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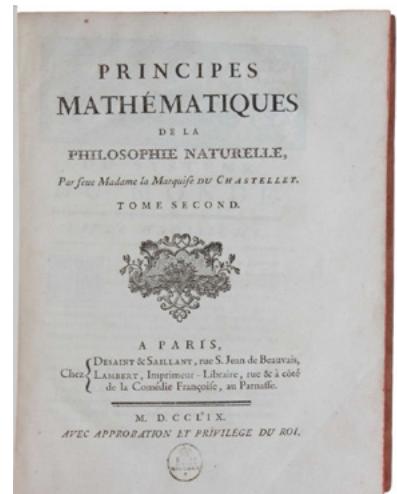
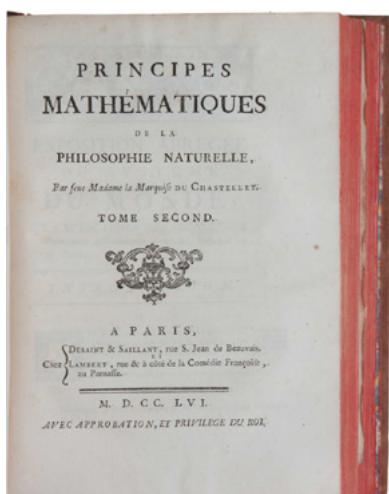
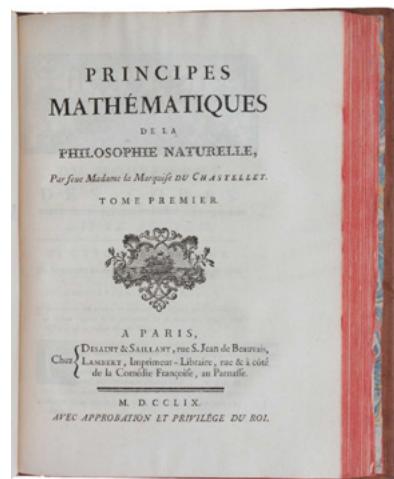
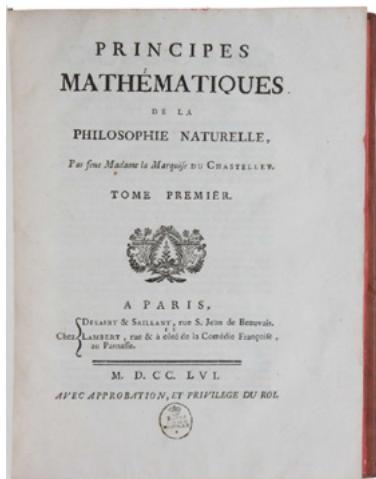
The New York International Antiquarian Book Fair
The Park Avenue Armory,
Thur: 5-9pm; Fri: 12-8pm; Sat: 12-7pm; Sun: 12-5pm
9-12 April 2015

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SOPHIA Σ RARE BOOKS

(*The descriptions in this list are abbreviated; full descriptions are available*)

A probably unique copy of bibliographical importance



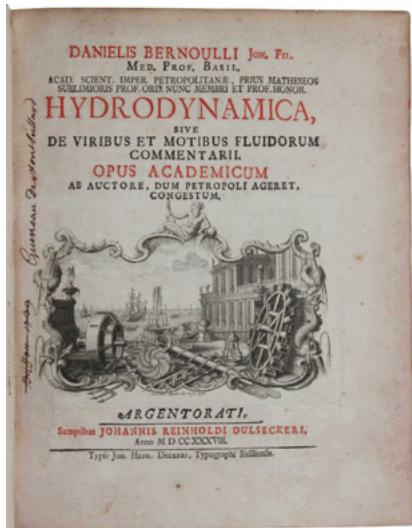
*Extremely rare preliminary issue of the first
French edition of Newton's Principia.*

[Item 43]

The copy of Comte de Buffon

1. BERNOULLI, Daniel. *Hydrodynamica, sive de viribus et motibus fluidorum commentarii.* Strasbourg: Johann Reinhold Dulsseker, 1738.

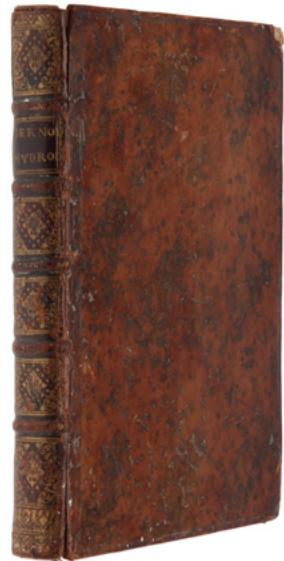
\$20,000



First edition with outstanding provenance, the copy of the great French naturalist, mathematician, cosmologist, and encyclopedic author, Comte de Buffon (1707-1784) and later his collaborator Philippe Guéneau de Montbeillard (1720-1785). A beautiful and very large copy, in unrestored contemporary calf, of Bernoulli's epochal work on fluid dynamics and kinetic gas theory. "Bernoulli's *Hydrodynamica* [was] one of the major works initiating the mathematical study of fluid flow... He also examines the equilibrium oscillation of an inertialess ocean, and explicitly states that the flow equations are appropriate not only for the more common applications of fluid dynamics but also for the flow of blood in veins and arteries. Bernoulli, like Galileo Galilei in 1638 and Christian Huygens, assumes conservation of mv^2 rather than conservation of momentum mv , m and v symbolizing a body's mass and velocity respectively... [The *Hydrodynamica* also] initiates

the mathematical study of the kinetic theory of gases ... and analytically deduces Boyle's Law that volume and pressure of a gas are inversely related, a law originally obtained empirically" (Parkinson, *Breakthroughs*).

• Norman 215; PMM 179n; Barchas 175; Parkinson pp 155-6; Roberts and Trent, pp 34.



Honeyman copy

2. BERNOULLI, Johann. *Opera omnia, tam antea sparsim edita.* Lausanne & Geneva: Marci-Michaelis Bousquet, 1742.

\$7,500



An exceptionally fine and complete copy with both the portraits which are often lacking, from the collection of Robert B. Honeyman. " [Johann] Bernoulli published only one book, *Théorie de la manoeuvre des vaisseaux* (1714) and apart from this, his dissertation *De motu muscularum* (1694) and one or two minor pieces, all his work was contributed to journals (189 papers are collected here) or were first published in these volumes, i.e. 59 of his lectures and the *Hydraulica* in volume IV [appearing here for the first time in print], which was written in competition with his son Daniel." (Roger Gaskell). "The first volume is primarily devoted to problems in geometry and the early

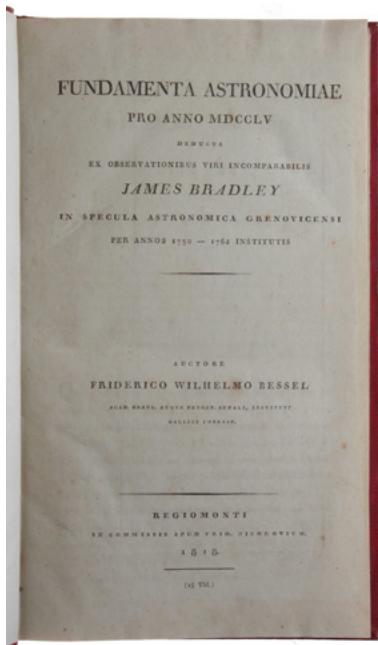
calculus, but also contains papers on muscular mechanics, the resistance of solids, and a geometrical demonstration of the motion of pendulums and projectiles in resisting and unresisting media. Volumes two and three are almost totally devoted to problems of mechanics, the first of these containing his theoretical essay on the maneuvering of vessels and related papers, as well as numerous contributions on the analysis of trajectories. His discourse on the laws governing the communication of movement opens volume three, which also contains his essay on celestial mechanics. The last volume contains contributions on the curvature of elastic plates, his mechano-dynamical propositions, and problems in dynamics. A very fine and completely unrestored set, housed in four fine custom half red morocco cases.

• Honeyman 293 (this copy, sold for \$1,500 in 1978); Norman 217; Stanitz 55; Arnoud de Vitry 55.



'Milestone in the history of astronomical observations'

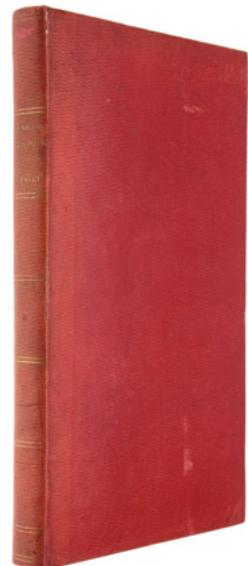
3. BESSEL, Friedrich Wilhelm. *Fundamenta astronomiae pro anno MDCCCLV deducta ex observationibus viri incomparabilis James Bradley in specula astronomica Grenovicensi per annos 1750-1762 institutis.* Königsberg: Nicolovius, 1818.



\$2,400

A fine copy of this work which "constitutes a milestone in the history of astronomical observations, for until then positions of stars could not be given with comparable accuracy: through Bessel's work, Bradley's observations were made to mark the beginning of modern astrometry" (Walter Fricke in DSB). "In 1807 Olbers encouraged [Bessel] to do a reduction of Bradley's observations of the positions of 3,222 stars, which had been made from 1750 to 1762 at the Royal Greenwich Observatory. This task led to one of his greatest achievements ... "The positions of Bradley's stars valid for 1755 were published by Bessel as 'Fundamenta astronomiae pro anno MDCCCLV' (1818). This work also gives the proper motions of the stars, as derived from these observations of Bradley, of Piazzi, and of Bessel himself... During this investigation Bessel became an admirer of the art of observation as practiced by Bradley; and because Bradley could not evaluate his own observations, Bessel followed and also taught the principle that immediately after an observation, the reduction had to be done by the observer himself. Further, he realized that the accurate determination of the motions of the planets and the stars required continuous observations of their positions until such motions could be used to predict 'the positions of the stars' (DSB).

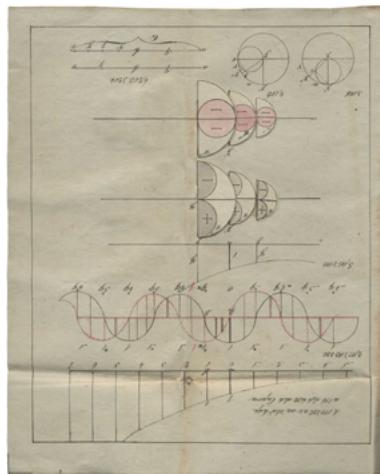
• Norman 226; Honeyman 311.



Farkas Bolyai's last great work

4. BOLYAI, Farkas. A' Marosvasarhelyt 1829-be nyomtatott Arithemetika Elejének részint rövidített, reszint bovitett, általán jobbitott, 'tisztáltabb kiadása. Marosvasarhely: Kali Simon, 1843.

\$22,500



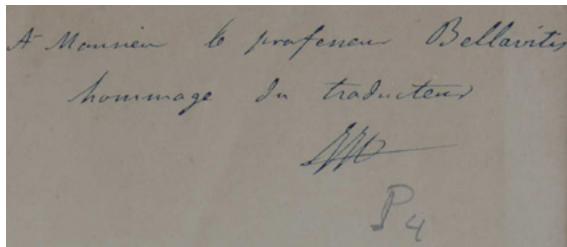
First edition, an exceptionally fine copy in the original boards, of Bolyai's work on the foundations of mathematics. This work enlarges and extends Bolyai's investigations into the principles of mathematics. Farkas Bolyai (1775-1856) was a close friend of Gauss and regarded by the latter as the only man who fully understood Gauss' metaphysics of mathematics. "He can be taken as a precursor of Gottlob Frege, Pasch, and Georg Cantor; but, as with many pioneers, he did not enjoy the credit that accrued to those that followed him" (DSB). He had worked on the parallel postulate and the possibilities of a non-Euclidean geometry from his earliest days as a mathematician in Göttingen, and had corresponded with Gauss on the subject, even sending him a manuscript entitled *Theoria parallelarum*, but it was his son János who was to achieve the breakthrough.



First vernacular edition of the Appendix - inscribed

5. BOLYAI, János. *La science absolue de l'espace indépendante de la vérité ou de la fausseté de l'axiome XI d'Euclide (que l'on ne pourra jamais établir a priori); suivi de la quadrature géométrique du cercle, dans le cas de la fausseté de l'Axiôme XI... Précédé d'une Notice sur la Vie et les Travaux de W. et de J. Bolyai par M. Fr. Schmidt.* Paris: Gauthier-Villars, 1868.

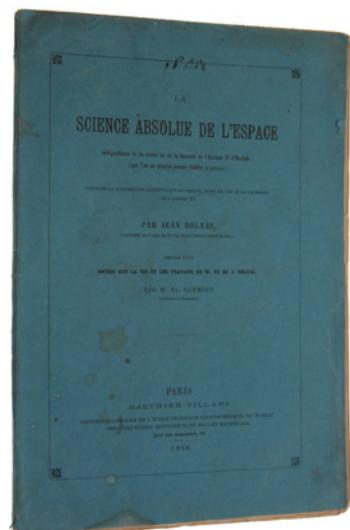
\$3,750



First separate edition of the first vernacular translation of the famous Appendix of Janos Bolyai, one of the most important works in the history of mathematics. This Appendix, together with the independent work of Nikolai Lobachevsky, constitute the founding works of non-Euclidean geometry. Bolyai's original work having been published (in Latin) in an obscure town in Transylvania, it is

the vernacular translations through which Bolyai's work became known to the wider mathematics community (translations into English, German and Italian followed this French translation). This is a fine presentation copy from the translator Jules Houel (1823-86) to the Italian geometer Giusto Bellavitis (1803-80), best known for his geometrical calculus which influenced Grassmann's *Ausdehnungslehre*, for his contributions to algebraic geometry, and for his work in the history of mathematics (he vindicated Pietro Cataldi by attributing to him the invention of continued fractions).

Dibner 116; Evans 13; Horblit 69b; Norman 259; Parkinson pp. 295 & 296 (all referring to the first edition of 1832).



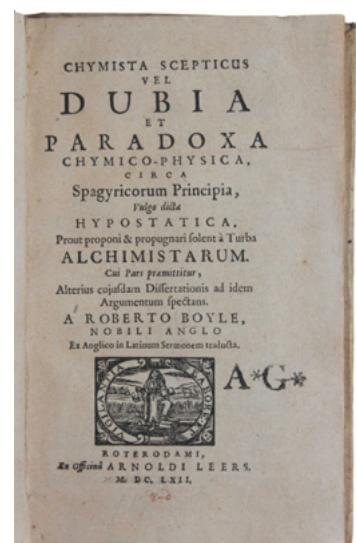
'One of the great books in the history of thought' (Fulton)

6. BOYLE, Robert. *Chymista scepticus vel dubia et paradoxa chymico-physica, circa spagyricorum principa, vulgo dicta hypostatica, Prout proponi & propugnari solent à Turba Alchimistarum. Cui pars premittitur, alterius cujusdem dissertationis ad idem argumentum spectans.* Rotterdam: A. Leers, 1662.

\$16,500



First Latin edition, one of two issues, each published one year after the first English edition (the other was published at London, no priority established), of this milestone in the history of chemistry. "His most important work [where he] set down his corpuscular theory of the constitution of matter, which finally freed chemistry from the restrictions of the Greek concept of the four elements, and was the forerunner of Dalton's atomic theory" (Sparrow). "Boyle's most celebrated book is his Sceptical Chymist ... It contains the germs of many ideas elaborated by Boyle in his later publications" (Partington II, p. 496). This Latin edition is the second edition overall; both issues are very rare: we have been unable to locate any copy of either issue in auction records. OCLC lists six copies of the Rotterdam issue and four of the London issue in the US. The first English edition, though not as rare as this Latin edition, commands a high price – the last copy at auction sold for £362,500 (The Library of the late Hugh Selbourne M.D., Part One, Bonham's London, 25 March 2015, lot 236).

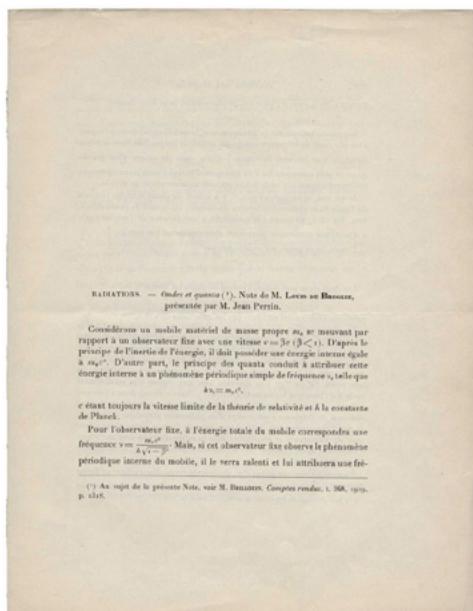


Dibner 39; Grolier/Horblit 14; Norman 299; PMM 141; Sparrow 27 (all for the first English edition); Fulton 27.

Wave-particle duality - incredibly rare offprint

7. BROGLIE, Louis Victor Pierre Raymond De. *Ondes et quanta. Note de M. Louis de Broglie, présentée par M. Jean Perrin.* (Séance du 10 Septembre 1923). [Paris: Gauthier-Villars, 1923].

\$46,500



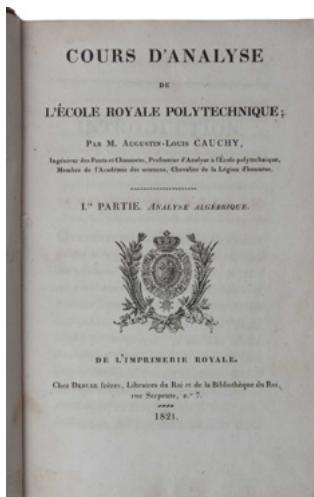
The exceptionally rare offprint of de Broglie's "enunciation of the epochal new principle that particle-wave duality should apply not only to radiation but also to matter ... He made the leap in his September 10, 1923, paper: $E = hv$ should hold not only for photons but also for electrons, to which he assigns a 'fictitious associated wave'" (Pais, *Subtle is the Lord*, p. 436). "Louis de Broglie achieved a worldwide reputation for his discovery of the wave theory of matter, for which he received the Nobel Prize for physics in 1929. His work was extended into a full-fledged wave mechanics by Erwin Schrödinger and thus contributed to the creation of quantum mechanics" (DSB). When de Broglie published this paper he was practically unknown in scientific circles. His ideas became widely known only with the publication of his doctoral thesis *Recherches sur la théorie des quanta* in the summer of 1924, which is an elaboration of the content of this paper. On receiving a copy of the thesis Einstein said that it "lifted a corner of the great veil" (Isaacson, *Einstein*, p. 327). De Broglie's book *Ondes et mouvements* (1926), selected by Carter and Muir for the Printing and the Mind of Man exhibition and catalogue, was a further expansion of ideas first published in this paper and the thesis.

No copies of this offprint are listed on OCLC, COPAC or BNF. No copies have appeared at auction, and we are not aware of any other copy having appeared in commerce. This copy is in very fine condition, a remarkable survival of a document consisting of a single sheet as issued in its original state.

One of the most influential mathematics books ever written

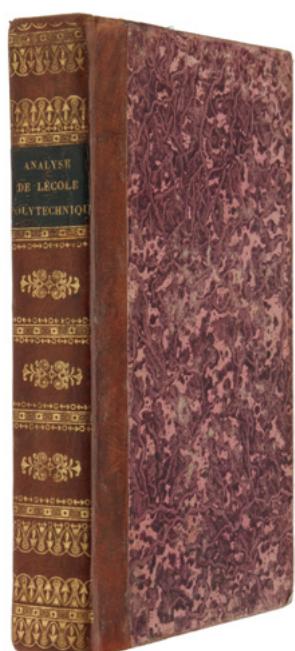
8. CAUCHY, Augustin-Louis. *Cours d'analyse de l'École Polytechnique; I.re Partie. Analyse algébrique.* Paris: De l'imprimerie Royale, chez Debure frères, 1821.

\$6,850



An exceptionally fine copy of the first edition of Cauchy's great textbook, one of the most influential mathematics books ever written, in which "Cauchy gave the foundation of the calculus as we now generally accept it". (D.J. Struik). "In 1821, Augustin-Louis Cauchy (1787-1857) published a textbook, the *Cours d'analyse*, to accompany his course on analysis at the École Polytechnique. It is one of the most influential mathematics books ever written. Not only did Cauchy provide a workable definition of limits and a means to make them the basis of a rigorous theory of calculus, but he also revitalized the idea that all mathematics could be set on such rigorous foundations. Today the quality of a work of mathematics is judged in part on the quality of its rigor; this standard is largely due to the transformation brought about by Cauchy and the *Cours d'analyse*" (Bradley & Sandifer, p. vii).

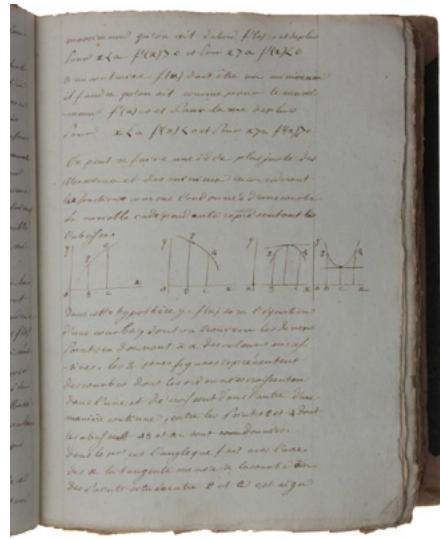
• Landmark Writings in Western Mathematics 25; En Francais dans le texte 231.



Manuscript lecture notes on algebraic analysis

9. CAUCHY, Augustin-Louis. *Manuscript volume of lecture notes on analysis and mechanics delivered at the École Polytechnique.* [Paris, 1824-25].

\$17,500



A remarkable survival, the only recorded set of notes of Cauchy's first-year undergraduate lectures at the École Polytechnique for 1824-25, taken by his student Louis de la Moricière. No other set of notes of Cauchy's lectures at the École Polytechnique has appeared in commerce, and we have been able to trace only three sets in French public libraries (for the years 1815-16, 1822-23 and 1828-29). "The most important figure in the initiation of rigorous analysis was Augustin-Louis Cauchy. It was, above all, Cauchy's lectures at the École Polytechnique in Paris in the 1820s that established a new attitude toward rigor and developed many characteristic nineteenth-century concepts and methods of proof" (Grabiner, pp. 2-3).

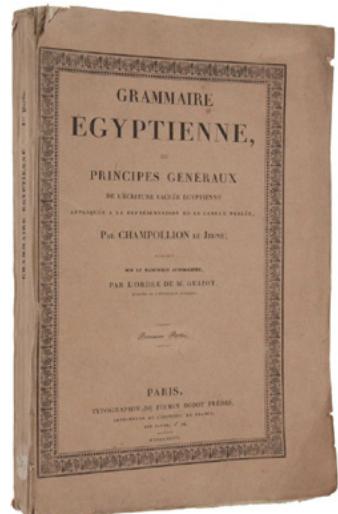
These notes are of considerable historical importance: although the lectures on analysis were published in four great treatises, the content of the lectures evolved significantly during Cauchy's 15 years of teaching so that the content of a particular series of lectures may differ significantly from the published version. Moreover, the notes provide a unique insight into Cauchy's lectures on mechanics, which were never published.



Grammar of hieroglyphics

10. CHAMPOLLION, Jean-François. *Grammaire égyptienne, ou Principes généraux de l'écriture sacrée égyptienne appliquée à la représentation de la langue parlée...* Publiée sur le manuscript autographe, par l'ordre de M. Guizot... Paris: Firmin Didot Frères, 1836 [-1841].

\$9,500



First edition, rare in the original printed wrappers, of Champollion's monumental work on Egyptian grammar, which laid the foundations for all subsequent discoveries in Egyptology. It contains the first printed list of hieroglyphs (260 in all). "The Grammar set out Champollion's theory and classification of hieroglyphic signs, with their values and their equivalents in hieratic; in addition, it showed how the different parts of speech, including verb conjugations and noun declensions, were represented in hieroglyphic signs, with illustrative phrases taken from the monuments" (Robinson, *The Revolutionary Life of Jean-Francois Champollion*, 2012). Champollion himself had high expectations for his work. He is famously quoted for telling his brother Jacques-Joseph Champollion-Figeac: "To be honest, I hope that this will be my calling-card to posterity." We have been unable to locate any copy in original printed wrappers sold at auction.

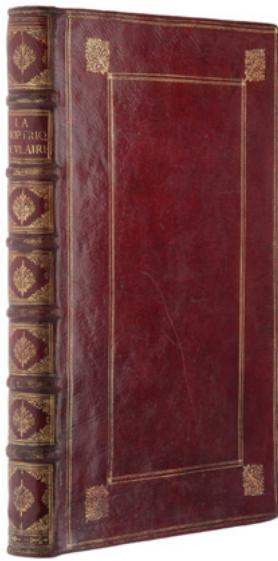


• Brunet I, 1780; Gay, *Bibliographie des ouvrages relatifs à l'Afrique et à l'Arabe*, 1729.

'The most exhaustive treatise on lens making in the seventeenth century'

11. CHERUBIN d'Orléans, Capuchin. *La dioptrique oculaire, ou la théorique, la positive, et la mechanique de l'oculaire dioptrique en toutes ses espèces.* Paris: Thomas Jolly and Simon Benard, 1671.

\$38,500



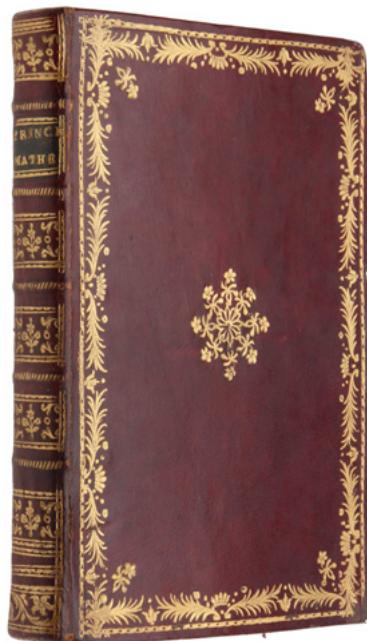
Exceptional copy in contemporary red morocco of "the most exhaustive treatise on lens making in the seventeenth century. It is a six-hundred folio page long, comprehensive, cogently-argued treatise on telescope making. It contains an impressive amount of theoretical and practical, first-hand information on all of its facets — from explanations of the telescope's working principles, to descriptions of lens grinding and polishing, to rules for the right distances between lenses, to methods to find the right apertures, to descriptions of the shapes and articulations of the wooden parts and bolts and screws needed to properly point a telescope to the skies, to the construction of tubes, and so on and so forth" (Albert et al, *The origins of the telescope*, pp. 289-291). "The French Capuchin friar Cherubin d'Orleans (1613-97), real name Michel Lassere, published a large volume in 1671 on optics, in which, among other subjects, he describes his invention of a rhombic pantograph apparatus attached to a telescope and drawing board, by which accurate drawings of distant objects could be made" (Whittaker, *Mapping and naming the moon*, p. 76).



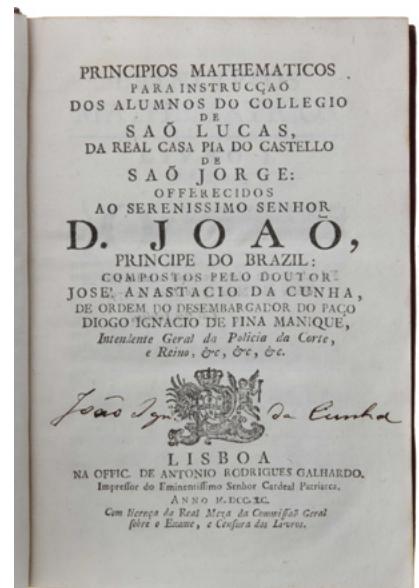
Rigorous calculus before Bolzano and Cauchy

12. CUNHA, José Anastácio da. *Principios Mathematicos para intruçāo dos alumnos do Collegio de São Lucas, da Real Casa Pia do Castello de São Jorge...* Lisbon: Antonio Rodrigues Galhardo, 1790.

\$5,500

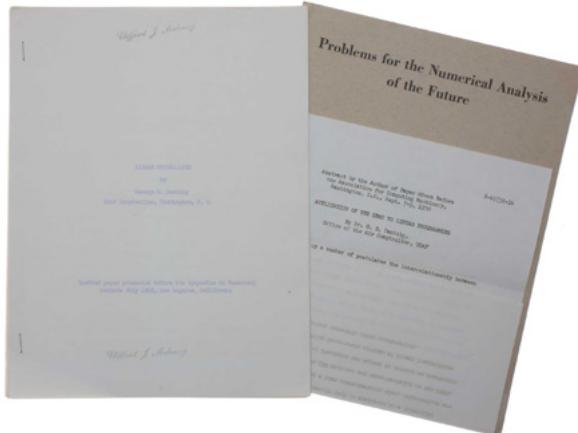


First edition, very rare, of this important but neglected work which anticipates by three decades the efforts of Bolzano and Cauchy to provide a rigorous foundation for calculus. Cunha was "one of the main precursors of the reform of the foundations of infinitesimal calculus, initiated in the first decades of the nineteenth century" (Youschkevitch in DSB). "The main feature of this nearly forgotten textbook which embraces all principal branches of mathematics is the author's predilection for rigorous exposition of this science in general, and of the calculus in particular. For instance, da Cunha proposed a new theory of the exponential function which anticipates some ideas of the modern theory of analytic functions: the function a^x is defined as the sum of a convergent series. On this basis he developed a very ingenious proof of the binomial expansion. Most striking of all is da Cunha's definition of the differential of a function, equivalent to one introduced after Cauchy..." (Youschkevitch 'J A da Cunha et les fondements de l'analyse infinitesimale,' *Revue d'histoire des sciences et leur applications* XXVI (1973), p. 3).



'One of the most important algorithms of the 20th century'

13. DANTZIG, George Bernard. *Linear Programming: Invited paper presented before the Symposium on Numerical Methods July, 1948, Los Angeles, California.* [National Bureau of Standards], 1948.



Bureau of Standards) in July 1948 – the first and last page are marked with the rubberstamp of statistician, and specialist in numerical methods, Dr. Clifford J. Maloney (who worked for different governmental institutions) and who would have been a very likely participant at this symposium. WorldCat lists no copies of this prepublication issue.

\$5,500

Extremely rare mimeographed typescript of the paper (published three years later) in which Dantzig gave the first general description of linear programming and his famous 'simplex' method - declared as one of the most important algorithms of the 20th century. Harvard economist Robert Dorfman, in his paper 'The Discovery of Linear Programming' (*Annals of the History of Computing*, vol. 6, pp. 283-295, 1984), clearly refers to this 1948 paper by Dantzig as the first in which he discovered the "basic strategy of the simplex method and all its variants, ... Thus Dantzig described the basic step in climbing the beanpole in the summer of 1948", citing the published version of this paper. The contents of this mimeographed typescript is identical to the 1951 publication [also offered here] and is with all probability the version handed out to the attendees of the symposium (National

The best edition of Descartes' Geometry - used by Newton

14. DESCARTES, René. *Geometria, à Renato Des Cartes anno 1637 Gallicè edita...* Amsterdam: Elzevir, 1659-1661.



\$8,500

A fine copy of van Schooten's important second edition of the *Geometria*, Descartes's *magnum opus* (DSB), and one of the key texts in the history of mathematics. Descartes' "application of modern algebraic arithmetic to ancient geometry created the analytical geometry which was the basis of the post-Euclidean development of that science" (PMM). It "rendered possible the later achievements of seventeenth-century mathematical physics" (M. B. Hall, *Nature and nature's laws* (1970), p. 91). "The mathematical community learned about the wealth of Descartes's new ideas through the works of van Schooten ... In the second edition the commentaries were enlarged, and van Schooten included the work by his students van Heuraet, Hudde, Huygens and de Witt. This edition served as the basic textbook for the generation that, in the last quarter of the century, took the lead

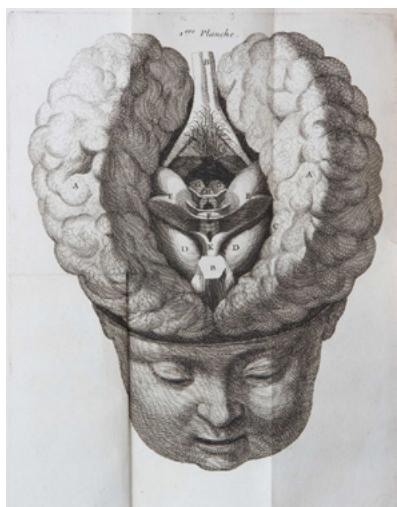
in introducing differential and integral calculus" (Jahnke). Newton, in particular learnt his Descartes from this edition: "There can be no doubt that Newton read the *Géométrie* in Schooten's second Latin edition" (Whiteside, *Papers I*, p. 7, n17). Newton's own heavily annotated copy of this edition is held in Cambridge University Library (NQ.16.203).



Seventeenth century neuroanatomy

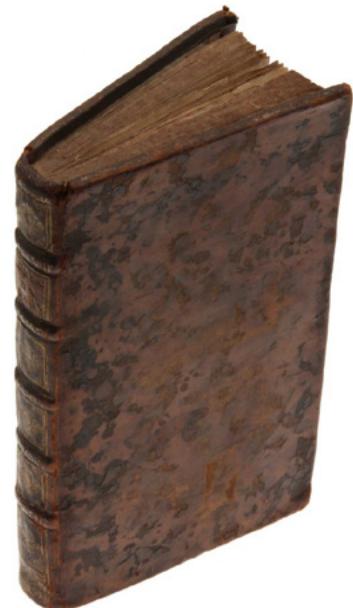
15. DROÜIN, Vincent Denis. *Description du cerveau, des principales distributions de ses dix paires de nerfs, et des organes des sens.* Paris: Guillaume De Lüyne, 1691.

\$7,500



First edition, very rare, and a fine copy, of this important work on the brain and the sense organs. "Drouin enjoyed an excellent reputation as a skilled surgeon in the French army and returned to private life to become chief surgeon at Des Petites Maisons in Paris. This work, important in the development of neuroanatomy during the late seventeenth century, is the result of keen observation and careful dissection. In it, Drouin discusses the skull, the brain and its circulation, and the structure of the nose, eye, tongue, and ear. The nine folding plates were engraved from Drouin's own drawings" (*Heirs of Hippocrates*). Very rare, only two copies recorded to have come to auction during the past 30 years.

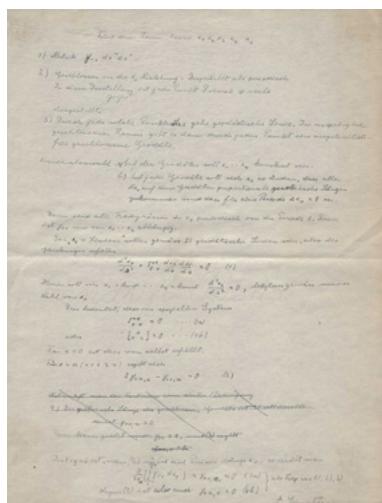
✿ *Heirs of Hippocrates* 700; Krivatsy 3404; Wellcome II, p487.



Five-dimensional unified field theory

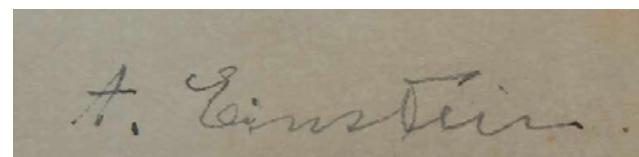
16. EINSTEIN, Albert. Autograph manuscript signed 'A. Einstein'.

\$42,000



An important working manuscript apparently representing Einstein's notes for a paper entitled "On a Generalization of Kaluza's Theory of Electricity," which he wrote jointly with Peter Bergmann, and which was published in the *Annals of Mathematics*, vol. 39, no. 3, July 1938, pp. 683-701. Bergmann (1915-2002) collaborated with Einstein, as his research assistant, at the Institute for Advanced Study between 1936 and 1941. Although the manuscript differs in many details from the published article (written in English), there are enough correspondences in wording, and also with respect to the equations in the section of the article headed 'The Space Structure,' to suggest very strongly a link between it and the 1938 paper. In sum, the manuscript details part of Einstein's attempt to construct a unified theory of electromagnetism, gravitation and quantum mechanics based on a curved five-dimensional spacetime with five spacetime coordinates x_1, x_2, x_3, x_4, x_5 and four spatial coordinates, one of which, x_5 , is periodic. Through every point it is assumed that there passes a closed geodesic given by x_1, x_2, x_3, x_4 constant. This particular approach is sometimes referred to as

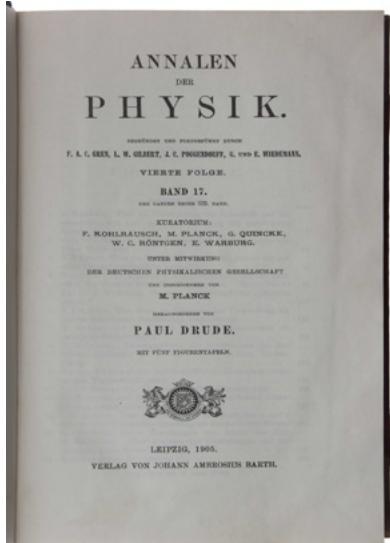
'Projective Relativity' and is a type of unified theory pioneered by T. Kaluza and later by O. Klein in the 1920s. Kaluza and Klein's ideas play a key part of modern superstring theory and are currently being extensively pursued by theoretical physicists.



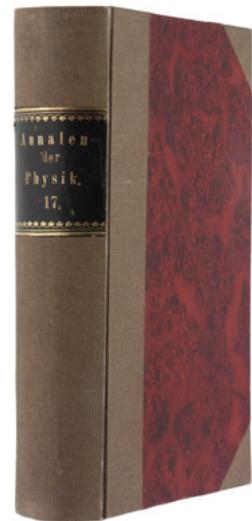
Relativity, light quanta and the existence of atoms

17. EINSTEIN, Albert. *Zur Elektrodynamik bewegter Körper; Über einen die Erzeugung und Verwandlung des Lichtes betreffenden heuristischen Gesichtspunkt; Über die von der molekularkinetischen Theorie der Wärme geforderte Bewegung von in ruhenden Flüssigkeiten suspendierten Teilchen.* Leipzig: Johann Ambrosius Barth, 1905.

\$18,500



A very fine and completely unsophisticated copy, without stamps or any other markings in strictly contemporary cloth binding, of "one of the most remarkable volumes in the whole scientific literature. It contains three papers by Einstein, each dealing with a different subject and each today acknowledged to be a masterpiece, and the starting point of a new branch of physics" (Max Born). In the first paper ('On a Heuristic Viewpoint Concerning the Production and Transformation of Light', "Einstein postulated that light is composed of individual quanta (later called photons) that, in addition to wavelike behavior, demonstrate certain properties unique to particles. In a single stroke he thus revolutionized the theory of light and provided an explanation for, among other phenomena, the emission of electrons from some solids when struck by light, called the photoelectric effect" (Britannica).

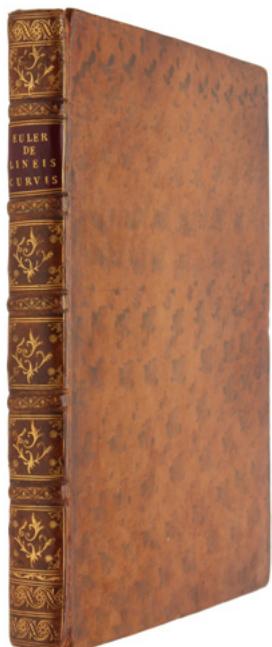


The second paper ('On the motion required by the molecular kinetic theory of heat of small particles suspended in a stationary liquid') provided the first mathematical model of Brownian motion. It is generally regarded as the first proof that molecules exist. The third paper is his most celebrated work, introducing the special theory of relativity, in which he revolutionized the field of mechanics – probably the greatest achievement since the publication of Newton's *Principia*.
•Dibner 167; Grolier/Horblit 26b; Norman 691a.

Creation of the calculus of variations

18. EULER, Leonhard. *Methodus inveniendi Lineas Curvas Maximi Minimive proprietate gaudentes, sive Solutio Problematis isoperimetrii latissimo sensu accepti.* Lausanne & Geneve: Bosquet & Socios, 1744.

\$12,500



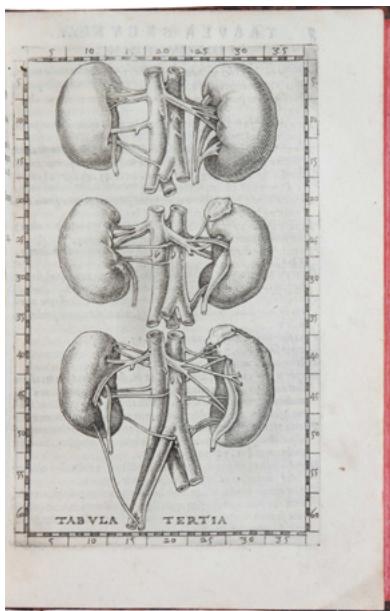
An exceptionally fine copy of "Euler's most valuable contribution to mathematics in which he developed the concept of the calculus of variations." (Norman). "This work displays an amount of mathematical genius seldom rivaled." (Cajori). "The book brought him immediate fame and recognition as the greatest living mathematician." (Kline). "Starting with several problems solved by Johann and Jakob Bernoulli, Euler was the first to formulate the principal problems of the calculus of variations and to create general methods for their solution. In Methodus inveniendi lineas curvas ... he systematically developed his discoveries of the 1730's (1739, 1741). The very title of the work shows that Euler widely employed geometric representations of functions as flat curves. Here he introduced, using different terminology, the concepts of function and variation and distinguished between problems of absolute extrema and relative extrema, showing how the latter are reduced to the former. (DSB). "Basel had achieved enough glory in the history of mathematics through being the home of the Bernoullis, but she doubled her glory, when she produced Léonard Euler." (Smith).

•Horblit 28; Evans 9; Dibner 111; Sparrow 60; Norman 731.

A founder of modern anatomy

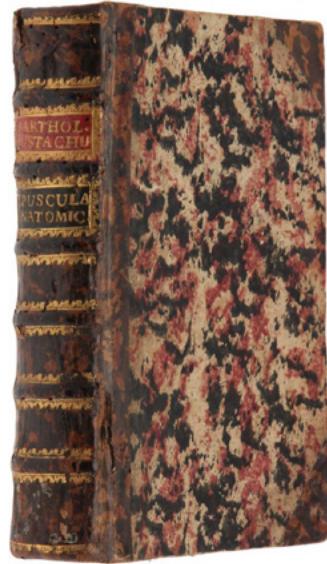
19. EUSTACHIUS, Bartholomaeus. *Opuscula anatomica*. Venice: Vincentius Luchinus excudebat, 1564.

\$65,000



First edition, very rare, of one of the most important of all anatomical books. It includes the first specific treatise on the kidney, the first account of the Eustachian tube in the ear, the first description of the thoracic duct, and the Eustachian valve, as well as the first systematic study of teeth. The fine etchings illustrating the edition "were the first eight in an intended series of forty-seven anatomical plates engraved by Giulio de' Musi after drawings by Eustachi and his relative, Pier Matteo Pini, an artist. These were prepared in 1552 to illustrate a projected book entitled *De dissensionibus ac controversiis anatomicis*, the text of which was lost after Eustachi's death. Had the full series of plates been published at the time of their completion, Eustachi would have ranked with Vesalius as a founder of modern anatomy" (Norman).

• Grolier, *One Hundred Books Famous in Medicine* 21; Heirs of Hippocrates 322; Norman 739. G&M 801.



'One of the rarest and most beautiful works in the history of anatomical illustration'

20. FABRIZZI, Girolamo. *De venarum ostioliis*. [Padua: Lorenzo Pasquato, 1603].

\$26,500

A very fine copy, from the library of the famous chemist John Dalton, of "one of the rarest and most beautiful works in the history of anatomical illustration. Among its plates is the well-known depiction of the surface anatomy of the veins of the forearm that William Harvey adapted to illustrate his *De motu cordis* [1628]." (Grolier/Medicine). "In addition to its significance in the history of anatomy, *On the Valves of the Veins* is a book of the greatest rarity. Issued unbound, copies are sometimes found without the title page, bound up with other works of Fabricius [as here]" (Medicine: An exhibition of books relating to medicine and surgery from the collection formed by J.K. Lilly., pp. 30-31)



The offered copy is bound up under the rarer *Opera physica* title (see Grolier/Medicine); without the 1603 title included; and without the later license printed on page 22 – exactly as Harvey's personally annotated copy held at the Lilly Library.

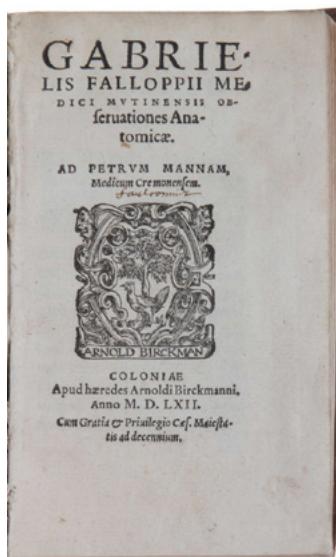
• Grolier/Medicine 27b; Lilly, *Notable Medical Books* 59; Norman 750; Garrison-Morton 757.

'The greatest Italian anatomical book of the 16th century'

21. FALLOPIO, Gabrielle. *Observationes anatomicae*. Cologne: [Gratioso Perchacino for] Marcantonio Olmo, 1562.

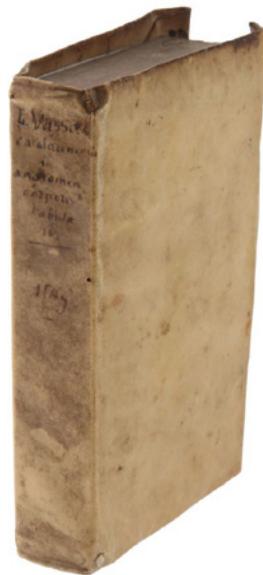
\$7,500

First edition, second issue (first, 1561), of the greatest Italian anatomical book of the sixteenth century. A pupil of Vesalius, Falloppio designed this work as a critical commentary of his teacher's *De humani corporis fabrica*, correcting some of its



errors and adding additional observations and details – hence there was no need for illustrations. The only work published in his lifetime, it was a work of great originality, in which Falloppio reported many new discoveries and observations. Falloppio discovered and first described the chorda tympani, semicircular canals and the 'aqueduct of Falloppius', correctly described the structure and course of the cerebral vessels, and knew the circular folds of the small intestines. He gave the first description of the 'circle of Willis', enumerated all the nerves of the eye, and introduced a number of anatomical names, including the vagina and placenta, and is best remembered for his account of the tubes named after him. He also gave excellent descriptions of the ovaries, hymen, clitoris, and round ligaments, and proved the existence of the seminal vesicles. He included an important account of the kidneys, which may antedate that of Eustachius. Vesalius replied positively to Falloppio's book with

his *Anatomicarum Gabrielis Falloppii observationum examen*, 1564, published posthumously by his friends.



• Garrison-Morton 378.2, 1208, and 1537; Lilly, *Notable Medical Books*, 39; Norman 757 (1561 issue).

The first systematic treatise on pathology - Nicolas Fouquet's copy

22. FERNEL, Jean François. *Medicina*. Paris: André Wechel, 1554.

\$35,000



Exceptionally fine copy, and with distinguished provenance, of "the first systematic treatise on pathology, which also introduced the names for the sciences of pathology and physiology. In the second part, entitled 'Pathologia', Fernel provided the first systematic essay on the subject, methodically discussing the diseases of each organ. Fernel was the first to describe appendicitis, endocarditis, etc. He believed aneurysms to be produced by syphilis, and differentiated true from false aneurysms" (Garrison-Morton).

Provenance: 'Double-phi' cipher of Nicolas Fouquet (1615-80), finance minister to Louis XIV penned on upper margin of title. From the renowned, but undocumented library of the French non-practicing physician, music publisher, and connoisseur, Jean Blondelet. Contemporary marginalia, including index of diseases related to biblical names on final flyleaf.

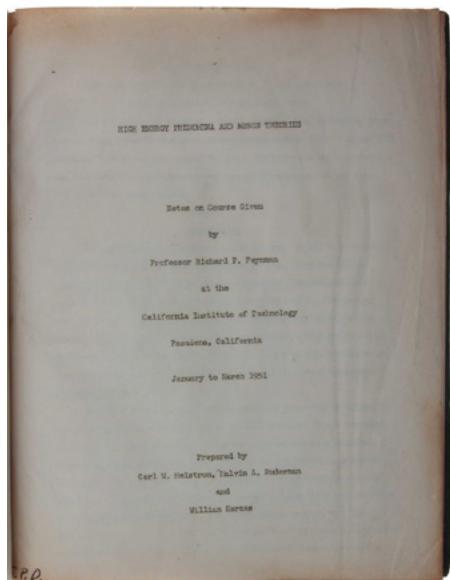
• Norman 785; Pincus
107; PMM 68n; Garrison-Morton 2271.



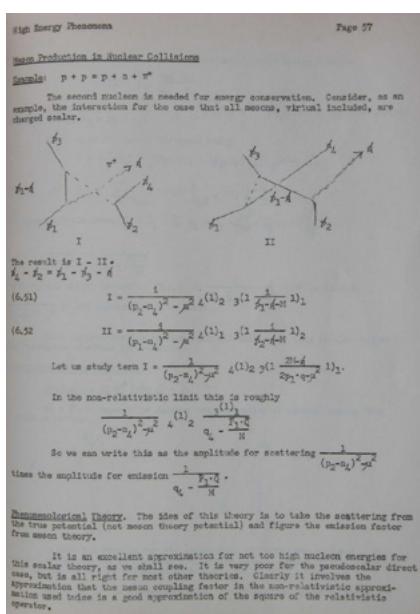
Feynman on mesons - unpublished

23. FEYNMAN, Richard P. *High Energy Phenomena and Meson Theories. Notes of lectures given by Professor Richard P. Feynman at the California Institute of Technology, Pasadena, California, January - March, 1951. Prepared by Carl W. Helstrom, Malvin A. Ruderman, and William Karzas.* [Not published: California Institute of Technology, Pasadena, 1951].

\$14,750



First and only edition, extremely rare, of the mimeographed notes of Feynman's lecture course on meson theory, delivered in his first year as a professor at Caltech. Feynman became interested in meson theory while he was still perfecting his understanding of quantum electrodynamics (QED), but his ideas in this area had remained unpublished - these notes are thus a key historical record of Feynman's work on meson theory. Appearing twelve years before his famous three-volume *Lectures on Physics*, these particular notes were never published again, either separately or as part of his *Selected Papers*. They were probably produced in very small numbers for the graduate students and fellow faculty members who attended this advanced course. OCLC locates copies at Caltech, Stanford and UCLA only. We are not aware of any other copy having appeared in commerce.



The speakable and unspeakable in quantum mechanics

24. FEYNMAN, Richard. *The Concept of Probability in Quantum Mechanics.* Berkeley: University of California, 1951.

\$15,000



First edition, extremely rare offprint, inscribed by Feynman, of this famous lecture in which Feynman for the first time argues the necessity for a 'quantum probability' (a well developed subject in its own right today), and sets out clearly his own interpretation of the meaning of quantum mechanics, particularly what John Bell later called 'the speakable and unspeakable in quantum mechanics.' All this is done through a brilliant analysis of the 'double-slit' experiment, in which electrons pass through two holes and then fall on a screen. His analysis later became famous when it was included in the Feynman *Lectures on Physics*, but this is its first appearance in print. No copies of this offprint located in institutional collections worldwide. Although signed works by Feynman occasionally appear on the market, they are almost always his popular autobiographical works; technical scientific works inscribed by Feynman are extremely rare in commerce (none are located in auction records).

First statement of the germ theory of infection

25. FRACASTORO, Girolamo. *De sympathia et antipathia rerum liber unus. De contagione et contagiosis morbis et curatione libri III.* Venice: [heirs of L. Giunta], 1546.

\$9,500



Rare first edition, entirely untouched in its original binding, of the founding text of epidemiology. "This book represents a landmark in the development of our knowledge of infectious disease. Fracastoro was the first to state the germ theory of infection. He recognized typhus and suggested the contagiousness of tuberculosis. Haeser even describes him as the 'founder of scientific epidemiology.'" (Garrison-Morton). "Although his medical poem on syphilis is perhaps more widely known, the present work is a far more important contribution to science, establishes Fracastoro as one of the foremost scientists of all time, and earns him the title of founder of modern epidemiology. *De contagion* contains the first scientifically reasoned statement of the true nature of infection, contagion, and is the foundation of all modern views on the nature of infectious diseases."

• Norman 827;
Pincus 112; (both
copies in modern
binding); Lilly,

Notable Medical Books 23; *Heirs of Hippocrates* 174;
Garrison-Morton 2528.



First edition of his collected works

26. GALILEI, Galileo. *Opere di Galileo Galilei linceo nobile fiorentino, Già Lettore delle Matematiche nelle Università di Pisa, e di Padova, di poi Sopraordinario nello Studio di Pisa. Primario Filosofo e matematico del serenissimo Gran Duca di Toscana. In questa nuova edizione insieme raccolte, e di varij Trattati dell'istesso Autore non più stampati accresciute. Al Serenissimo Ferdinando II Gran Duca di Toscana.* Bologna: Heredi del Dozza, 1655-56.

\$22,500



First collected edition of the works of Galileo, edited by Carlo Manolessi, and appearing only a year after his death. This was the edition in which Newton and his later contemporaries read their Galileo. The volumes contain not only most of the major works written and published over his lifetime, but also substantial unpublished material, both by Galileo himself as well as by his supporters and critics. Many of these items were provided to the editor by Vincenzo Viviani, Galileo's friend and disciple, including a number of Galileo's hitherto unpublished letters and experiments and La Bilancetta, his first scientific work, written in 1586. The Dialogo was of course on the Index and was not included in editions of the Opere until 1744. A feature of this edition is that each work has its own separate title page, imprint and pagination, which has resulted in several copies being broken up, the individual tracts being sold individually.

• Carlo & Favaro 251; Cinti 132; Riccardi I 518-9.



Gauss' masterpiece

27. GAUSS, Carl Friedrich *Disquisitiones arithmeticæ*. Leipzig: Gerh. Fleischer, 1801.

\$50,000



A very fine copy of Gauss' masterpiece - uncut, contemporarily bound and with numerous mathematical notes inserted. "Gauss ranks, together with Archimedes and Newton, as one of the greatest geniuses in the history of mathematics" (*Printing and the Mind of Man*). "Published when he was just twenty-four, *Disquisitiones arithmeticæ* revolutionized number theory. In this book Gauss standardized the notation; he systematized the existing theory and extended it; and he classified the problems to be studied and the known methods of attack and introduced new methods... The *Disquisitiones* not only began the modern theory of numbers but determined the direction of work in the subject up to the present time.

The typesetters of this work were unable to understand Gauss' new and

difficult mathematics, creating numerous elaborate mistakes which Gauss was unable to correct in proof. After the book was printed Gauss insisted that, in addition to an unusually lengthy four-page errata, the worst mistakes be corrected by cancel leaves to be inserted in copies before sale [as in the offered copy]... Gauss's highly technical work was printed in a small edition, and the difficulty of understanding it was hardly alleviated by the sloppy typesetting. The few mathematicians who were able to read the *Disquisitiones* immediately hailed Gauss as their prince, but the full understanding required for further development did not occur until the publication in 1863 of Dirichlet's less austere exposition in his *Vorlesungen über Zahlentheorie*." (Norman).

•PMM 257; Evans 11; Horblit 38; Dibner 114.



Dibner 66 - extremely rare complete set

28. GAUSS, Carl Friedrich & WEBER, Wilhelm (eds.). *Resultate aus den Beobachtungen des magnetischen Vereins im Jahre 1836 [-1841]. [With:] Atlas des Erdmagnetismus nach den Elementen der Theorie entworfen*. Leipzig: Weidmann, 1840. Göttingen & Leipzig: Dieterich & Weidmann, 1837-43.

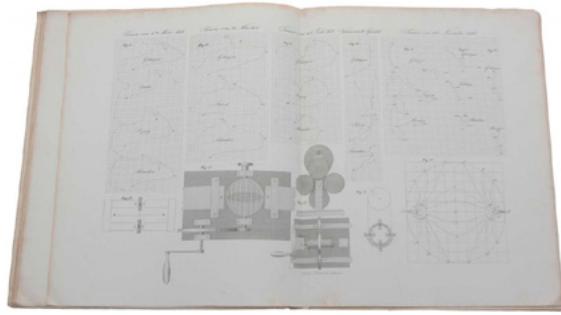
\$15,750



Extremely rare complete set of the volumes, including the supplementary atlas volume, published by the *Magnetischer Verein*, "a society organized by Gauss and Weber which united a worldwide network of magnetic observatories and established an important precedent for international scientific cooperation" (Norman). "The *Resultate* for the year 1839 contains, among seven other papers, Gauss's important theoretical paper 'Allgemeine Lehrsätze in Beziehung auf die im verkehrten Verhältnisse des Quadrats der Entfernung wirkenden Anziehungs - und Abstossungs-Kräfte,' "the first systematic treatment of potential theory as a mathematical topic, [which] recognized the necessity of existence theorems in that

field, and reached a standard of rigor that remained unsurpassed for more than a century" (DSB). The *Atlas des Erdmagnetismus* was the most important set of geomagnetic charts published up to that time. On two of these charts, equipotential lines were presented for the first time in history. We are not aware of any other complete set having appeared on the market, and there is no complete copy in auction records. The sets in most major collections, such as Honeyman, Norman, and Wheeler Gift, are incomplete.

•Dibner 66; Norman 883; Wheeler-Gift 920; Honeyman 1456 (all having only the volumes of 1836-7 and the Atlas).



Discovery of diffraction of light

29. GRIMALDI, Francesco Maria. *Physico-mathesis de lumine, coloribus, et iride, aliisque adnexis libri duo, in quorum primo asseruntur nova experimenta, & rationes ab iis deductae pro substantialitate luminis...* Bologna: heirs of Vittorio Benacci for Girolamo Bernia, 1665.

\$65,000



A fine copy of Grimaldi's only publication. This very important book contains the first account of the diffraction of light discovered by the author and it marks the first scientific attempt to establish a comprehensive wave theory of light. The diffraction experiments which Grimaldi describes here show "that a new mode of transmission of light had been discovered and that this mode contradicts the notion of an exclusively rectilinear passage of light. Diffraction thus gave *prima facie* evidence for a fluid nature of light. The name 'diffraction' comes from the loss of uniformity observed in the flow of a stream of water as it 'splits apart' around a slender obstacle placed in its path." (DSB). Grimaldi repeatedly states that colors are not something different from light but are modifications of light produced by the fine structure of the bodies which reflect it, and probably consisting of an alteration in the type of motion and in the velocity of the light. The different colors are produced when the eye is stimulated by light oscillations whose velocities differ. All these views were of fundamental importance for the subsequent development of optics.



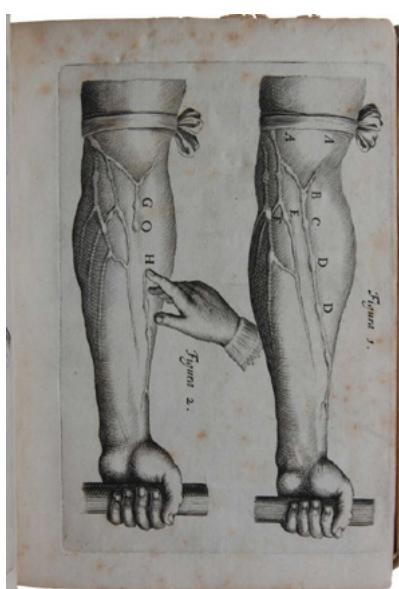
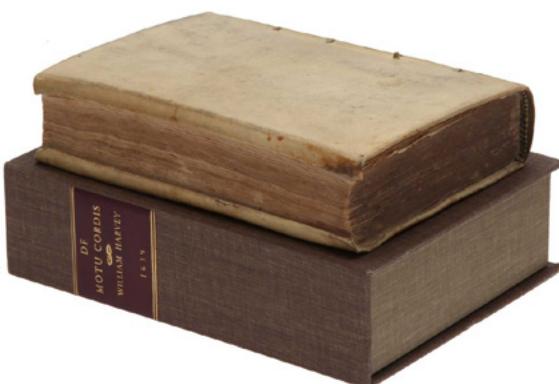
• Macclesfield 943 (lacking the 2nd title); Arnoud de Vitry 429; Honeyman 1559.

'The most important book in the history of medicine'

30. HARVEY, William. *De motu cordis & sanguinis in animalibus, anatomica exercitation: cum refutationibus Aemylii Parisani ... et Jacobi Primirossi.* Leyden: Johann Maire, 1639.

\$60,000

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) being of the greatest rarity. The second edition (Venice, 1635), published with the *Exercitationes* of Emilio Parigiano was fragmentary, lacking the plates, parts of the introduction and chapters I and XVI. In this edition, the publisher Maire restored these passages and included the illustrations.



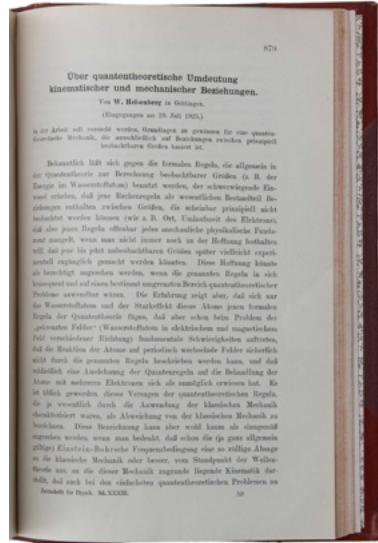
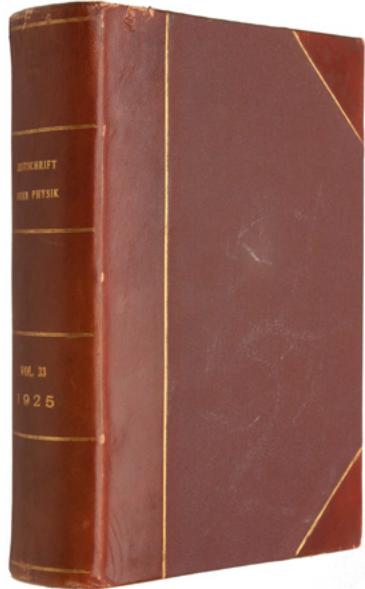
• *Heirs of Hippocrates* 417 (this edition); Grolier/Medicine 27; PMM 127 (describing the first edition).

The creation of quantum mechanics

31. HEISENBERG, Werner. *Über quantentheoretische Umdeutung kinematischer und mechanischer Beziehungen*. Berlin: Julius Springer, 1925.

\$4,600

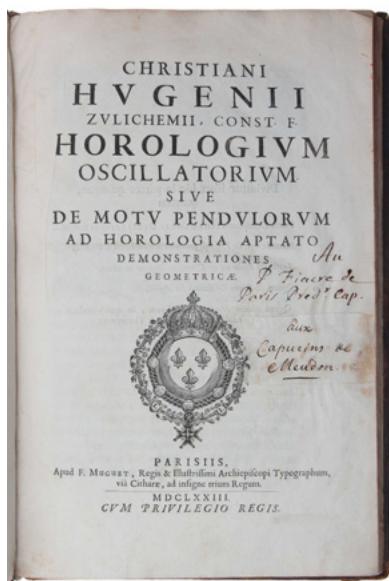
A very fine copy (not ex-library) of his breakthrough paper, announcing his discovery of matrix mechanics. "A severe attack of hay fever in early June forced Heisenberg's retreat to the island of Helgoland. There he completed the calculation of the anharmonic oscillator, determined the constants of motion, and obtained from his multiplication rule the Thomas Kuhn summation rule for spectral lines. After nearly two weeks on Helgoland, Heisenberg returned to Göttingen, where he drafted his fundamental paper 'Über die quantentheoretische Umdeutung kinematischer und mechanischer Beziehungen', which he completed in July. In this paper Heisenberg proclaimed that the quantum mechanics of atoms should contain only relations between experimentally observable quantities. The resulting formalism served as the starting point for the new quantum mechanics, based, as Heisenberg's multiplication rule implied, on the manipulation of ordered sets of data forming a mathematical matrix." (DSB).



Second only to Newton's Principia

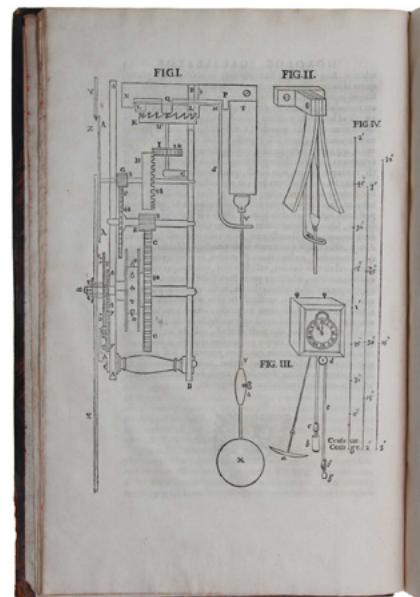
32. HUYGENS, Christiaan. *Horologium oscillatorium sive de motu pendulorum ad horologia aptato demonstrationes geometricae*. Paris: F. Muguet, 1673.

\$65,000



First edition and a very fine copy of the author's most important work, "a superb tapestry woven from the three strands of the science of Christiaan Huygens (1629–1695): mathematics, mechanics, and technology" (*Landmark Writings in Western Mathematics*, p. 34). It was the most original work of this kind since Galileo's *Discorsi* (PMM), and a "work of the highest genius which has influenced every science through its mastery of the principles of dynamics. It is second in scientific importance perhaps only to Newton's *Principia*, which is in some respects based on it" (Charles Singer, *A Short History of Science to the Nineteenth Century*, 1941, p. 258). It is also probably the single most important book in the literature on clocks.

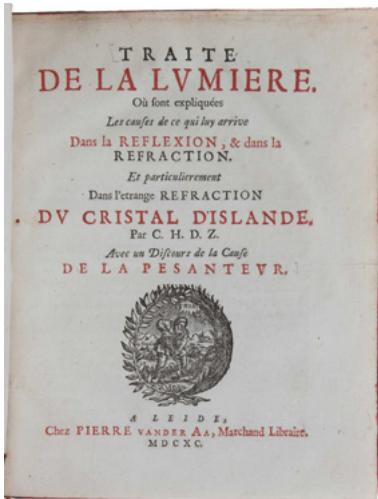
• PMM 154; Dibner 145; Horblit 53; Evans 31; Sparrow 109; Norman 1137.



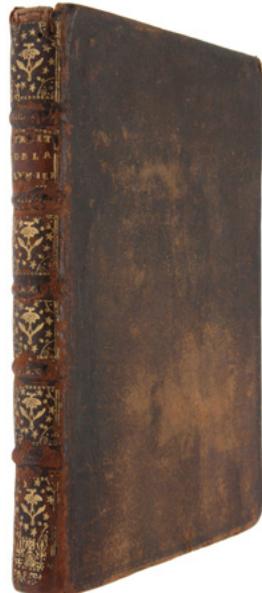
The wave theory of light

33. HUYGENS, Christiaan. *Traité de la Lumière. Où sont expliquées les Causes de ce qui luy arrive dans la Reflexion, & dans la Refraction. Et particulierement dans l'étrange Refraction du Cristal d'Islande ... Avec un Discours de la Cause de la Pesanteur.* Leyden: Pierre vander Aa, 1690.

\$42,500



An excellent copy of Huygens' path-breaking exposition of his wave theory of light. Huygens was able to explain reflection and refraction using this theory, of which he became completely convinced in August 6, 1677, when he found that it explained the double refraction in Iceland spar. His view of light was opposed to the corpuscular theory of light advanced by Newton. Huygens' work fell into oblivion during the following century, but his theory of light was confirmed at the beginning of the 19th century by Thomas Young, who used it to explain optical interference, and by Jean-Augustin Fresnel a few years later. Modern physics has reconciled Newton's and Huygens' theories in discerning both corpuscular and wave characteristics in the properties of light. In the second part of the work, the *Discours de la cause de la pesanteur*, written in 1669, Huygens expounded his vortex theory of gravity, a purely mechanistic theory that contrasted markedly with Newton's notion of a universal attractional force intrinsic to matter.

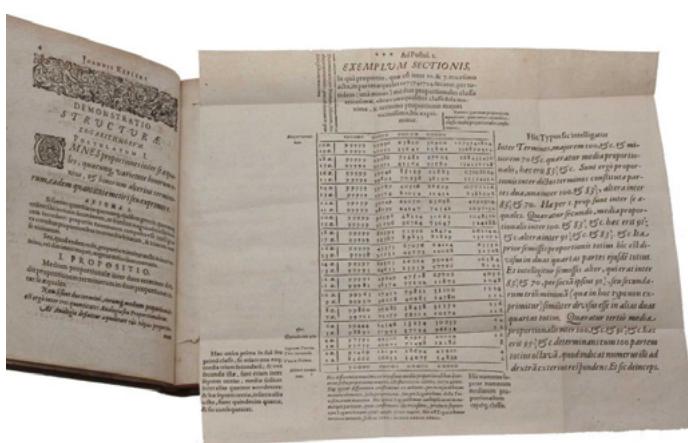


• Grolier/Horblit, One Hundred Books Famous in Science 54; Dibner, Heralds of Science 145; Evans, First Editions of Epochal Achievements in the History of Science 32; Sparrow, Milestones of Science 111.

The basis of the Rudolphine Tables

34. KEPLER, Johannes. *Chilias logarithmorum ad totidem numerous rotundos, praemissa demonstration legitima ortus logarithmorum eorumque usus ... [Bound with:] Supplementum chiliadis logarithmorum, continens praecepta de eorum usu.* Marburg: Caspar Chemlin, 1624-1625.

\$65,000



First edition of Kepler's logarithmic tables, constructed by means of his own original method, by means of which he was able to complete his monumental *Tabulae Rudolphinae* (1627), the superiority of which "constituted a strong endorsement of the Copernican system, and insured the tables' dominance in the field of astronomy throughout the seventeenth century" (Norman). But logarithms played an even more important role in Kepler's astronomical work, since without them he may never have discovered his third law of planetary motion. Kepler discovered this law early in 1618, at the same time that he first had access to tables of logarithms. Moreover, his initial formulation of the third law was (to use modern terminology) in terms of a log-log plot, rather than the more familiar terms of squared periods and cubed distances: "The proportion between the periodic times of any two planets is precisely one and a half times the proportion of the mean distances" (Werke VI, 302).

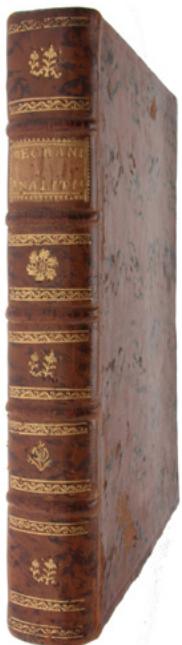
Of the greatest rarity, especially complete with the correction leaf and the second part, which gives examples of the application of logarithms and details of their construction. Only one other copy of this work has appeared at auction in the past fifty years.

• Caspar 74 & 75; Cinti 75 (first part only and with the note: 'a quest'opera doveva sequire un supplement nel 1625'); Parkinson, Breakthroughs, 72.

Second only to of Newton's Principia

35. LAGRANGE, Joseph Louis de. *Méchanique analytique*. Paris: Veuve Desaint, 1788.

\$16,500



An exceptionally fine copy of “perhaps the most beautiful mathematical treatise in existence. It contains the discovery of the general equations of motion, the first epochal contribution to theoretical dynamics after Newton’s *Principia*” (Evans). “Lagrange’s masterpiece, the *Méchanique Analytique* (Paris, 1788), laid the foundations of modern mechanics, and occupies a place in the history of the subject second only to that of Newton’s *Principia*.” (Grolier/Horblit). “With the appearance of the *Mécanique Analytique* in 1788, Lagrange proposed to reduce the theory of mechanics and the art of solving problems in that field to general formulas, the mere development of which would yield all the equations necessary for the solution of every problem ... [it] united and presented from a single point of view the various principles of mechanics, demonstrated their connection and mutual dependence, and made it possible to judge their validity and scope.” (DSB). “In the preface of the book La Grange proudly points to the complete absence of diagrams, so lucid is his presentation. He regarded mechanics (statics and dynamics) as a geometry of four dimensions and in this book set down the principle of virtual velocities as applied to mechanics.” (Dibner).

• Grolier/Horblit 61; Evans 10; Dibner 112; Sparrow 120; Norman 1257.

The first scientific work on the mechanics of flight

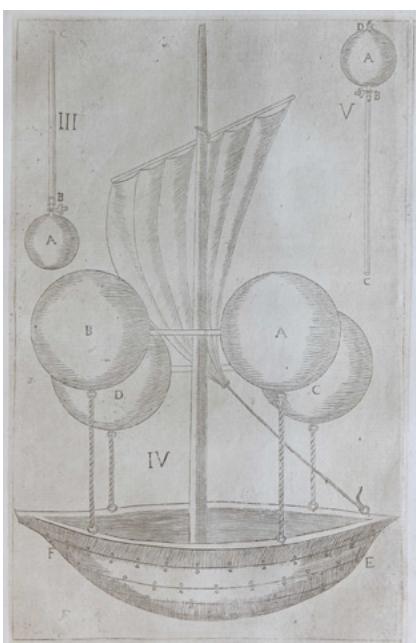
36. LANA TERZI, Francesco. *Prodromo overo saggio di alcune inventioni nuove premesso all'arte maestra*. Brescia: Rizzardi, 1670.

\$10,500



An excellent copy of the first scientific work on the mechanics of flight. “In this volume is presented the earliest concept of flight derived from demonstrable aerostatic principles.” (Norman). An important work in the history of aeronautics, in the *Prodromo* Lana Terzi presented several technological innovations, of which the best known is his proposal for a ‘flying boat’ to be airborne by four spheres of thin copper from which air had been exhausted. Although the vehicle was never tested, and would have proved unworkable, since the copper would not have been able to withstand the atmospheric pressure, Lana Terzi’s reasoning was correct. In surmising that a vessel containing a semi-vacuum would weigh less than the surrounding air and would consequently become buoyant, Lana Terzi formulated the earliest concept of flight based on aerostatic principles. “While Lana apparently originated the method of reducing air density in a vessel by heating it, the implications of this phenomenon in relation to flight were not fully understood until the advent of the Montgolfier brothers a century later” (Norman).

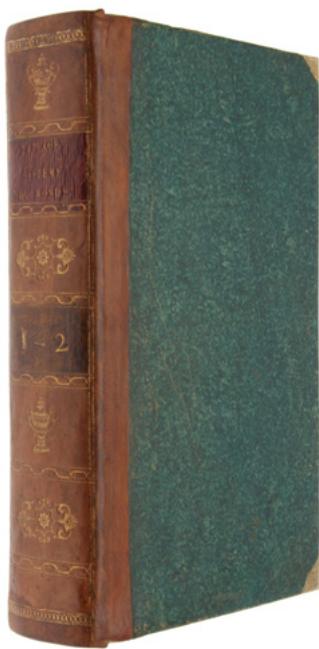
• Dibner 125; Norman 127.



On the origin of the solar system

37. LAPLACE, Pierre Simon. *Exposition du Système du Monde*. Paris: De l'Imprimerie du Cercle-Social, l'An IV [1796].

\$4,350



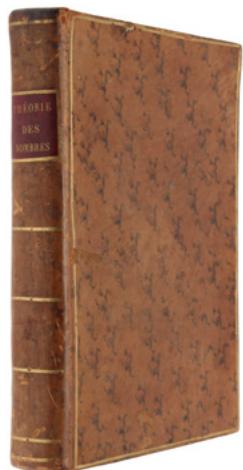
A fine copy, with the very rare errata leaves, of Laplace's classic work on the origin and formation of the solar system in which he first stated his celebrated 'nebular hypothesis.' "One of the most successful popularizations of science ever composed." (DSB). "An elegant, non-mathematical classic on astronomy. It is in this work that Laplace introduced one of his most notable contributions (although he himself did not take it very seriously at first), the so-called nebular hypothesis, which provided a conjectural account of the origin of the solar system. This remained through the 19th century the most widely accepted view on the subject" (PMM 252). "The two-volume work consists of five books. Book I begins with what any attentive observer may see if he will open his eyes to the spectacle of the heavens on a clear night with a view of the whole horizon. Book II (...) sets out the 'real' motions of planets, satellites, and comets and gives the dimensions of the solar system. Book III is a verbal précis of the laws of motion as understood in eighteenth-century rational mechanics, with special reference to astronomy and hydrostatics. In Book IV, Laplace in effect summarized his own work in gravitational mechanics. (...) Only Book V contains material that Laplace had not written up in technical form or presupposed. It gives an overview of the history of astronomy and concludes with the speculation since called the nebular hypothesis and another on the nature of the universe in outer space". (DSB). As mentioned in the 2004 Christie's sale of the library of Jean-Louis Mosès: "A pair of errata leaves was added to very few copies [not present in the Mosès-Barrillot copy]". Both of these errata leaves are present in our copy. We can find no copy in the auction records having the errata leaves. A fine copy in contemporary calf with vellum corners.

• Sparrow, Milestones of Science 123; Honeyman 1919.

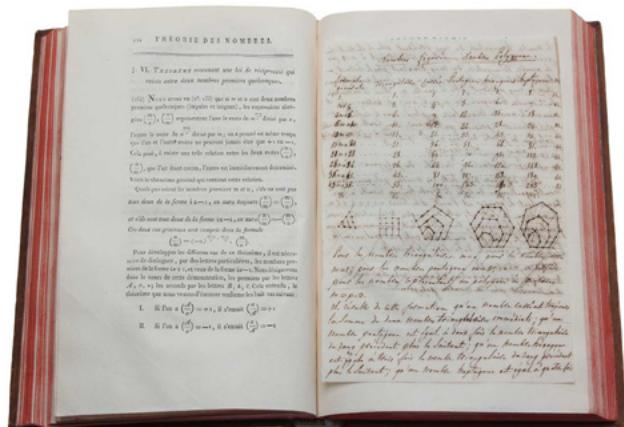
The most important book on number theory (before Gauss)

38. LEGENDRE, Adrien Marie. *Essai sur la théorie des nombres*. Paris: Duprat, 1797-1798.

\$4,000



A fine copy of the first book entirely dedicated to number theory. The work contains Legendre's discovery of the law of quadratic reciprocity, which Gauss referred to as the 'golden theorem' and for which he published six proofs, the first in his *Disquisitiones arithmeticae* (1801). "The theory of numbers in the eighteenth century remained a series of disconnected results. The most important works in the subject were Euler's *Anleitung zur Algebra* (1770) and Legendre's *Essai sur la théorie des nombres* (1798)." (Kline). "Legendre



was one of the most prominent mathematicians of Europe in the 19th Century... His texts were very influential. In 1798 he published his *Theory of Numbers*, the first book devoted exclusively to number theory. It underwent several editions, but was soon to be superseded by Gauss' *Disquisitiones arithmeticae*." (Kleiner).

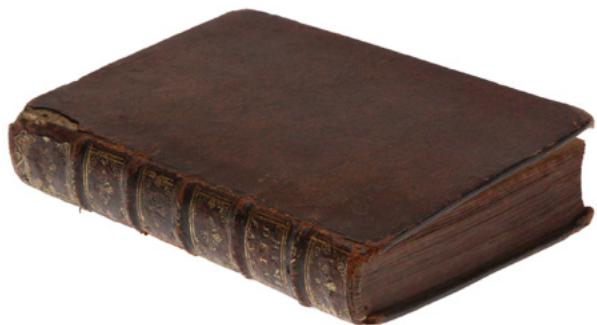
• Norman 1325; Parkinson, *Breakthroughs* 231.

Less than a dozen copies known

39. MATTE LA FAVEUR, Sebastian. *Pratique de chymie, divisée en quatre parties, par S. Matte La Faveur, distillateur & demonstateur ordinaire de la chymie en la faculté de Medecine de Montpelier. Avec un avis sur les eaux minerales.* Montpelier: Daniel Pech, 1671.



work when writing his celebrated *Cours de Chymie* (1675), and it is well known that he seldom acknowledged his sources. The *Pratique* forms a direct link between the *Traite de la Chymie* (1663) of Christophle Glaser and the *Cours* of Lemery. **Extremely rare.**" (Neville).



\$15,250

Extremely rare complete copy of this important work "less than a dozen copies are known to exist, most imperfect with missing leaves and fewer plates" (*The Roy G. Neville Historical Chemical Library*, vol. 2, p. 153 - describing their copy as "probably the finest example extant" – this copy collates as theirs and is similarly bound in contemporary unrestored calf). "Sold only by the author at his home in Montpellier, the *Pratique* contains clear directions on practical operations and the preparation of chemicals. Matte La Faveur (fl. 1671), distiller and demonstrator of chemistry at Montpellier, simultaneously gave a course at Paris until 1684, when he was succeeded by the famous chemist Nicolas Lemery. Undoubtedly, Lemery used this

Established obstetrics as a science

40. MAURICEAU, François. *Des maladies des femmes grosses et accouchées. Avec la bonne et véritable méthode de les bien aider en leurs accouchemens naturels, & les moyens de remedier à tous ceux qui sont contre-nature, & aux indispositions des enfans nouveau-nés.* Paris: Chez Jean Henault, Jean d'Houry, Robert de Ninville, Jean Baptiste Coignard, 1668.



translations, it exercised a dominant influence on seventeenth-century obstetrical practice" (Grolier/Medicine).

Grolier, One Hundred Books Famous in Medicine 33; Lilly, Notable Medical Books 85; Norman 1461; Garrison-Morton 6147.

\$8,500

First edition, the copy of Maurice Villaret, of the book which "established obstetrics as a science" (G&M). This was the outstanding textbook of the time, the first important textbook of obstetrics for nearly sixty years (since that of Jacques Guillemeau in 1609), and the first important obstetrical text to be published in five vernacular languages as well as Latin. "Perhaps the first obstetric text in the modern sense, Mauriceau's *Maladies des femmes grosses et accouchees* established obstetrics as a science and as a separate medical specialty. Through its various



First illustrated Spanish Anatomy

41. MONTAÑA DE MONSERATTE, Bernadino. *Libro de la anathomia del ho[m]bre.* Valladolid: Sebastian Martinez, 1551.



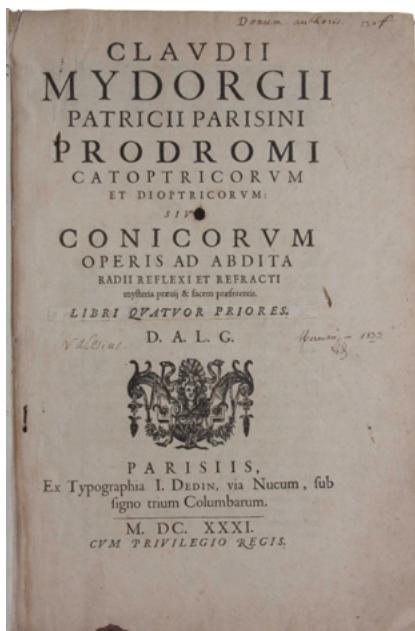
First edition, and a very fine copy, of the first separate, and first illustrated, anatomical work in the vernacular printed in Spain. “While Valverde di Hammusco’s *Historia de la composicion del cuerpo humano* (1556) is often credited with introducing into Spain the Vesalian anatomical iconography coupled with a vernacular text, this honor actually belongs to Montaña de Monserrate’s *Anathomia*... [It] represents the first separate anatomical work in the vernacular printed in Spain, as Lobera de Avila’s unillustrated *Libro de Anatomia* was only a section of the more general *Remedio de cuerpos humanos* (1542?). Montaña’s text, like that of another Vesalian propagandist, Thomas Geminus, was largely derived from the popular *Anatomy of the medieval surgeon Henri de Mondeville*, and was thus more likely than that of Valverde to have been immediately accessible to Spain’s barber-surgeons” (Norman).

• Norman 739. Garrison-Morton 801.



Author's presentation copy

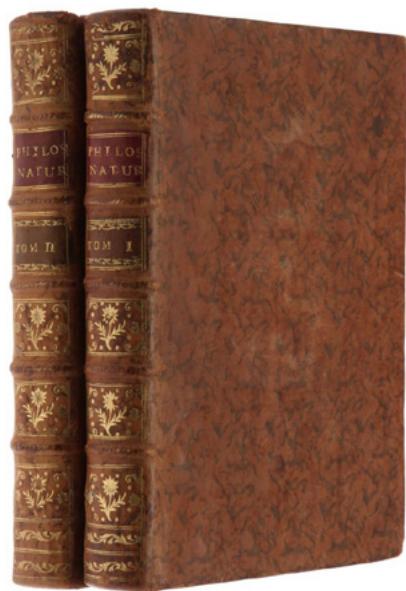
42. MYDORGE, Claude. *Prodromi catoptricorum et dioptricorum, sive conicorum operis ad abdita radii reflexi et refracti mysteria praevii & faciem praefarentis. Libri quatuor priores [Liber primus et secundus].* D. A. L. G. Paris: Jean Dedin, 1631-39.



\$13,500
Extremely rare first edition, author’s presentation copy, of all four books of this important work on conic sections, intended to provide the geometrical basis for the study of optics. “Mydorge’s work on conic sections contains hundreds of problems published for the first time, as well as a multitude of ingenious and original methods that later geometers frequently used, usually without citing their source” (DSB). Books I and II (pp. 1-134) were first published separately in 1631; a second edition appeared in 1639 with two additional books. The present copy has the first edition of the first two books, with the 1631 title page, bound up with the last two books from the second edition. A printed paper slip *Libri quatuor priores* has been pasted over *Liber primus et secundus* on the title to accommodate the added books, and a large section of text has also been pasted over the original on page 67 corresponding to changes in book I made between the 1631 and 1639 editions. The 1631 edition is very much rarer than the 1639: OCLC lists only five copies of the former – Danish Royal Library (but this copy is actually of the 1641 edition), Columbia, NYPL, Zürich, BNF – but 24 of the latter. It is likely that the 1631 edition was printed in very small numbers and was mostly, if not entirely, intended for presentation: the copies at Columbia, Zürich and BNF all have authorial corrections. The only other copy of the 1631 edition to have appeared at auction was Michel Chasles’ copy, last sold in 1972.

A probably unique over-complete copy

43. [NEWTON, Sir Isaac] DU CHÂTELET, Gabrielle Emilie le Tonnelier de Breteuil, Marquise. *Principes mathématiques de la philosophie naturelle, par feu madame la marquise Du Chastellet.* Paris: Desaint & Saillant and Lambert, 1756/1759.

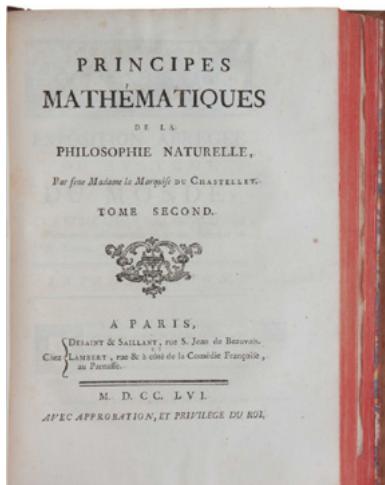


internationales d'Histoire des Sciences, Vol. 21 (1968), pp. 262-290.

• Honeyman 2314 (1759 issue).

\$58,000

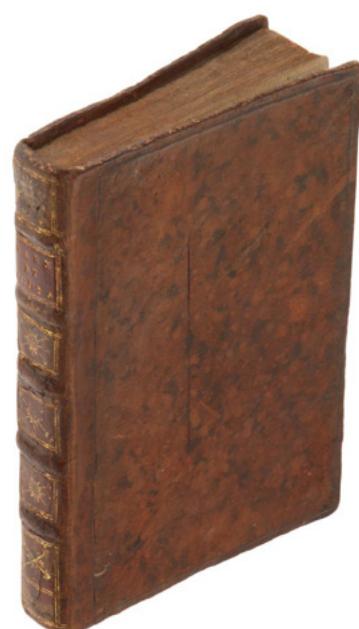
First edition in French of Newton's *Principia*, a probably unique copy of exceptional bibliographical interest. This copy has the title pages of both volumes of both the extremely rare preliminary issue (1756) and the regular issue (1759), the 'Avertissement de l'éditeur' present in two variant states, and the two half-titles also present in two states (the latter feature seems to be hitherto unrecorded). In his census carried out in 1968, Bernard Cohen located 13 copies of the 1756 issue, but this copy differs from all those which he described. It most closely resembles the Burndy copy, but that copy has the 'Avertissement' present only in the first state and does not contain the 1759 title page of Tome II. This is a very fine copy in a beautiful untouched contemporary binding. I. Bernard Cohen, 'The French Translation of Isaac Newton's *Philosophiae Naturalis Principia Mathematica*' (1756, 1759, 1966)', *Archives*



'A book of great importance in the history of chemistry and science in general'

44. PALISSY, Bernard de. *Discours admirables, de la nature des eaux et fontaines, tant naturelles qu'artificielles, des meaux, des sels & salines, des pierres, des terres, du feu & des emaux.* Paris: Martin le Jeune, 1580.

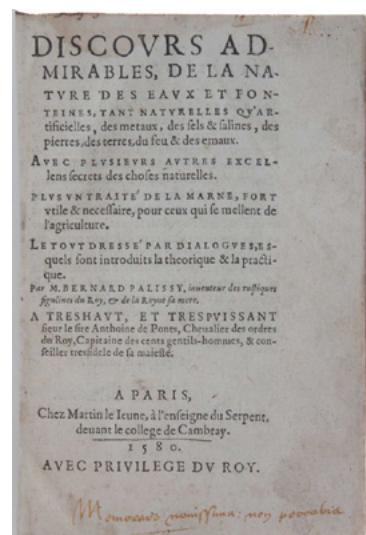
\$32,500



First edition. "A book of great importance in the history of chemistry, hydrology, geology, and agriculture. Palissy (ca.1509-1589), who is best known for his discovery of the secret of enameling pottery, was far in advance of his time in scientific ideas. 'Palissy shines as a close and accurate observer of natural objects, a man of eminent common sense, and an original and laborious experimenter.' (Partington). Toward the end of his life he described his work in the present book, which probably incorporates the lectures he gave in Paris about 1575."

This first edition is an extremely rare book. Ferguson acquired his copy, now in Glasgow University, after many years of search, and wrote on the flyleaf: 'At last, after long, long waiting and watching.' It is one of the very few books in Duveen's collection of which he reproduced the title page in his *Bibliotheca Alchemica et Chemica*.

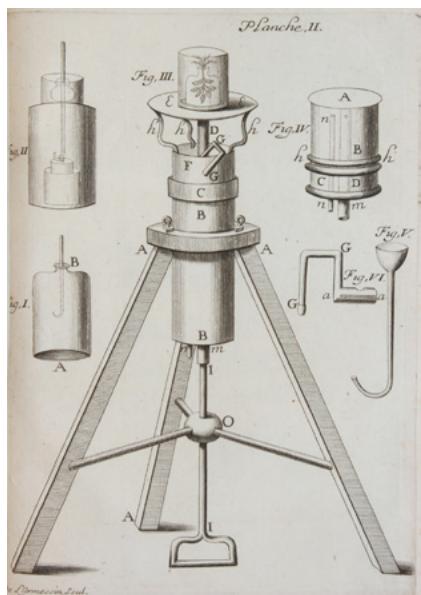
• Norman 1629; Freilich 419 (same copy); Honeyman 2393; (both copies in new bindings); *En français dans le texte* 72.



One of the most important documents in the early history of the air-pump

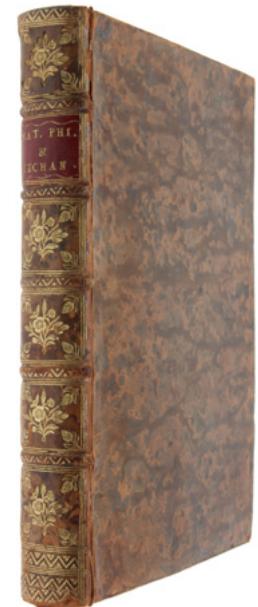
45. PAPIN, Denis. *Nouvelles expériences du vuide. Avec la description des machines qui servent à les faire.* Paris: J. Cusson, Fils, 1674.

\$25,000



First edition, very rare and a fine copy, of one of the most important documents in the early history of the air-pump, and the primary source (besides letters published half a century later in Christiaan Huygens' *Oeuvres*) for information on Huygens' improvements on Boyle's first air-pump. "Among further improvements in the air-pump during the latter part of the seventeenth century were the two way tap, introduced by Papin; and the double cylindered pump, probably introduced by Papin and perfected by Hauksbee, through whom the air-pump assumed what long remained its standard form" (Wolf, *A History of Science, Technology, and Philosophy*, Vol. I, p. 107). The work is contained in a sammelband from the Macclesfield Library, bound in mid-eighteenth-century polished mottled calf, with six other works.

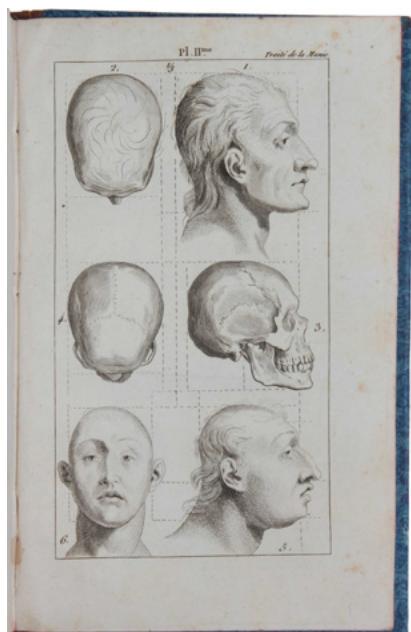
OCLC lists Brandeis and Harvard only in US.



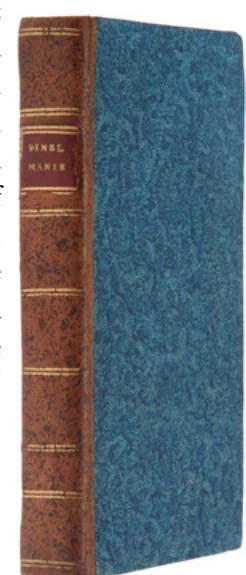
The textual foundation of psychiatry

46. PINEL, Philippe. *Traité médico-philosophique sur l'aliénation mentale mentale, ou la manie.* Paris: Chez Richard, Caille et Ravier, An IX [1800-01].

\$3,800



First edition, a fine copy, of "one of the foremost medical classics, giving as it did a great impetus to humanitarian treatment of the insane" (Garrison). Philippe Pinel's *Traité médico-philosophique sur l'aliénation mentale mentale, ou la manie*, which presented the textual foundation of psychiatry, stands as the first great publication of the nineteenth century in clinical medicine, and at the same time as one of the paradigmatic expressions of the medical and scientific revolution that was taking place in the late eighteenth and early nineteenth centuries. "In his *Traité*, Pinel departed from past interpretations of mental illness, which placed it within a supernatural or spiritual, rather than a somatic, realm, and accepted the mentally ill as legitimate patients in the domain of medicine. According to Pinel, the manifestations of insanity, including disturbed reason, inappropriate thought, bizarre behavior, and exaggerated passions, represented phenomena of natural history and its pathology that could be studied like those of any other medical or surgical condition" (Grolier/Medicine).

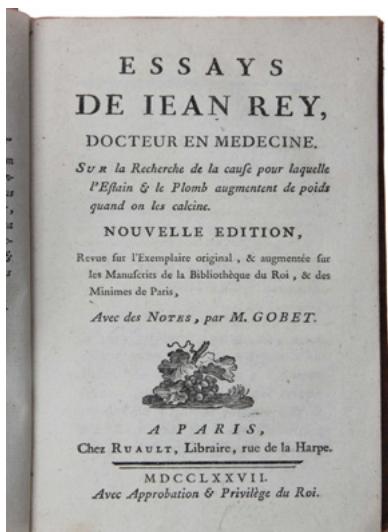


Grolier/Medicine 54; Lilly, *Notable Medical Books* 155; Norman 1701; *Heirs of Hippocrates* 1070; Garrison-Morton 4922.

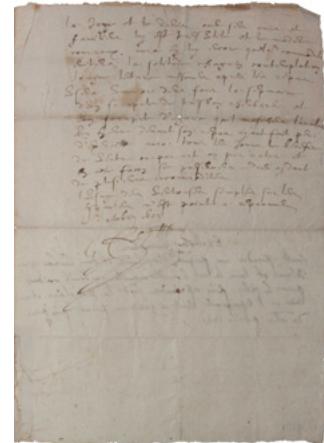
Anticipated Lavoisier - one of the rarest autographs in the history of science

47. REY, Jean. Autograph document signed, in Latin and French, 1 October 1623. 2½ pages. Offered here with the first obtainable edition of Rey's only published work.

\$19,500



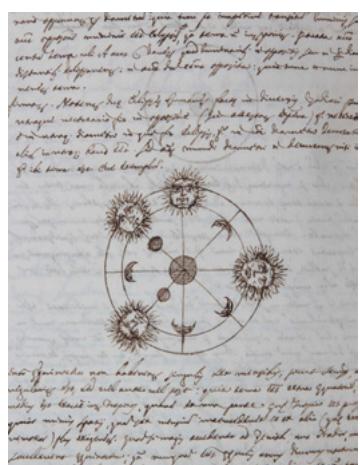
One of the rarest autographs in the history of science. The only autograph in private hands from the hand of French physician and chemist Jean Rey, author of *Essays de Jean Rey... Sur la recherche de la cause pour laquelle l'estain & le plomb augmentent de poids quand on les calcine* (1630). This extraordinarily rare book, of which only a few copies are known, was Rey's only publication; it anticipated by more than one hundred years Lavoisier's discovery that the calcination of metals involves combination with air - a discovery fundamental to the overthrow of the phlogiston theory and the foundation of modern chemistry. Lavoisier published his discovery in 1774; the following year, chemist Pierre Bayen alerted Lavoisier to the existence of Rey's *Essays*. Lavoisier was so impressed with "the apparent modernity of Rey's ideas" (McKie, p. xl) that he at first believed Rey's work to be a forgery; he later spoke of the work with admiration. In 1777 a second edition of Rey's *Essays*, edited by Nicolas Gobet, was published in Paris [i.e., the edition being offered together with the autograph document]; this edition - the earliest obtainable has also become rare (see Duveen). Of this edition Neville writes: "A milestone work in the history of chemistry, describing for the first time that metals gain in weight on calcination (by combining with the then-unknown oxygen of the air)."



17th century manuscript discussing work of Galileo, Boyle, Torricelli...

48. RINALDINI, Carlo. *Philosophia Naturalis*. [Manuscript on paper, ca. 1680. Small 4to (215 x 150 mm), 280 leaves, ff. 140v-141 and 257v-258 blank. Latin text in a neat cursive hand with many illustrative diagrams in the text. Watermarks: Hewood, Padua 2597, 2598, 2599 & Venice, 1895, 2864, 3102, 3104. Contemporary vellum-backed boards covered in paper with decorative floral motifs, faint damp stain on the last few leaves otherwise a fine copy in entirely original condition].

\$75,000



Important scientific manuscript, the text of lectures delivered by Rinaldini at the University of Padua, where he served as professor of natural philosophy for 30 years from 1667. Rinaldini had been a close friend of Galileo at Pisa, and was the first to lecture there on his discoveries. As well as discussions of Galileo's work, the present manuscript also contains an account of Rinaldini's own important discoveries, including that of the convection of heat. Among other authors cited and discussed are Brahe, Barrow, Borelli, Boyle, Copernicus, Descartes, Gassendi, Kepler, Riccioli and Torricelli. Rinaldini is an important transitional figure, presenting in this manuscript Aristotelian ideas alongside those of the 'new science' of Galileo and his supporters, to whose circle he belonged.

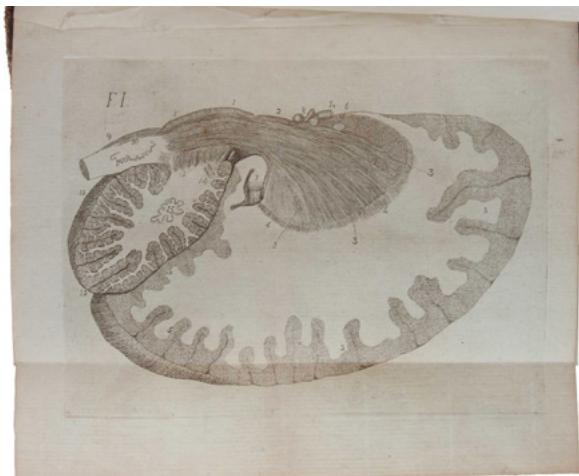


Provenance: Sir Thomas Phillipps (1792 – 1872), with his signature and the catalog number 9608 on the title. Scholar and bibliophile, Phillipps was the most important collector of books and, especially, manuscripts of the nineteenth century, his collection containing some sixty thousand manuscripts at its peak.

Pioneering work on neurophysiology – extremely rare

49. ROLANDO, Luigi. *Saggio sopra la vera struttura del cervello dell'uomo e degl' animali e sopra le funzioni del sistema nervoso.* Sassari: Nella Stamperia da S.S.R.M. Privilegiata, 1809.

\$38,000



First edition, extremely rare, of this pioneering work on neurophysiology, anticipating many of the discoveries made by Flourens fifteen years later. OCLC locates four copies in America. "Rolando was the first to demonstrate that the cerebellum was not the 'seat of life.' In his publication of 1809 he maintained that the cerebellum was responsible for movements ... Rolando was a brilliant and diligent observer. He was the first to describe the substantia gelatinosa (which today bears his name) in the posterior horn. And his experiments in decerebrated animals convinced him that the hemispheres are responsible for higher functions such as the will and judgement ... Finally, Rolando was the first to detect consistency in the arrangement of the cortical gyri. Even up to the 1860s these seemed to many a mere chaos. To Rolando these convolutions could be "reduced to regular and specific shapes and positions."

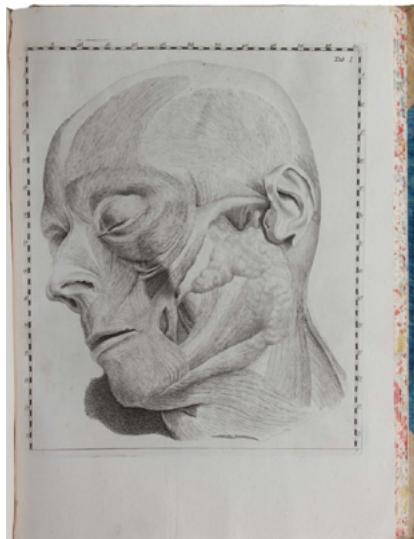
regular and specific shapes and positions." He found the central gyri to be constant features and described the fissure centralis, a structure that has become firmly linked with Rolando's name up to the present day" (Sammet, p. 405). "[Rolando's] findings, and his theory that the cerebellum functioned as a whole, were described in a book that he engraved, printed and bound himself in 1809. His *Saggio*, however, had a very limited printing and was not widely disseminated. The limited availability of Rolando's findings proved to be significant because his experiments remained largely unknown to the wider scientific community for a number of years" (Finger, *Origins of Neuroscience*, p. 212).

• Garrison-Morton 1388.

One of the finest anatomies of the eighteenth century

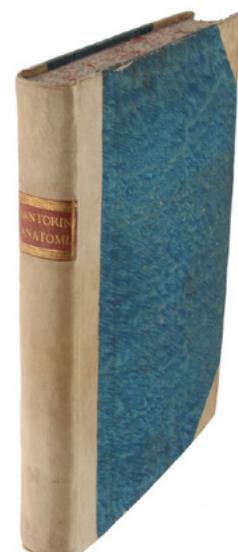
50. SANTORINI, Giovanni Domenico. *Anatomici summi septemdecim tabulae quas nunc primum edit atque explicat itisque alias addit de structura mammarum et de tunica testis vaginali.* Parma: [Giambattista Bodoni for] Regia typographia, 1775.

\$7,500



First edition, and a very fine copy. "The book is one of the finest anatomies of the eighteenth century because of its excellent illustrations and comprehensive commentary." (*Heirs of Hippocrates*). It is also one of the rarest of the few medical books printed at the celebrated Bodoni Press in Parma, as well as one of the few medical books issued by a private press. "Santorini was generally acknowledged as the outstanding anatomist of his time. Many corrections and discoveries in the detailed anatomy of the different organs of the human body go back to Santorini. Even today a facial muscle (risorius), a pair of cartilages (comicula) of the larynx, the emissary veins of the skull, and a part of the superior and inferior turbinates of the ethmoid are named after Santorini" (Hagelin, *Rare and Important Medical Books*, p. 112).

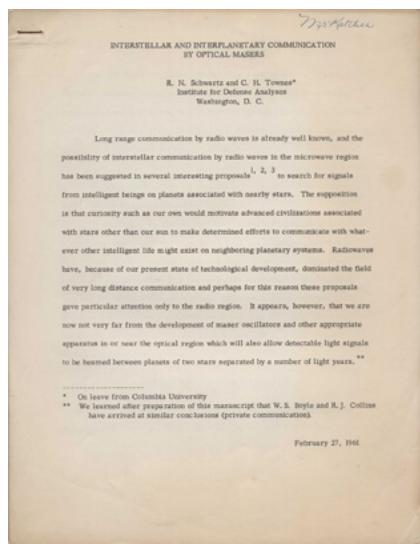
• Norman 1888; Garrison-Morton 399.1; *Heirs of Hippocrates* 788; Pincus 248.



SETI - the search for extraterrestrial intelligence

51. SCHWARTS, Robert N. & TOWNES, Charles H. *Interstellar and Interplanetary Communication by Optical Masers.* 1961.

\$2,600



Very rare pre-publication draft of “the classic paper published in *Nature* that started it all” (coseti.org). The present copy is an offset, stapled affair sent to the editor of *Physics Today*; it has the annotation ‘Mr. Katcher’ in a secretarial hand at top, that being David Katcher, the founding editor-in-chief. This is a pre-printed version, and is dated more than a month before the article’s publication, and is dated February 27, 1961. “While most SETI [search for extraterrestrial intelligence] sky searches have studied the radio spectrum, some SETI researchers have considered the possibility that alien civilizations might be using powerful lasers for interstellar communications at optical wavelengths. The idea was first suggested by R. N. Schwartz and Charles Hard Townes, one of the inventors of the laser, in a 1961 paper published in the journal *Nature* titled ‘Interstellar and Interplanetary Communication by Optical Masers.’” (Wikipedia).

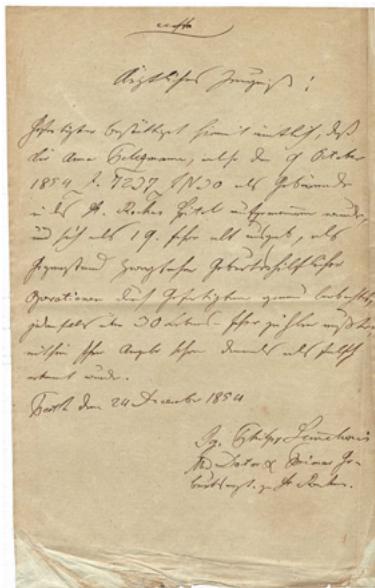
Charles Hard Townes (July 28, 1915 – January 27, 2015) was an American Nobel Prize-winning physicist and educator. Townes was known

for his work on the theory and application of the maser, on which he got the fundamental patent, and other work in quantum electronics connected with both maser and laser devices. He shared the Nobel Prize in Physics in 1964 with Nikolay Basov and Alexander Prokhorov “for fundamental work in the field of quantum electronics, which has led to the construction of oscillators and amplifiers based on the maser-laser principle”.

One of a handful of autograph manuscripts

52. SEMMELWEIS, Ignaz Philipp. *Extremely rare autograph document in Semmelweis’ hand, from his time at the St. Rochus Hospital in Pest where he eliminated childbed fever, medical testimony regarding a female patient, signed and dated 24. December 1854.*

\$42,000



Extraordinarily rare autograph manuscript. Despite the wide interest there has been for more than a century in Semmelweis’ work and personality, there are still today extremely few examples of autograph material by him. In their 1968 article on Semmelweis manuscripts, Antall, Harko, and Vida note: “He left only few manuscripts; the first drafts of his published works are irretrievably lost. In 1940 György Korbuly summarized the number of the discovered Semmelweis manuscripts and he stated in his article: ‘if we inquire, how many manuscripts of Semmelweis we know today, the reply is expressively depressing. We know today only 5 original letters of him’”. (*Semmelweis Ignac összegyütött keziratai*, Budapest 1968). The authors continue to mention that since 1940 some new Semmelweis manuscripts had come to light in London and Budapest, but that still in 1966 when Ákos Palla described a newly discovered document he estimated a total number of documents known worldwide to be 20-30. We cannot locate any other autograph material in the auction records. This large and impressive document (380 x 240 mm) is a medical testimony written by Semmelweis when he was primary obstetrician at the St. Rochus Hospital in Pest. The patient, Anna Petermann, claimed when she was hospitalized for birth on 9 October 1854, that she was 19 years of age. Due to two obstetric surgeries, however, Semmelweis realized that the patient must be at least thirty. The document is signed with a large and bold signature by Semmelweis “Ig. Philipp Semmelweis, Med Doctor & Primar-Geburtsarzt zu St. Rochus” and dated “Pest den 24 December 1854”.

Most influential Renaissance work on astrolabes

53. STOEFFLER, Johannes. *Elucidatio fabricae ususque astrolabii*. Oppenheim: Jakob Köbel, 1513 [colophon: 1512].



convergence of the meridians" (Stillwell). The astrolabe was an inclinometer, a device invented in c. 150 BC by the Ancient Greeks. It had a variety of uses such as locating and predicting the positions of the sun, moon, planets, and stars, determining local time given local latitude and vice-versa, and in surveying and triangulation. Used in Europe from the Middle Ages onwards, Stoeffler's work was a comprehensive manual of the instrument. The first part concerns the construction of the astrolabe. The full-page woodcut illustrations are extended by paper strips to almost double the page size and clearly show the various stages in the construction process. The second part explains the use of the astrolabe with equally remarkable woodcut illustrations. Stoeffler ends his work with a discussion of perspective and measurement.

•Houzeau & Lancaster 3256; Wellcome 6099; Zinner 991.

\$22,000

First edition, bound in contemporary blind-stamped pig-skin-backed oak boards, complete with all the extensions and moveable parts, of the most influential Renaissance work on astrolabes, and also the first German work on astrolabes. "Johann Stoeffler was a leading authority on the methods of defining latitude and longitude in vogue in the beginning of the new era; cf. his *Elucidatio fabricae ususque astrolabii*, Oppenheim, 1513 (colophon 1512)" (Winsor, *Narrative and Critical History of America*, Vol. II, p. 99). "Stoeffler recognized that, in mapping, computation of the distance between two places whose latitude and longitude were known failed to take into account the

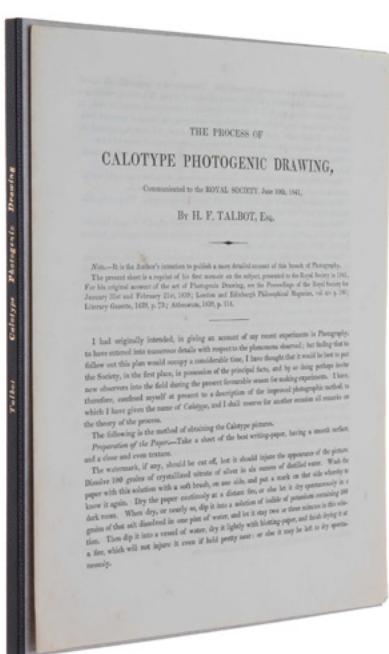
First announcement of the Calotype process

54. TALBOT, William Henry Fox. *The Process of Calotype Photogenic Drawing, Communicated to the Royal Society, June 10th, 1841*. London: J.L. Cox & Sons, 1841.

\$16,250

Extremely rare privately printed memoir in which the author first announced his invention of the Calotype (or Talbotype) process - the precursor to most photographic processes of the 19th and 20th centuries. We can find just two copies of

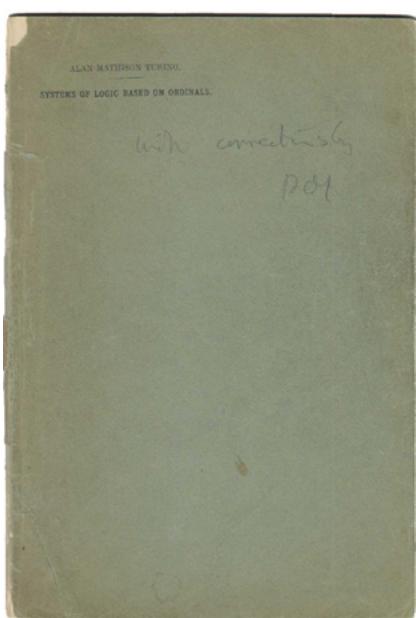
this paper having been auctioned in the past fifty years (both in the André Jammes Collection, Sotheby's 2002). "Nicephore Niépce produced the first photo-engraving in 1822, using bitumen of Judea on glass, and the first photographic image from nature in 1826 or 1827, on a pewter plate, but was reluctant to divulge the secret of his process and never published it. During the same period Louis Daguerre experimented with fixing images, first on paper and then on metal plates, joining forces with Niépce in 1829, and producing the first successful daguerrotype in 1837. Meanwhile, across the Channel, the mathematician and chemist William Henry Fox Talbot had been inspired by unsuccessful attempts to sketch landscapes using the camera obscura to seek a method of imprinting natural images on chemically sensitized paper. After several unsatisfactory experiments using paper coated with successive coats of silver nitrate and sodium chloride, fixed with a strong solution of salt water, and set within a camera obscura, Talbot finally succeeded, in 1835, in obtaining a few tiny negatives, having resolved the problem of underexposure by outfitting several very small cameras with fixed-focus microscope lenses of short focal length. One of these 1-inch square negatives, showing the window of the library of his home at Lacock Abbey, survives at the Science Museum in London.



Offprint of his PhD thesis - the copy of Robin Gandy

55. TURING, Alan Mathison. *Systems of Logic Based on Ordinals*. London: C.F. Hodgson & Son, 1939.

\$35,000



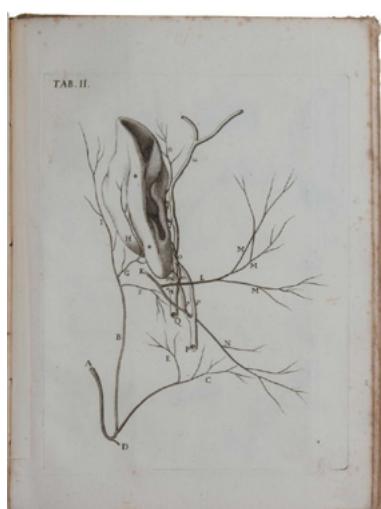
First edition, the incredibly rare offprint issue, and the copy of Robin Gandy, of Turing's PhD thesis, "one of the key documents in the history of mathematics and computer science" (Appel), and perhaps Turing's most formidable paper. "*Systems of logic based on ordinals*" is a profound work of first rank importance. Among its achievements are the exploration of a means of circumventing Gödel's incompleteness theorems; the introduction of the concept of an 'oracle machine,' thereby opening the field of relative computability; and, in the wake of the demolition of the Hilbert programme (by Gödel, Turing and Church), an analysis of the place of intuition in mathematics and logic" (Copeland). "Turing's 1938 Princeton PhD thesis, *Systems of logic based on ordinals*, which includes his notion of an oracle machine, has had a lasting influence on computer science and mathematics... A work of philosophy as well as mathematics, Turing's thesis envisions a practical goal – a logical system to formalize mathematical proofs so that they can be checked mechanically. If every step of a theorem could be verified mechanically, the burden on intuition would be limited to the axioms... Turing's vision of 'constructive systems of logic for practical use' has become reality: in the twenty-first century, automated 'formal methods' are now routine" (Appel). Offprints of Turing's papers are extremely rare in institutional holdings, and even more so in commerce. We have located only three copies: one in the Alan Turing Archive at King's College Cambridge (AMT/B/15), one at St. Andrew's, and one in the Max Newman collection at Bletchley Park.

• Appel, Alan Turing's *Systems of Logic - The Princeton Thesis*; Copeland, *The Essential Turing*.

The first full account of the minute anatomy of the ear

56. VALSALVA, Antonio Maria. *De Aure Humana Tractatus, in quo integra ejusdem auris fabrica, multis novis inventis, & iconismis illustrata, describitur; omniumque ejus partium usus indagantur. Quibus interposita est muscularum uvulae, atque pharyngis nova descriptio, et delineatio*. Bologna: Constantino Pisari, 1704.

\$7,500



Rare first edition, and a fine copy, of "the first full account of the minute anatomy of the ear" (Norman). "This remarkable book became a standard on the subject for over a century" (*Heirs of Hippocrates*). "The 'Treatise' is arranged in six chapters. The first three are anatomic and deal with the parts of the ear; the last three are physiologic and explain the functions of these parts. The auricle and auditory meatus, the tympanum and middle ear, and the labyrinth and inner ear are discussed. Chapter 2 includes Valsalva's report, promised on the title page, of the musculature of the uvula and pharynx; these are depicted on separate plates. The ten illustrations are good line engravings, of which the most striking are those of the nerves and blood vessels of the outer ear, the carotid artery, the semicircular canals, and the structure of the whole ear" (Lilly).

• Norman 2125; Lilly, *Notable Medical Books 101*; Garrison-Morton 1546; *Heirs of Hippocrates* 729 (later edition).



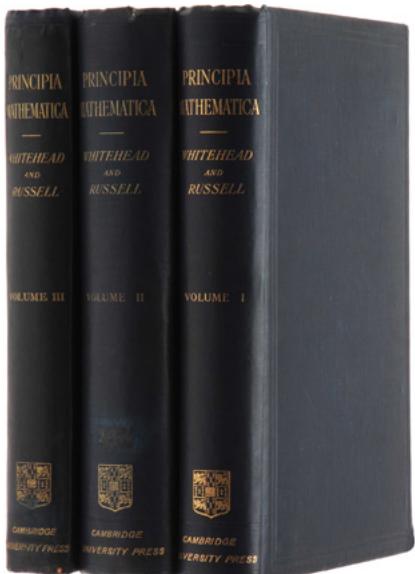
One of the greatest rarities of modern mathematics

57. WHITEHEAD, Alfred North & RUSSELL, Bertrand. *Principia mathematica*. Cambridge: at the University Press, 1910-12-13.

\$140,000

First edition of all three volumes of this monumental work. Complete sets of the first edition are very rare on the market. Probably named after Isaac Newton's great work, *Principia Mathematica* was Whitehead and Russell's detailed account of their 'logicist' thesis that mathematics could be derived solely from logical concepts and by logical methods...[It] has

had an influence, direct and indirect, of near Newtonian proportions upon the spheres of its chief influence: mathematical logic, set theory, the foundations of mathematics, linguistic analysis and analytical philosophy" (Grattan-Guinness, p. 89). "Whether they know it or not, all modern logicians are the heirs of Whitehead and Russell" (Palgrave, p. 20). "After the failure of Frege's *Grundgesetze*, due to Russell's paradox, it was the *Principia Mathematica* of Whitehead and Russell which first successfully developed mathematics within a logical framework" (ibid., p. 21). The first volume of *Principia Mathematica* was published in December 1910 in an edition of 750 copies, priced 25 shillings; volumes II and III had a print run of only 500 copies, and were priced at 30 shillings and 21 shillings, respectively. A fourth volume, dealing with applications to geometry, was written by Whitehead alone, but was not published.

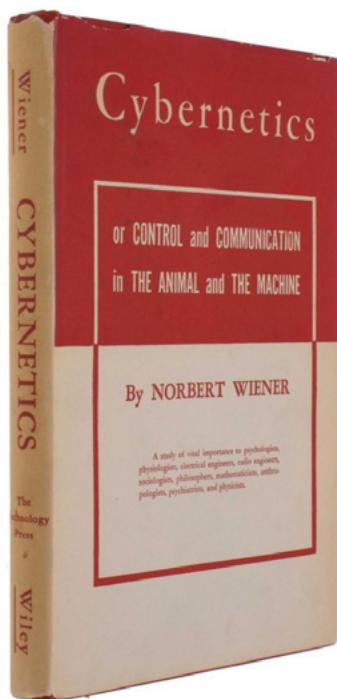


↳ Landmark Writings in Western Mathematics 16; The Collection of the Garden Ltd. 219; Norman 1868.

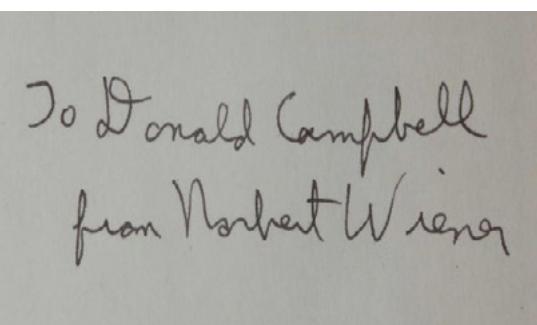
Inscribed presentation copy

58. WIENER, Norbert. *Cybernetics or control and communication in the animal and the machine*. New York; Paris: John Wiley & Sons; Hermann et Cie., 1948.

\$3,000

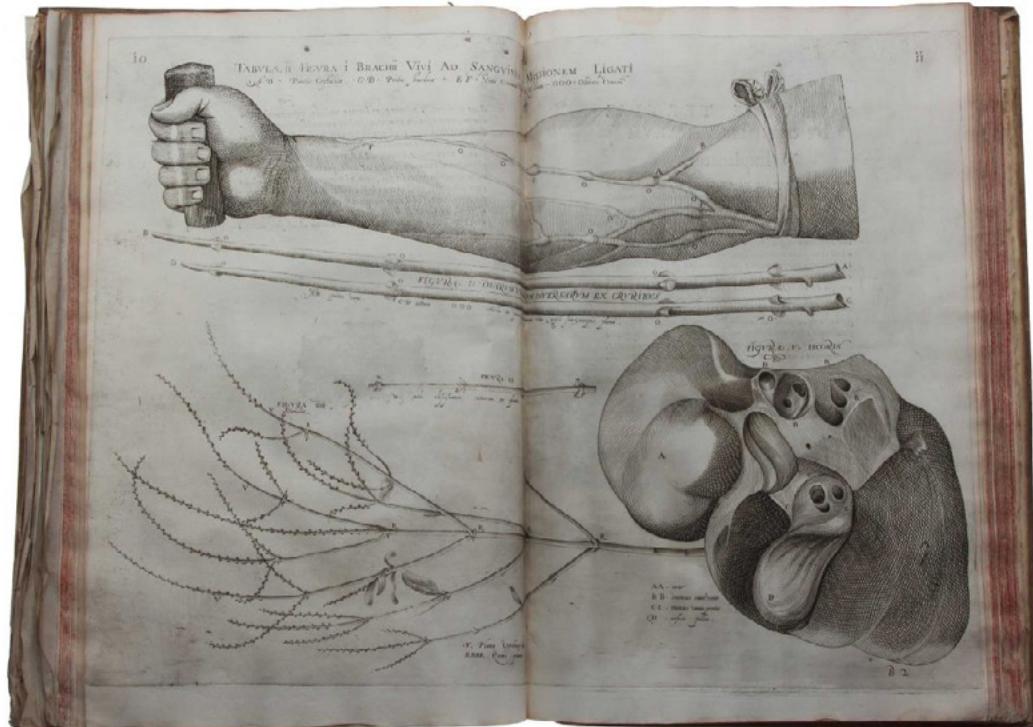


First American edition, following shortly after the French edition that appeared (in English) in the same year, of the book that is "generally accepted as marking the birth of cybernetics as an independent science" (*Britannica*). Computer-related words beginning with the 'cyber-' prefix, including 'cyberspace', as well as terms such as 'input', 'feedback' and 'output', in common use today, originate from Wiener's book. This copy is inscribed by Wiener to Donald T. Campbell, a professor of engineering at MIT who co-authored with Wiener a 1954 article entitled "Automatization: Norbert Wiener's concept of fully mechanized industry" (*Collected Works IV*, p. 683). Books inscribed by Wiener are of extraordinary rarity on the market. The only other example we are aware of is a copy of the same work offered (for \$6,000) by Jeremy Norman in his Catalogue 44, about which he wrote: "We have never seen or heard of a presentation copy of the French edition, and this is the only presentation copy of the American edition we have ever heard of."



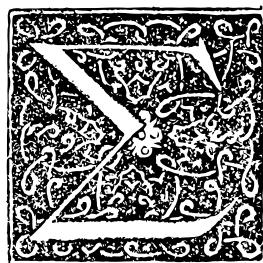
↳ Origins of Cyberspace 992.

'On the valves of the veins'



[Fabrizzi - item 20]

'One of the rarest and most beautiful works in the history of anatomical illustration. Among its plates is the well-known depiction of the surface anatomy of the veins of the forearm that William Harvey adapted to illustrate his De Motu Cordis (1628)'
(Grolier/Medicine)



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