-Badger vol. 1, p. 13).



Daguerre's manual was quickly sold out. A total of 39 reprints, new editions, and translations appeared in the following 18 months. The great demand accounts for the profusion of issues of the first edition: 7 are recorded, all from the same basic setting of type. Of these the first four differ in the booksellers' names alone. The present copy is of the first Susse issue which was released on 14 September 1839. It is the FIRST (and not the second) to appear, preceeding the Alphonse Giroux issue, which was long time thought to be the first and of which only two copies are known (see Honeyman 802), both preserved in the George Eastman Museum, Rochester. In the *Bibliography of Daguerre's Instruction Manuals*, Beaumont Newhall (wrongly) assigned priority to the Giroux printing stating "published on or about 20 August" (see Gernsheim pp.198-205). This assertion appears to be based solely on the fact that Daguerre arranged for Giroux, who was a relative of Madame Daguerre, to market his apparatus and *Manual* on an advertisement that appeared on the back page of the *Gazette de France* of 20 August 1839. But the legal literature of a case involving an engraver and printer named Girdon helps to clarify priority. Girdon sued Giroux for illegally reprinting the *Manual*, and reveals that Daguerre had contracted with Girdon to publish his work. As no copies are known with a Girdon imprint, it is evident that he printed the manual for several merchants, "Messrs. Giroux, Susse, and Lerebours," varying only

the imprints and the inserted advertising material. Giroux testified in his deposition that "It was agreed with Mr. Girdon that he would deliver to me the first 300 copies, bearing my imprint. *This undertaking was not fulfilled, and I therefore was no long bound to Mr. Girdon.* I reprinted the brochure, which everyone had the right to do . . ." [italics added]. Daguerre scholar Pierre Harmant notes: "If one is to believe the *Bibliographie de la France*,

only Susse Frères should be considered the original publishers of the Manual. The *Bibliographie* was the house organ of the Librairie Française. Each week it appeared with a list of works published in France during the week before. On 14th September, it listed Daguerre's Manual for the first time (No. 4456), and the publisher's name given there is Susse Frères." After surveying notices of daguerreotypy at the other opticians in September, Harmant observes that no buyers or journalists mention it in August and writes, "we may safely conclude that the *Manual* was not available during August." On 8 September, Isidore Niépce, the son of Daguerre's late partner, wrote to his mother that "Daguerre has just published a brochure" on the process. In the letter, Niépce noted that "some days ago" he had quarreled with Daguerre concerning his father's role in the invention. Niépce wrote that he thought they had parted amicably but "now the brochure . . . has just appeared. It gives me a proof of his knavery." This 8 September letter additionally suggests that Newhall's 20 August date for the Giroux issue is in error. More significantly, Daguerre himself confirms Niépce's comment that the brochure had "just appeared" by 8 September. Daguerre in fact testified in the Giralton lawsuit: "On the day of my first meeting on the Quai d'Orsay [his first public demonstration of his process, September 7], I was astonished to see my brochure in everyone's hands, while I myself did not have a copy. *These copies bore the address of Mr. Susse, who was to have been supplied only after Mr. Alphonse Giroux*" [italics added]. Given the family ties between Daguerre and Giroux, it is difficult to imagine that Giroux would have neglected to give the photographer a copy of the *Manual* had it been ready. As such, the present evidence clearly indicates that the Giroux *Manuals* were not immediately available, and further that the earliest copies issued in fact bore the Susse Frères imprint. (ref. Harmant, Pierre, Daguerre's Manual: A Bibliographical Enigma, *Journal of the History of Photography*, I: pp. 79-83).

Louis-Jacques-Mandé Daguerre, inventor of the Diorama, a picture show based on lighting effects, started experiments in the 1820s with fixing the images of the camera obscura on silver chloride paper. His lack of success using this method stimulated his interest in the heliographic method invented by Nicephore Niépce, who had produced the first successful photographic image in 1826 or 1827 on a pewter plate coated with bitumen of Judea dissolved in oil of lavender. In 1829 Daguerre succeeded in persuading the reluctant Niépce to become his partner. However, it was only after Niépce's death, in the spring of 1835, that Daguerre accidentally discovered a quicker method of exposing and developing the Niècian image through the application of mercury vapor. Using this method, with common table salt as the fixative, he produced his first successful permanent photographic image in 1837. Still under contract with Niépce's son Isidore, Daguerre agreed to split the profits from the new invention in exchange for calling it by his name alone. He then proceeded to launch a publicity campaign with the goal of attracting 400 subscribers at 1,000 francs each, stipulating that the processes of heliography and 'daguerrotype' would not be revealed until 100 subscribers were enrolled. This failed, and the resourceful Daguerre turned to other methods, privately approaching a number of leading scientists with the goal of interesting the government. "He was fortunate in finding in François Dominique Arago an influential ally, for he was a member of the Chamber of Deputies as well as a distinguished physicist and astronomer. Soon afterwards, Arago gave the discovery official status by a brief announcement at the Acadmie des Sciences, on 7 January 1839" (H. & A. Gernsheim, *The History of Photography*, p. 68). Arago energetically promoted the invention and succeeded in obtaining government funding for the two partners, although in the course of his arguments he gradually shifted credit for the invention to Daguerre, at the expense of Niépce's pioneering work. By the summer, Daguerre was finally obliged to divulge the details of "his" process (though not before Fox Talbot, in reaction to the news of Daguerre' invention, had published his own announcement of his independent invention of a photographic process). On August 19 Arago made a full announcement to a packed house at a joint meeting of the Académies des Sciences and des Beaux-Arts at the Institut de France. The excitement was palpable. "Perhaps no other invention ever captured the imagination of the public to such a degree and conquered the world with such lightening rapidity as the daguerreotype" (H. & A. Gernsheim, *The History of Photography*, p. 71). Along with the official documents relating to the government's review of the procedure, Daguerre's manual includes details of its genesis, including a transcription of Niépce's own description of his heliographic process, submitted to Daguerre in 1839, and a full illustrated description of his daguerreotype process - presented as an independent invention, superior to Niépce's.

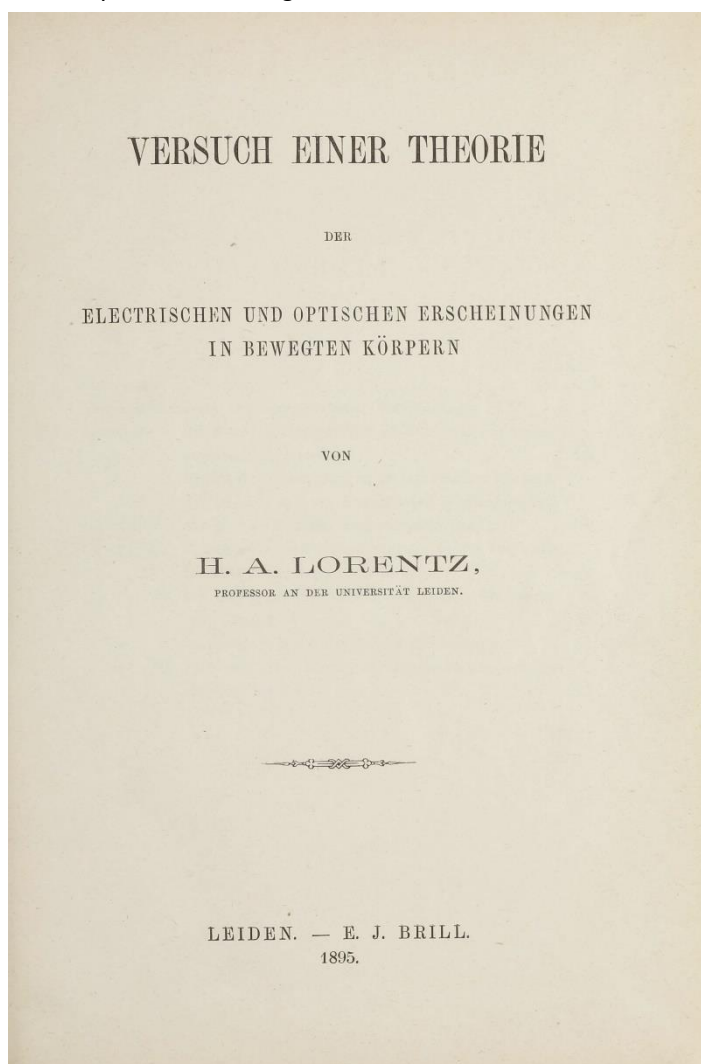
We know of only three unsophisticated copies of the first issue in its original wrappers that have appeared at auction in the past 40 years: the Honeyman copy (Sothebys 1979, lot 802, GBP 1400), the Meyer Friedmann copy (Sothebys 2001, lot 40, \$55375) and finally the Richard Green copy (Christies 2008, lot 66, \$122500). In contrast to ours, those copies are in yellow wrappers (no priority granted).

References: PMM / *Printing and the Mind of Man* 318b; Dibner 183; *En français dans le texte* 255; H. & A. Gernsheim, *The History of Photography*, chapter 6; Horblit/Grolier 21a (reproducing the 4th issue); Norman 569 (same issue); P.G. Harmant, Daguerre's Manual: A Bibliographical Enigma, *Journal of the History of Photography*, vol. I, 1977, pp. 79-83.

PMM 378B - The Mathematical Foundation for Einstein's Special Theory of Relativity

26 LORENTZ, Hendrik Antoon. *Versuch einer Theorie der electrischen und optischen Erscheinungen in bewegten Körpern.* Leiden: E. J. Brill, 1895. 8vo (215 x 144 mm). [4], 138, [2] pp. Bound in contemporary half cloth, gilt-lettered spine, red sprinkled edges (minor rubbing of boards and extremities). Text very little age-toned, but generally clean and bright. A near fine copy, free of markings or stamps. (#003629) € 3800

PMM 378b; Norman 1388; DSB VIII, p. 494; Magill, *The Nobel Prize Winners: Physics*, pp. 35-42. FIRST EDITION, LAYING THE MATHEMATICAL FOUNDATION FOR EINSTEIN'S SPECIAL THEORY OF RELATIVITY. It is the second of Lorentz' two expositions of his electron theory of matter (the first titled *La theorie electromagnetique de Maxwell et son application aux corps mouvants* appeared in 1892 as an article in the journal *Archives neerlandaises des Sciences exactes et naturelles*) "Hertz's experimental and theoretical researches generated widespread interest in Maxwell's theory among Continental physicists. Of the major theoretical statements of Maxwellian electrostatics following Hertz's researches, several advanced a molecular view of electricity together with a

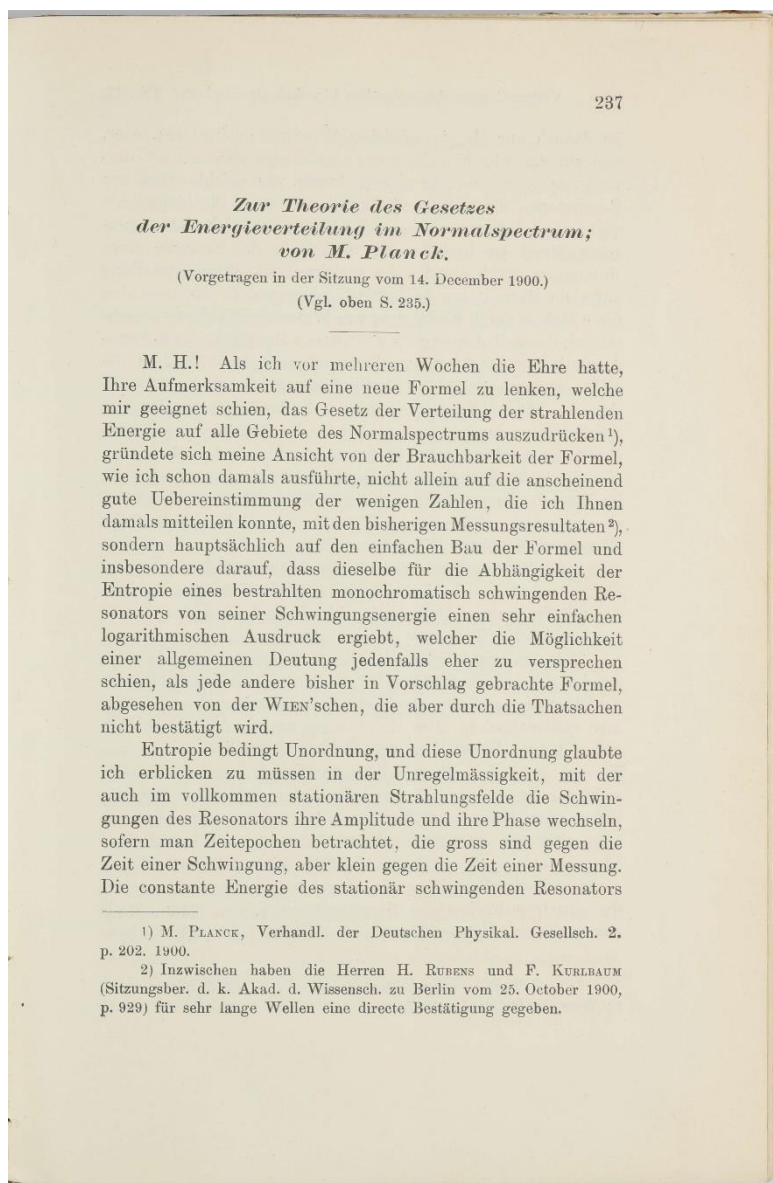


stationary ether. Such theories - soon to be called electron theories - were proposed independently in the early 1890s by Lorentz, by Weichert, and by Larmor . . . Of the three theories, Lorentz's gained the greatest authority on the Continent, in part because of its clear, if ultimately unsatisfactory, dualism of electron and field" (DSB). Lorentz's theory, for which he won the Nobel Prize for physics in 1902 (shared with Pieter Zeeman), rested on the "fundamentally new assumption that the behavior of light and matter could be understood in terms of particles" (Norman). His articles contain the mathematical explanation of the results of the Michelson-Morley experiment, one of several "ether-drift" experiments that had disproved the theory that the speed of light is interfered with by the "luminiferous ether" that was still believed to surround the earth. The ether theory had attempted to explain the so-called "angle of aberration", the fact that in examining any fixed star it is necessary to point the telescope a bit in advance of the star. In this second paper Lorentz explained the optical aberration by his "famous contraction hypothesis" (DSB) which assumes that matter is of an electrical nature, so that "all electrical particles became shortened when in motion along the direction in which the ether drifts" (PMM). In 1905 Einstein published his special theory of relativity, which refuted the Michaelson-Morley

experiment as fundamentally flawed since it presumed the existence of an observer independent of and unrelated to the universe, and for which he adopted the equations of Lorentz's theory. Although Lorentz admired Einstein's reinterpretations of his equations, "to the end of his life he believed that the ether was a reality and that absolute space and time were meaningful concepts" (DSB).

27 PLANCK, Max. Zur Theorie des Gesetzes der Energieverteilung im Normalspectrum. In: *Verhandlungen der Deutschen Physikalischen Gesellschaft im Jahre 1900*, vol. 2, no. 17, pp. 237-245. Leipzig: Johann Ambrosius Barth, 1900. Entire first year (1899) and second year (1900) of this journal present, bound in one volume. 8vo (223 x 148 mm). vi, 292; vi, 260 pp., including general titles, member directories, and text diagrams. Contemporary half cloth and marbled boards (interim binding), spine with hand-written paper label and small sticker (extremities rubbed, minor paper chipping to board edges and spine label). Text bright and clean throughout. Provenance: Naturkundig Laboratorium Leiden (date stamp to upper corner of first page of each issue of 1899 vol.); Physisch Kabinet Leiden (ink stamps to book block edges and first title). A fine copy. (#003769) € 15,000

RARE FIRST EDITION of the "first printing of Planck's quantum theory, marking the dividing line between classical and modern physics. In attempting to define the characteristics of black-body radiation and the radiation of



energy at high frequencies by hot bodies (the so-called 'ultraviolet catastrophe'). Planck postulated that radiant heat or energy is emitted in the form of sudden discrete bursts or 'quanta', each representing a quantity of energy equal to the product of the frequency of the vibration in the emitted radiation (ν) and a universal constant (h) [the Planck constant]" (Norman).

"Here was a revolutionary theory. It contradicted the mechanics of Newton and the electromagnetics of Faraday and Maxwell. Moreover it challenged the notion of the continuity of nature. [. . .] The quantum theory has affected virtually every branch of physics. Its earliest and one of its most significant developments was Einstein's application of the theory to what is known as the 'photo-electric effect'. If ultra-violet light or X-rays are passed through a gas, some of its atoms are broken up and electrons are emitted from it. A puzzling feature of this phenomenon is that neither the number nor the speed of the ejected electrons bears a direct relation to the intensity of the beam. Feeble radiation of high frequency may be much more effective than intense radiation at low frequency; but if the frequency of light is below a given figure no electrons will be ejected, however intense the

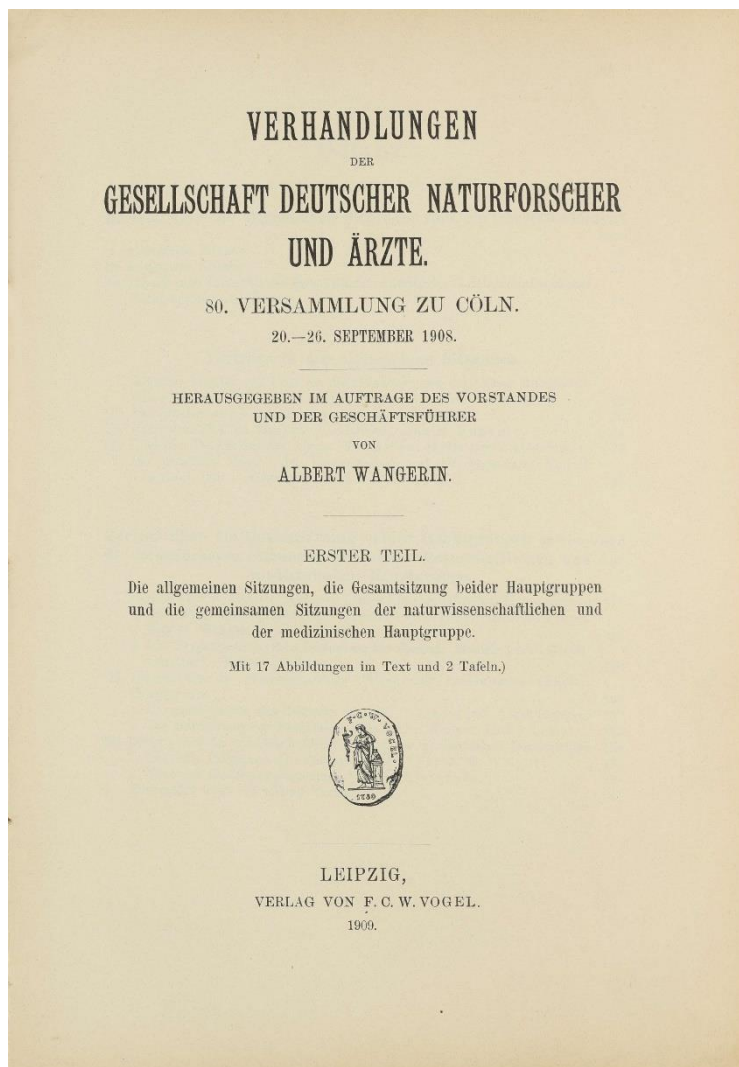
beam. Above that figure the energy of the electrons depends on frequency and their number on intensity. Einstein explained this by suggesting that the classical view that light is emitted in the form of continuous waves must be abandoned. The photo-electric effect could be explained only as an example of quantum action where the waves of light or X-rays are emitted in minute particles or bullets. It is the size of the bullet (the wavelength of the radiation) which determines the number of electrons ejected. It was for this, and not for the theory of relativity, that Einstein was awarded the Nobel Prize in 1921. [. . .] Planck was the President of the Kaiser-Wilhelm- Gesellschaft from 1930 to 1937 but was deposed by the Nazis. After the Second World War the Gesellschaft was refounded under his name" (PMM).

Also contained in the in this volume are two other papers by Planck: *Ueber eine Verbesserung der Wierfschen Spectraequation*, pp. 202-204; and *Ein vermeintlicher Widerspruch des magneto-optischen Faraday-effectes mit der Thermodynamik*, pp. 206-210.

References: PMM, *Printing and the Mind of Man* 391a; *Dibner Herald* 166; *Grolier/Horblit* 26a; *Norman* 1713.

PMM 401 - The four-dimensional space-time continuum

28 MINKOWSKI, Hermann. Raum und Zeit. In: *Verhandlungen der Gesellschaft deutscher Naturforscher und Ärzte*, vol. 80, part II, pp. 4-9. Versammlung zu Cöln. 20.-26. September 1908. Leipzig: Verlag von F.C.W. Vogel, 1909. 4to (240 x 167 mm). Parts I, II/i-ii and 'Geschäfts-Bericht' bound in single volume. 124, [2], [4], 246; x, [2], 218; xxi [1], 595, [3] pp. Contemporary library cloth with handwritten paper label, sprinkled edges (wear to extremities, spine creased, corners scuffed, binding a bit weak with few pages working loose). In modern cloth protective case with morocco spine label. Light marginal browning, but generally clean and bright throughout. The whole volume is offered. (#101879) € 1500



PMM 401 (Deutschen Mathematiker-Vereinigung issue); DSB IX, 414; *Norman* 1514 (offprint). - FIRST EDITION AND FIRST APPEARANCE. In this paper 'Space and Time,' read by Minkowski in Cologne only a few days before his death, he introduced the notion that made possible the expansion of the relativity theory of Einstein from its specific to its general form. The technical description of Minkowski's hypothesis is the four-dimensional space-time continuum ... Minkowski maintained that the separation of time and space is a false conception; that time itself is itself a dimension, comparable to length, breadth and height; and that therefore the true conception of reality was constituted by a space-time continuum possessing these four dimensions ..." (PMM).

The paper was first published here (pp.4-9 of part II, i of the *Verhandlungen*) and was then reprinted in *Jahrsbericht der deutschen Mathematiker-Vereinigung*, vol. XVIII (1909). Following Minkowski's unexpected death in 1909, an offprint from the *Jahrsberichts* was commissioned as a tribute.

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