
SOPHIA Σ RARE BOOKS

*Our short list for the Boston Book Fair
November 2017*



Rare and important books & manuscripts in science and medicine, by Christian Westergaard.

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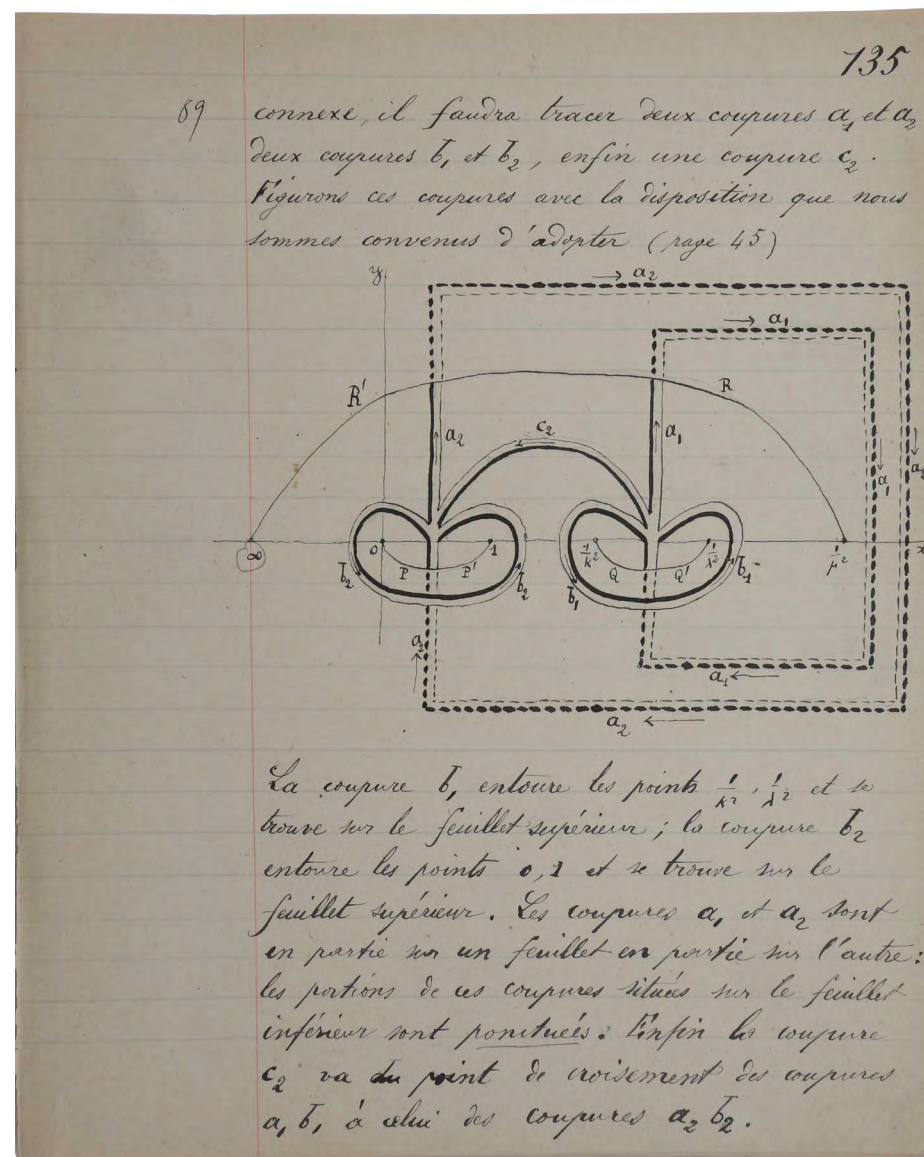
*The original manuscript for one of his
most notable works*

APPELL, Paul Émile. *Sur les intégrales de fonctions à multiplicateurs et leur application au développement des fonctions abéliennes en séries trigonométriques.* Autograph manuscript, 278 leaves written on rectos only. [1890].

\$9,500

Important autograph manuscript in which Appell generalises the theory of Abelian functions, due principally to Abel, Jacobi, Riemann and Weierstrass, to a class of functions he terms 'fonctions à multiplicateurs', and investigates their integrals and Fourier expansions. "His scientific work consists of a series of brilliant solutions of particular problems, some of the greatest difficulty. He was a technician who used the classical methods of his time to answer open questions, work out details, and make natural extensions in the mainstream of the late nineteenth century" (DSB), which cites the present paper as one of his most notable works.

<http://sophiararebooks.com/4293>



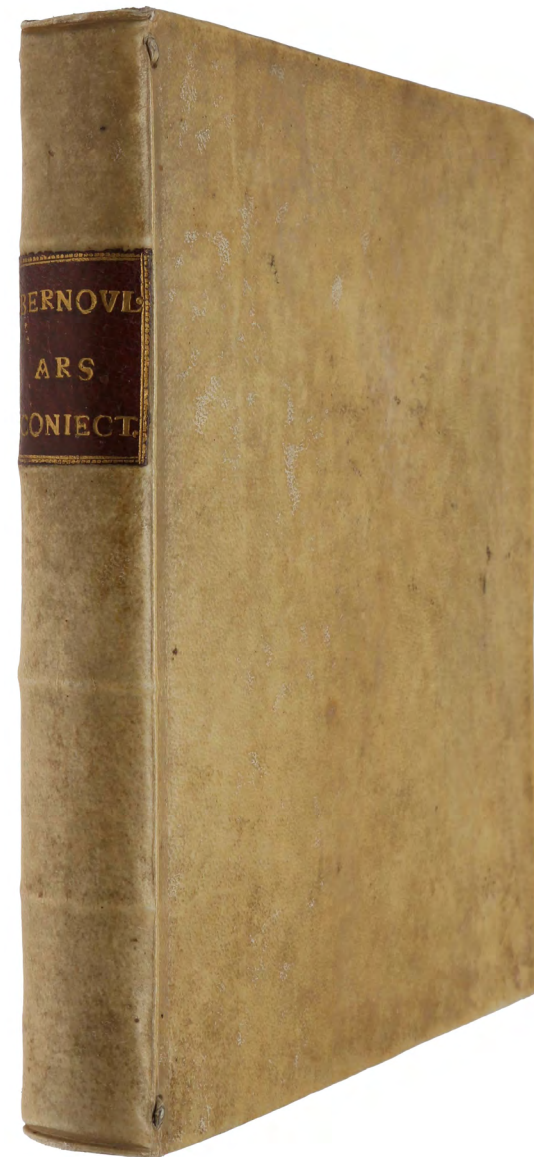
PMM 179 - The law of large numbers

BERNOULLI, Jacob. *Ars conjectandi*. Basel: Impensis Thurnisiorum fratrum, 1713.

\$40,000

First edition, an exceptionally fine copy, rare in this condition. “Jakob 1 Bernoulli’s posthumous treatise, edited by his nephew [Nicholas I Bernoulli], (the title literally means “the art of[dice] throwing”) was the first significant book on probability theory: it set forth the fundamental principles of the calculus of probabilities and contained the first suggestion that the theory could extend beyond the boundaries of mathematics to apply to civic, moral and economic affairs. PMM 179; Dibner 110; Evans 8; Grolier/Horblit 12; Sparrow 21; Norman 216.

<http://sophiararebooks.com/4063>



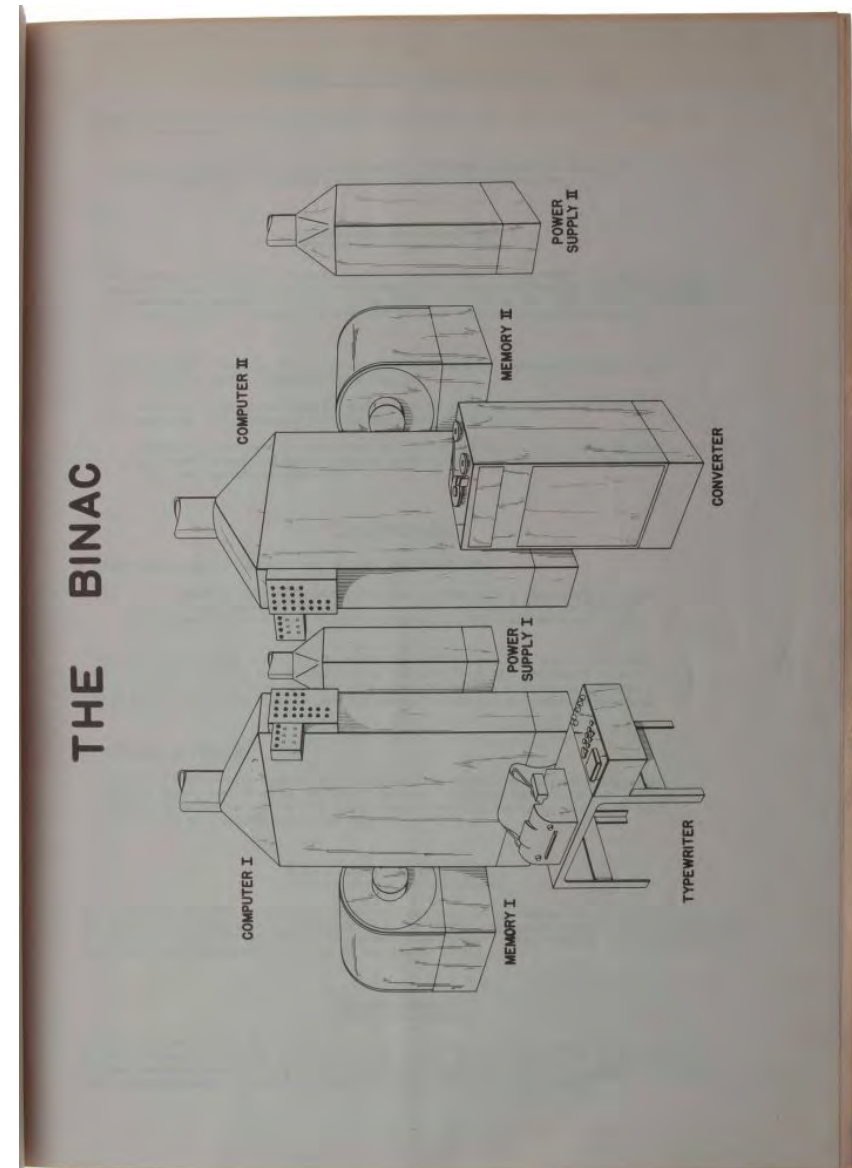
Binary Automatic Computer

[ECKERT, John Presper. & John MAUCHLY]. *The BINAC*.
Eckert-Mauchly Corp. 1949.

\$4,500

Eckert and Mauchly, invented and constructed the first general-purpose digital computer (the ENIAC) during WWII. After the war they founded the first commercial computer company in the United States. While developing the UNIVAC for the U.S. Census Bureau, E & M contracted with the Northrop Company to develop and construct a BINary Automatic Computer (BINAC). "Had it been finished on time [i.e., by May 15, 1948] it would have been in contention with the British computers as the first working electronic stored-program computer. Published the year BINAC was delivered, the flyer contains the computer's statistics, a brief outline of its elements and general characteristics, coding instructions, and a conversion table comparing decimal, coded decimal, binary, and octal numbers. OOC 1145.

<http://sophiararebooks.com/3320>



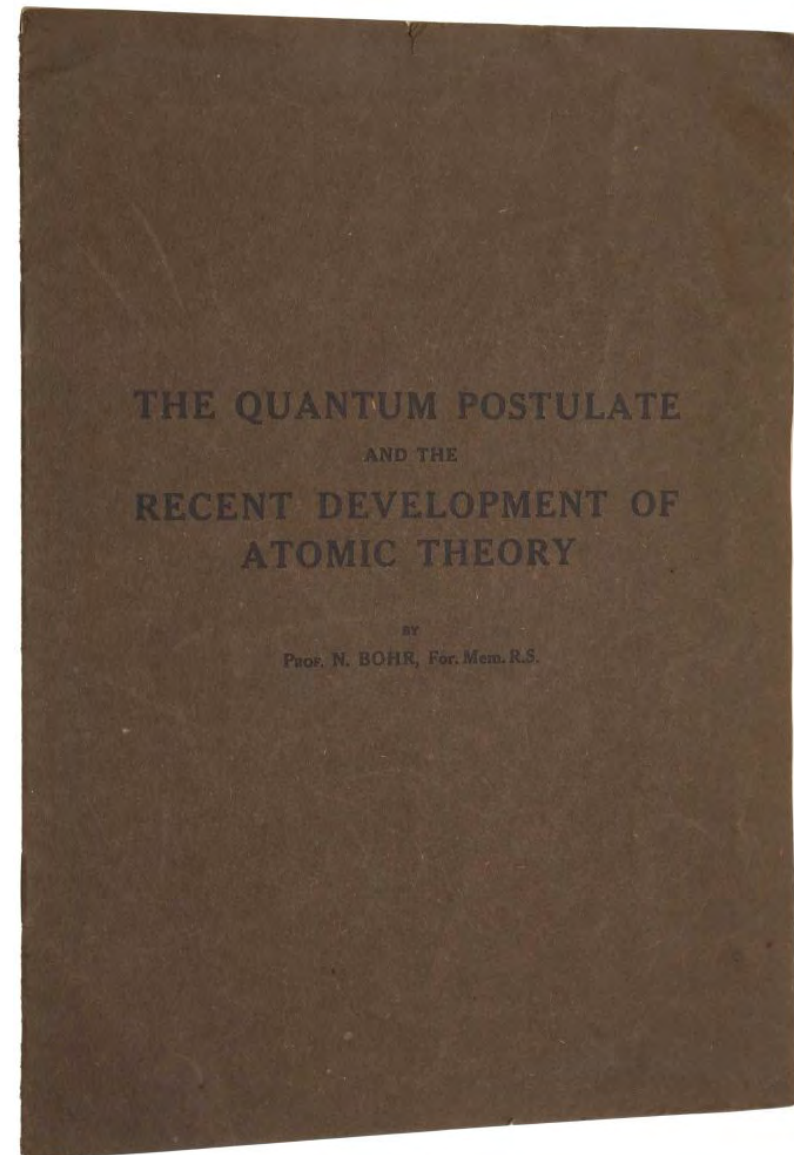
*The Copenhagen interpretation of
quantum mechanics*

BOHR, Niels. *The Quantum Postulate and the Recent Development of Atomic Theory.* Edinburgh: Clark, 1928.

\$8,750

First edition, extremely rare offprint issue, of this fundamental paper introducing Bohr's statement of his 'complementarity' principle, the basis of what became known as the 'Copenhagen interpretation' of quantum mechanics. "From the epistemological point of view, the discovery of the new type of logical relationship that complementarity represents is a major advance that radically changes our whole view of the role and meaning of science." (DSB).

<http://sophiararebooks.com/3779>



*Presented by the founder of the
Accademia del Cimento*

BORELLI, Giovanni Alfonso. *De vi percussionis liber.* Bologna:
Giacopo Monti, 1667.

\$15,000

First edition, an extraordinary association copy, of the first published book on the laws of percussion, and containing important hitherto unpublished material from the lectures of Galileo and Torricelli. This copy was a gift from Prince Leopold of Tuscany, Borelli's patron at the Tuscan court. Probably under the influence of Borelli, Leopold, together with his brother Grand Duke Ferdinand, founded the *Accademia del Cimento* where Borelli first presented much of the experimental work on which this text is based.

<http://sophiararebooks.com/3935>



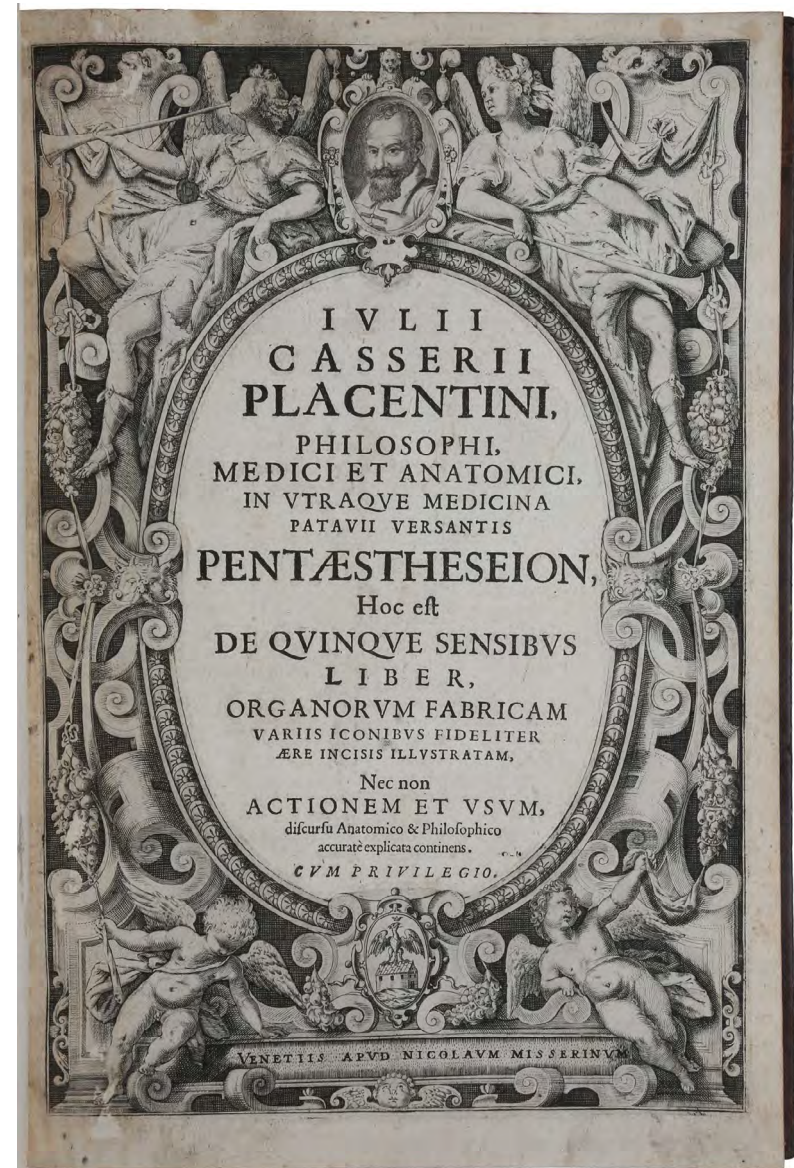
A cornerstone in comparative anatomy

CASSERI, Giulio Cesare. *Pentaestheseion, hoc est De quinque sensibus liber...* Venedig: Misserino, 1609.

\$45,000

First edition, exceptionally rare, of Casserius' second important contribution to the comparative anatomy not only of the ear and the vocal organs, as in his more common work of 1600/01 [*De Vocis Auditusque Organis*], but also of the other four sense organs and especially of the eye. The very fine anatomical plates for which this book is noted are both drawn and engraved by the Swiss artist Joseph Maurer, a pupil of Tobias Stimmer who lived in Casserius' house. The 12 plates pertaining to the ear are the same as those of Casserius' earlier work; they constitute "the first accurate pictorial presentation of the internal ear" (Sellers).

<http://sophiararebooks.com/3840>



The first published description of Jupiter's Great Red Spot

CASSINI, Gian Domenico. *Theoriae motus cometae anni MDCLXIV ea praeferens...* [Bound with:] *Lettere astronomiche di Gio: Domenico Cassini al Signor Abbate Ottavio Falconieri...* Rome: Fabio di Falco, 1665.

\$42,500

First editions of these two exceptionally rare publications on the comet of 1664-5, which was observed by many astronomers, including Auzout, Borelli, Fabri, Hooke, Hevelius, Petit, and Newton as a student. The second work is also especially notable for containing the first published description of Jupiter's Great Red Spot. Cassini observed the comet "and formulated on this occasion a new theory (in agreement with the Tychonian system) in which the orbit of the comet is a great circle whose center is situated in the direction of Sirius and whose perigee is beyond the orbit of Saturn" (DSB).

<http://sophiararebooks.com/4194>



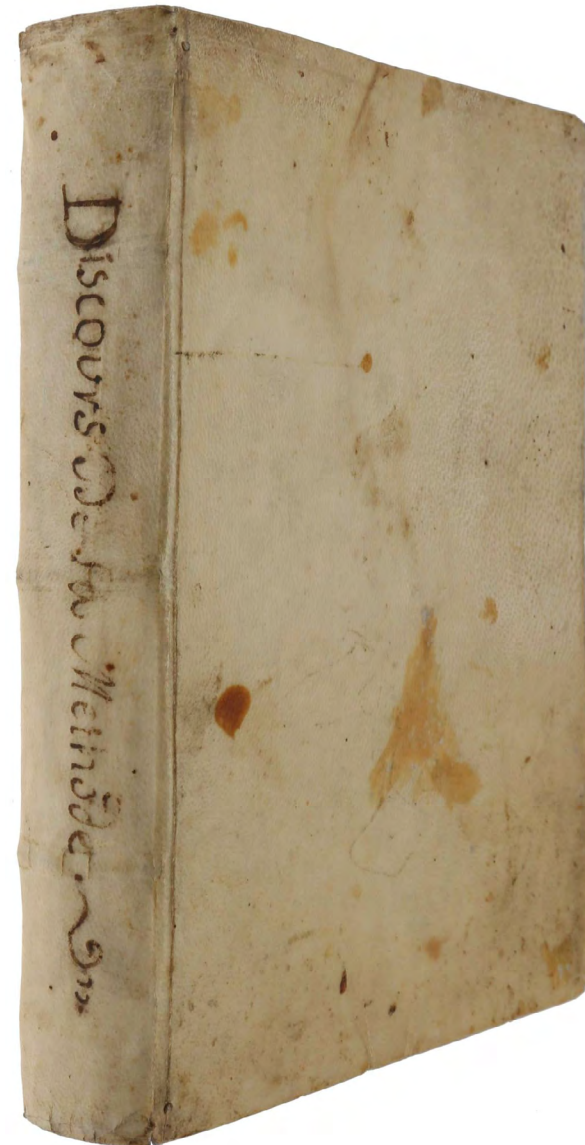
PMM 129 - 'Cogito, ergo, sum'

DESCARTES, René. *Discours de la methode pour bien conduire sa raison, & chercher la verité dans les sciences. Plus la Dioptrique, les Meteores, et la Geometrie. Qui sont des essais de cete Methode.* Leiden: Jan Maire, 1637.

\$125,000

First edition, a fine, large copy in contemporary vellum, of Descartes' first and most famous work. Following the *Discours*, now celebrated as one of the canonical texts of Western philosophy, are three 'Essais', the last of which, *La Géométrie*, contains the birth of analytical or coordinate geometry, "of epoch-making importance" (Cajori), designated by John Stuart Mill as "the greatest single step ever made in the progress of the exact sciences". PMM 129; Grolier/Horblit 24; Dibner 81; Evans 5.

<http://sophiararebooks.com/3990>



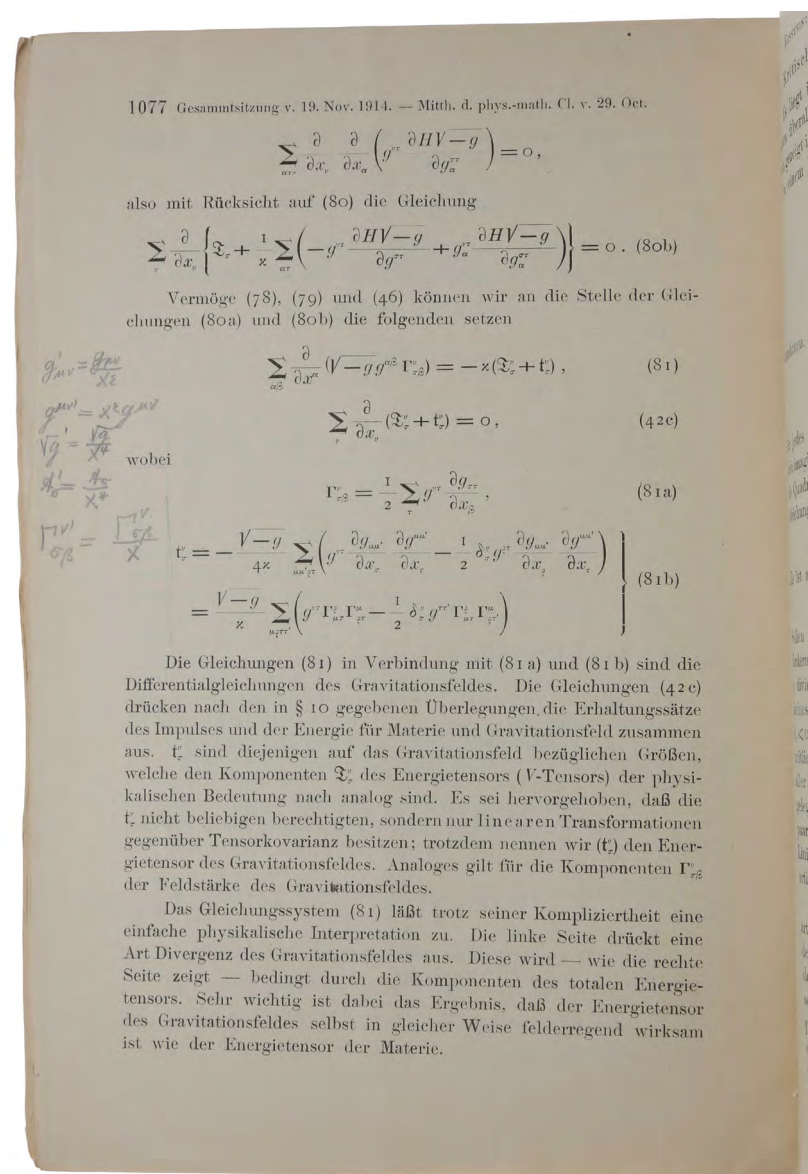
Inscribed by Einstein to Nordström

EINSTEIN, Albert. *Die formale Grundlage der allgemeinen Relativitätstheorie.* Berlin: Königlichen Akademie der Wissenschaften, 1914.

\$15,000

First edition of this extremely rare offprint, a remarkable presentation copy inscribed by Einstein to the theoretical physicist Gunnar Nordström, often designated by modern writers as 'The Einstein of Finland'. Einstein had an extended correspondence with Nordström on the subject of Nordström's own competing theory of gravitation, which at the time was considered a serious competitor to Einstein's, and which he completed in the same year as the present paper. A few years later Nordström also assisted Einstein in his work on gravitational waves. The present paper was the crucial step between Einstein's *Entwurf* theory of 1913 and the final form of general relativity which Einstein completed in November 1915.

<http://sophiararebooks.com/4148>



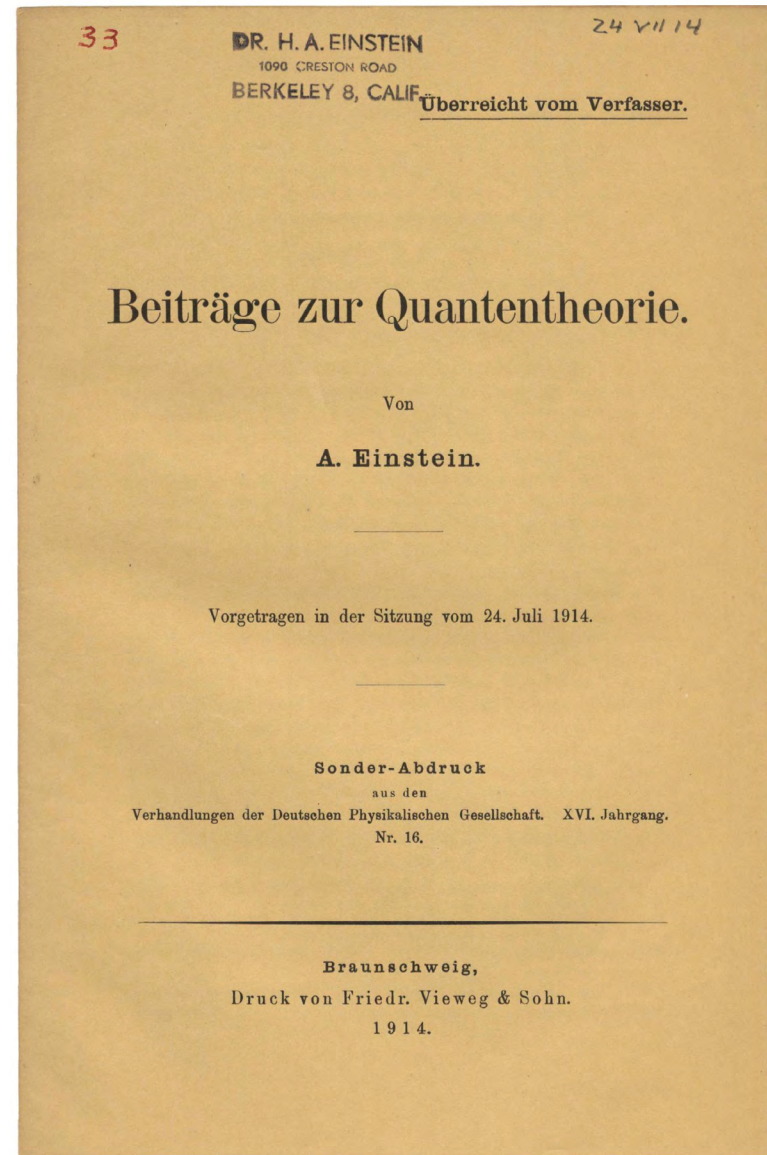
Presentation copy to his son

EINSTEIN, Albert. *Beiträge zur Quantentheorie.* Braunschweig: Vieweg & Sohn, 1914.

\$10,000

First edition, extremely rare author's presentation offprint and the copy of Einstein's son Hans Albert, of this crucial transitional paper in which Einstein uses the light quantum hypothesis to give new derivations of Planck's radiation law and Nernst's third law of thermodynamics (Einstein points out that the alleged 'proofs' which try to derive the theorem of Nernst from the mere fact that the specific heat of all substances goes to zero at absolute zero temperature, are not genuine).

<http://sophiararebooks.com/4036>



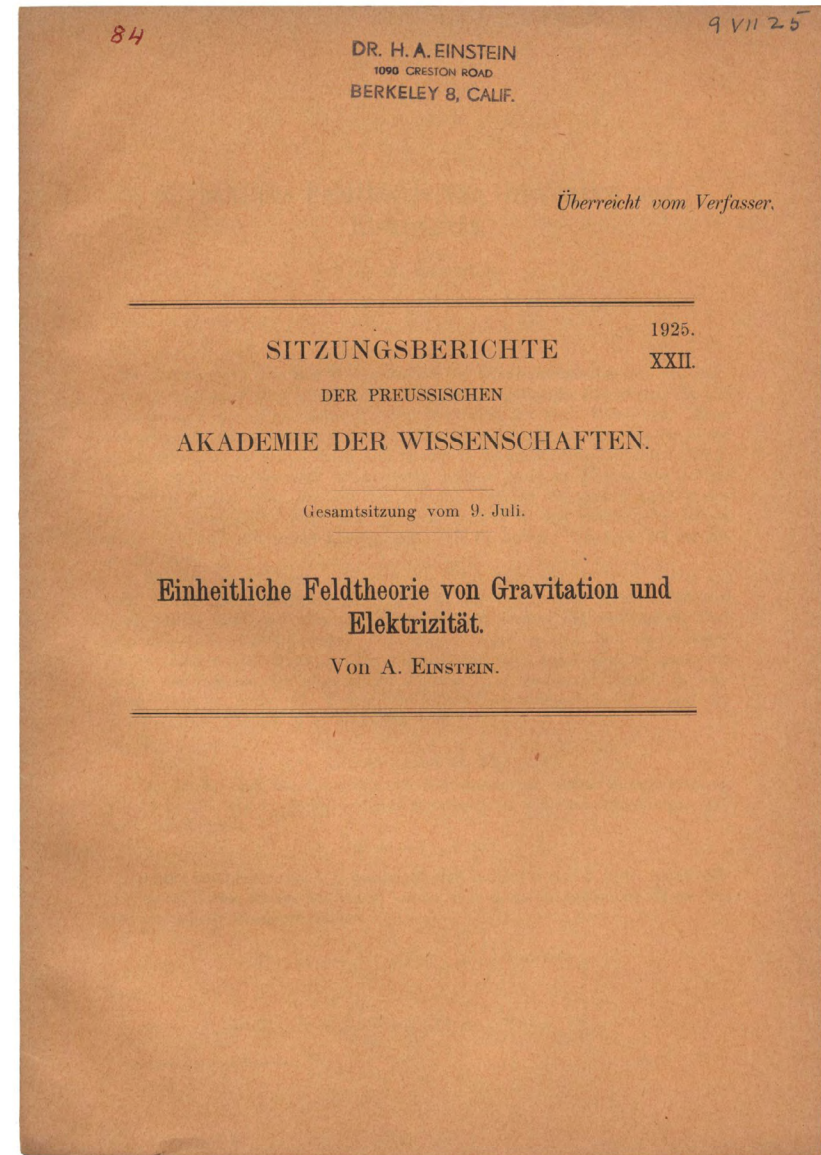
His first original paper on unified field theory

EINSTEIN, Albert. *Einheitliche Feldtheorie von Gravitation und Elektrizität.* Berlin: Königlichen Akademie der Wissenschaften, 1915.

\$14,500

First edition, extremely rare author's presentation offprint (not to be confused with the much more common trade offprint), and the copy of Einstein's son Hans Albert, of Einstein's first original paper on unified field theory, and the first to use the term "Unified Field Theory" in its title. In the opening paragraph of this paper, Einstein wrote: "After incessant search during the last two years, I now believe I have found the true solution" (Pais, *Subtle is the Lord*).

<http://sophiararebooks.com/4035>



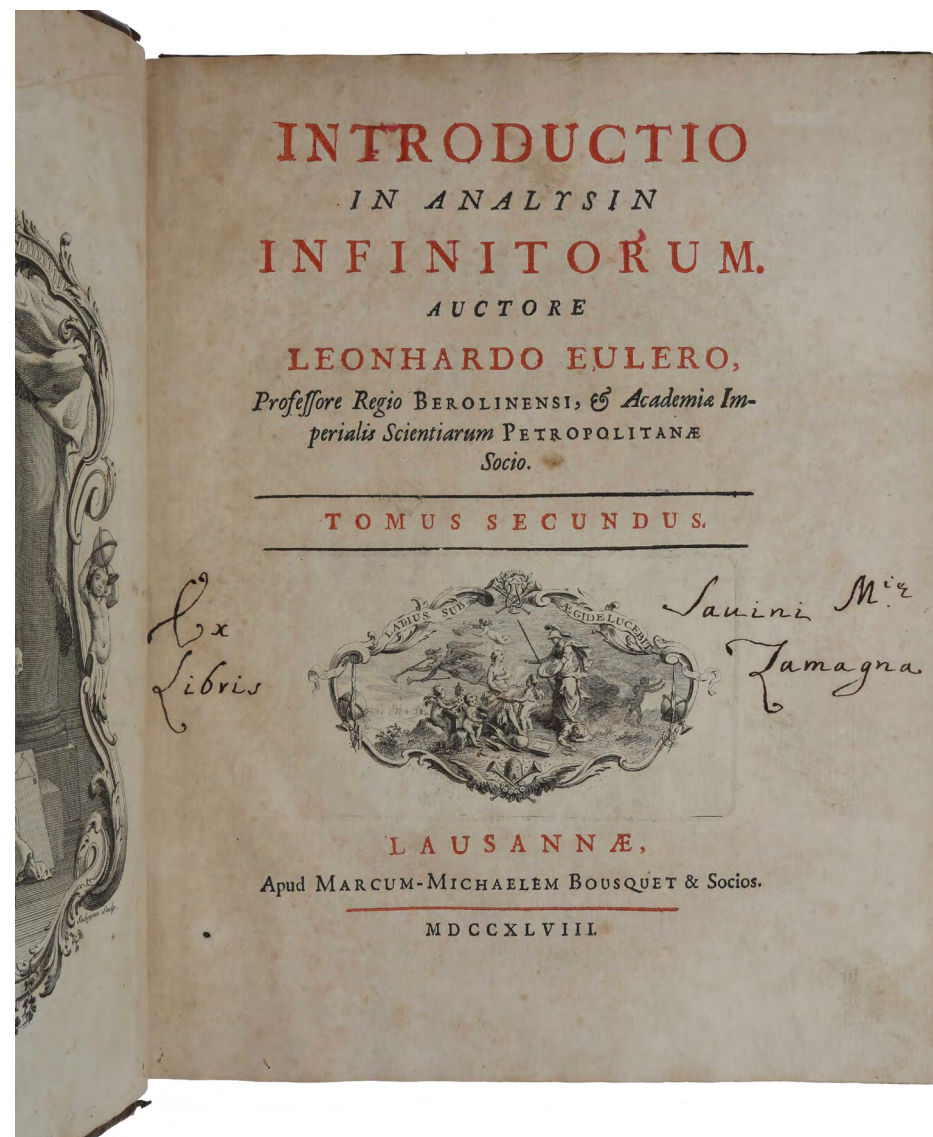
PMM 196 - Analytical Mathematics

EULER, Leonhard. *Introductio in analysin infinitorum*. Lausanne: M.-M. Bousquet, 1748.

\$15,000

First edition of Euler's great textbook on analysis, the only work of Euler listed in *Printing and the Mind of Man*. "In his 'Introduction to Analysis' Euler did for modern analysis what Euclid had done for ancient geometry" (PMM). The editors of the first volume of the *Introductio* in *Opera Omnia* emphasize that the work "still today deserves to be not only read, but studied with devotion. No mathematician will put it aside without immense benefit," and that the *Introductio* "marks the beginning of a new epoch and that this work has become influential for the whole development of the mathematical science by virtue of not only its content, but also its language."

<http://sophiararebooks.com/4280>



‘Among the rarest and most beautiful works in the history of anatomical illustration’

FABRICI, Girolamo. *De venarum ostiolis*. Padua: Lorenzo Pasquati, 1603.

\$85,000

First edition “of the first systematic study of the structure, distribution and position of the venous valves... *De venarum ostiolis* became his most influential work, in that it inspired his student, William Harvey, to conceptualize the circulation of the blood” (Norman). “The sumptuously printed folios which Fabricius published in 1603-1604 were issued separately, and unbound. Though they escaped Choulant’s notice, they are among the rarest and most beautiful works in the history of anatomical illustration. The plates are magnificent; in fact nothing on their scale had been seen since the days of Vesalius” (Franklin).

<http://sophiararebooks.com/3909>



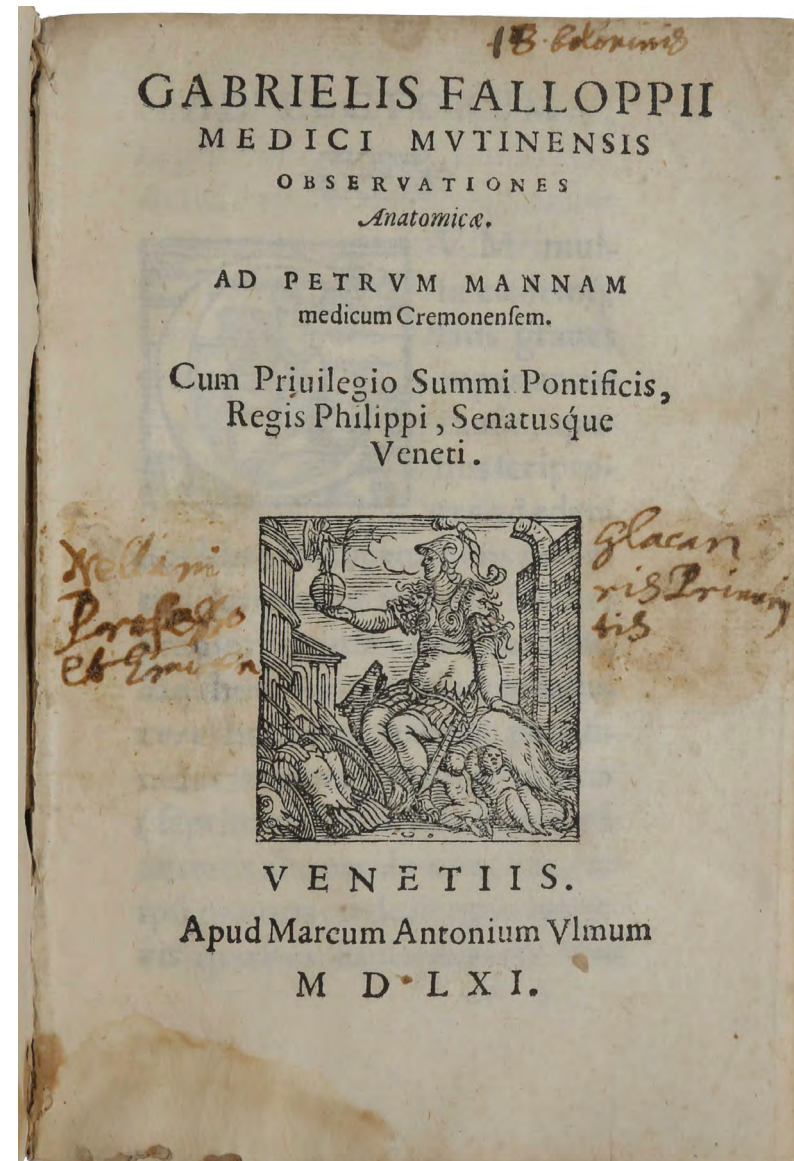
*The greatest Italian anatomical book of the
sixteenth century*

FALLOPPIO, Gabrielle. *Observationes anatomicae.* Venice:
Ulmo & Perchachino, 1561.

\$35,000

First edition, very rare, of this detailed critical commentary on Vesalius' *De humani corporis fabrica*. This is a fascinating copy with copious annotations by an early owner, in an untouched contemporary binding. "The large amount of new material [in the present work] included Falloppio's investigations of primary and secondary centers of ossification, the first clear description of primary dentition, numerous contributions to the study of the muscles (especially those of the head), and the famous account of the uterine ("Falloppian") tubes, which he correctly described as resembling small trumpets (tubae)...Vesalius responded positively to Falloppio's work with his posthumously published *Examen on Falloppio* (1564)" (Norman).

<http://sophiararebooks.com/4136>



Feynman path-integrals and Feynman diagrams

FEYNMAN, Richard. 1: *Space-Time Approach to Non-Relativistic Quantum Mechanics*; 2: *A Relativistic Cut-Off for Classical Electrodynamics*; 3: *Relativistic cut-off for quantum electrodynamics*; 4: *The Theory of Positrons*; 5: *Space-Time Approach to Quantum Electrodynamics*; 6: *Mathematical Formulation of the Quantum Theory of Electromagnetic Interaction*; 7: *An Operator Calculus Having Applications in Quantum Electrodynamics*. Lancaster: APS, 1948-51.

\$13,500

First editions of the seven papers which constitute Feynman's path-integral formulation of quantum mechanics and his 'Feynman diagram' approach to QED, i.e., the work for which he received the Noble Prize. Feynman "published an extended set of papers - they would stretch over three years and one hundred thousand words - that defined the start of the modern era for the next generation of physicists." (Gleick, *Genius*).

<http://sophiararebooks.com/3471>

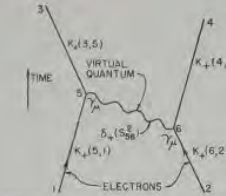


FIG. 1. The fundamental interaction Eq. (4). Exchange of one quantum between two electrons.

a general theoretical sense by this approximation. If it is not made it is not easy to study interacting particles relativistically, for there is nothing significant in choosing $t_1 = t_2$ if $\mathbf{x}_1 \neq \mathbf{x}_2$, as absolute simultaneity of events at a distance cannot be defined invariantly. It is essentially to avoid this approximation that the complicated structure of the older quantum electrodynamics has been built up. We wish to describe electrodynamics as a delayed interaction between particles. If we can make the approximation of assuming a meaning to $K(3, 4; 1, 2)$ the results of this interaction can be expressed very simply.

To see how this may be done, imagine first that the interaction is simply that given by a Coulomb potential e^2/r where r is the distance between the particles. If this be turned on only for a very short time Δt_0 at time t_0 , the first order correction to $K(3, 4; 1, 2)$ can be worked out exactly as was Eq. (9) of I by an obvious generalization to two particles:

$$K^{(1)}(3, 4; 1, 2) = -ie^2 \int \int K_{35}(3, 5) K_{46}(4, 6) r_{56}^{-1} \times K_{12}(5, 1) K_{23}(6, 2) d^3\mathbf{x}_5 d^3\mathbf{x}_6 \Delta t_0$$

where $t_2 = t_3 = t_0$. If now the potential were on at all times (so that strictly K is not defined unless $t_1 = t_2$ and $t_3 = t_4$), the first-order effect is obtained by integrating on t_0 which we can write as an integral over both t_5 and t_6 if we include a delta-function $\delta(t_5 - t_6)$ to insure contribution only when $t_5 = t_6$. Hence, the first-order effect of interaction is (calling $t_5 = t_6 = t_{56}$):

$$K^{(1)}(3, 4; 1, 2) = -ie^2 \int \int K_{35}(3, 5) K_{46}(4, 6) r_{56}^{-1} \times \delta(t_{56}) K_{12}(5, 1) K_{23}(6, 2) d^3\mathbf{x}_5 d^3\mathbf{x}_6 dt_{56} \quad (2)$$

where $d^3\mathbf{x} = d^3\mathbf{x}d^3\mathbf{x}$.

We know, however, in classical electrodynamics, that the Coulomb potential does not act instantaneously, but is delayed by a time r_{56} , taking the speed of light as unity. This suggests simply replacing $r_{56}^{-1}\delta(t_{56})$ in (2) by something like $r_{56}^{-1}\delta(t_{56} - r_{56})$ to represent the delay in the effect of b on a .

This turns out to be not quite right⁷ for when this interaction is represented by photons they must be of only positive energy, while the Fourier transform of $\delta(t_{56} - r_{56})$ contains frequencies of both signs. It should instead be replaced by $\delta_+(t_{56} - r_{56})$ where

$$\delta_+(x) = \int_0^\infty e^{-i\omega x} d\omega / \pi = \lim_{\epsilon \rightarrow 0} \frac{(\pi i)^{-1}}{x - i\epsilon} = \delta(x) + (\pi i)^{-1} \quad (3)$$

This is to be averaged with $r_{56}^{-1}\delta_+(-t_{56} - r_{56})$ which arises when $t_5 < t_6$ and corresponds to a emitting the quantum which b receives. Since

$$(2\pi)^{-1}(\delta_+(t - r) + \delta_+(-t - r)) = \delta_+(t^2 - r^2),$$

this means $r_{56}^{-1}\delta(t_{56})$ is replaced by $\delta_+(x_{56}^2)$ where $x_{56}^2 = t_{56}^2 - r_{56}^2$ is the square of the relativistically invariant interval between points 5 and 6. Since in classical electrodynamics there is also an interaction through the vector potential, the complete interaction (see A, Eq. (1)) should be $(1 - (\mathbf{v}_5 \cdot \mathbf{v}_6)/c^2)\delta_+(x_{56}^2)$, or in the relativistic case,

$$(1 - \alpha_a \cdot \alpha_b)\delta_+(x_{56}^2) = \beta_a \beta_b \gamma_{ab} \gamma_{56} \delta_+(x_{56}^2).$$

Hence we have for electrons obeying the Dirac equation,

$$K^{(1)}(3, 4; 1, 2) = -ie^2 \int \int K_{35}(3, 5) K_{46}(4, 6) \gamma_{56} \gamma_{ab} \times \delta_+(x_{56}^2) K_{12}(5, 1) K_{23}(6, 2) d^3\mathbf{x}_5 d^3\mathbf{x}_6 dt_{56} \quad (4)$$

where γ_{56} and γ_{ab} are the Dirac matrices applying to the spinor corresponding to particles a and b , respectively (the factor $\beta_a \beta_b$ being absorbed in the definition, I Eq. (17), of K_{ij}).

This is our fundamental equation for electrodynamics. It describes the effect of exchange of one quantum (therefore first order in e^2) between two electrons. It will serve as a prototype enabling us to write down the corresponding quantities involving the exchange of two or more quanta between two electrons or the interaction of an electron with itself. It is a consequence of conventional electrodynamics. Relativistic invariance is clear. Since one sums over μ it contains the effects of both longitudinal and transverse waves in a relativistically symmetrical way.

We shall now interpret Eq. (4) in a manner which will permit us to write down the higher order terms. It can be understood (see Fig. 1) as saying that the amplitude for "a" to go from 1 to 3 and "b" to go from 2 to 4 is altered to first order because they can exchange a quantum. Thus, "a" can go to 5 (amplitude $K_{35}(3, 5)$)

⁷ It, and a like term for the effect of a on b, leads to a theory which, in the classical limit, exhibits interaction through half-advanced and half-retarded potentials. Classically, this is equivalent to purely retarded effects within a closed box from which no light escapes (e.g., see A, or J. A. Wheeler and R. P. Feynman, Rev. Mod. Phys. 17, 157 (1945)). Analogous theorems exist in quantum mechanics but it would lead us too far astray to discuss them now.

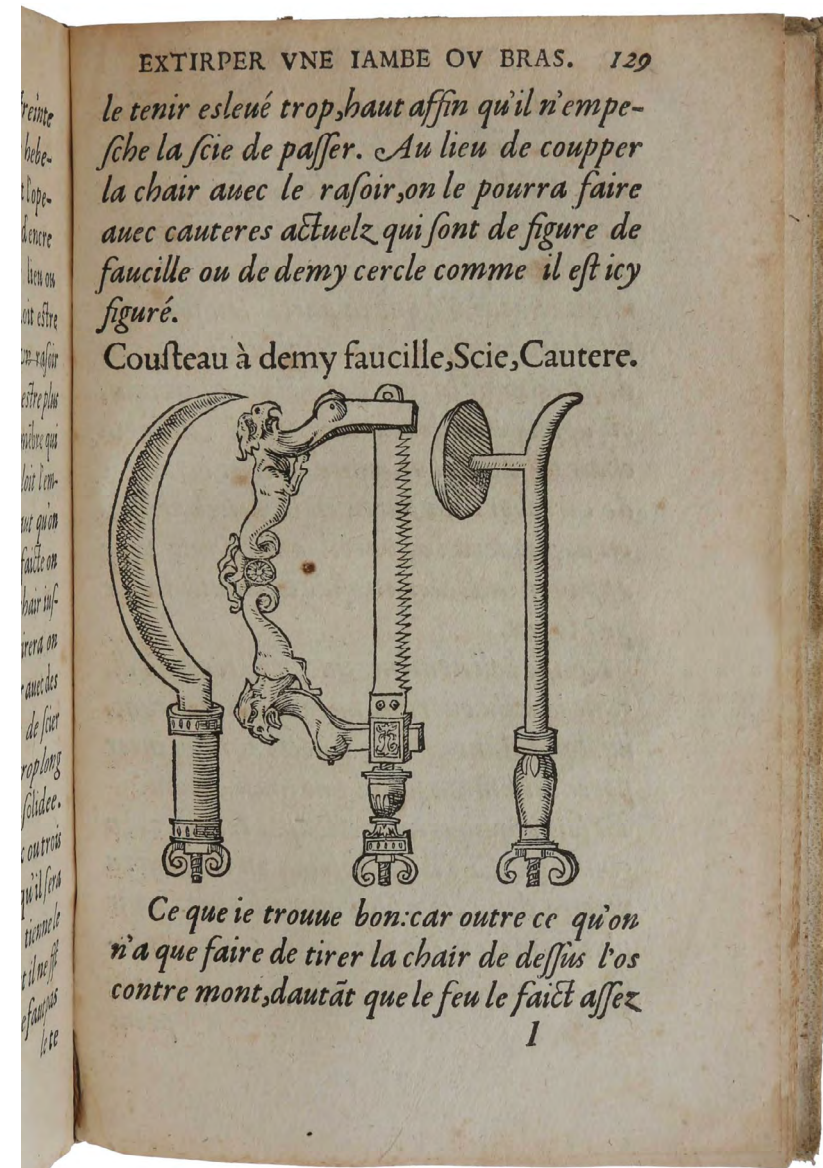
One of the greatest surgeons of the Renaissance

FRANCO, Pierre. *Petit traité, contenant une des parties principales de chirurgie, laquelle les chirurgiens hernieres exercent, ainsi quil montre en la page suivante.* Lyon: Antoine Vincent, [1556].

\$75,000

First edition, in an untouched contemporary binding and with a fine provenance, of this exceptionally rare work which “includes the first recorded description of an operation for strangulated hernia” (Garrison-Morton). This work is absent from many major medical collections, which regard the expanded second edition of 1561 as the first. “Pierre Franco, creator of suprapubic lithotomy cataract operation and surgical repair of hernia with preservation of the testis, is considered to be one of the greatest surgeons of the Renaissance and a forerunner of urology” (Androutsos). OCLC list copies in US at Chicago, Harvard, Mayo Clinic, Minnesota and NLM.

<http://sophiararebooks.com/4021>



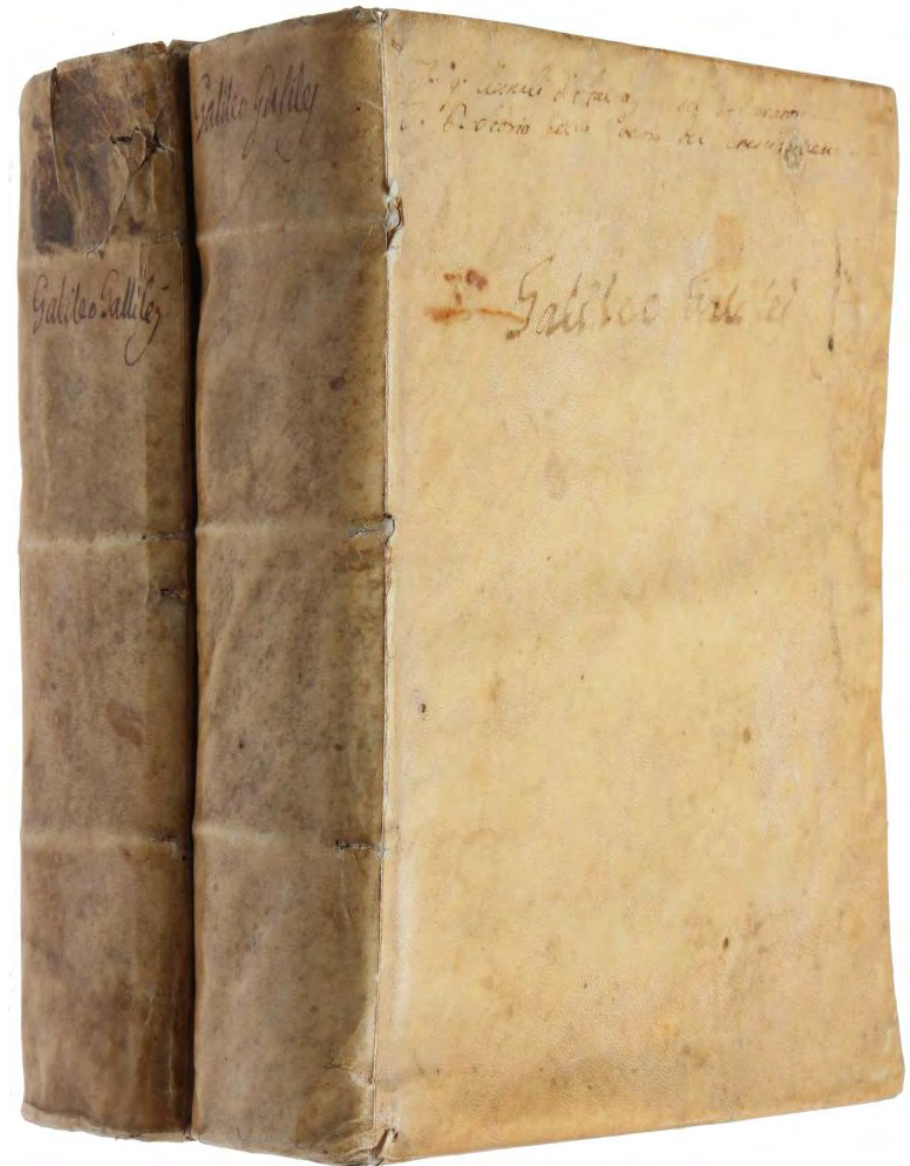
First edition of the works of Galilei

GALILEI, Galileo. *Opere di Galileo Galilei linceo nobile fiorentino, Già Lettore delle Matematiche nelle Università di Pisa...*
Bologna: Heredi del Dozza, 1655-56.

\$22,500

First collected edition of the works of Galileo, 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. The *Dialogo* was of course on the *Index* and was not included in editions of the *Opere* until 1744.

<http://sophiararebooks.com/3097>



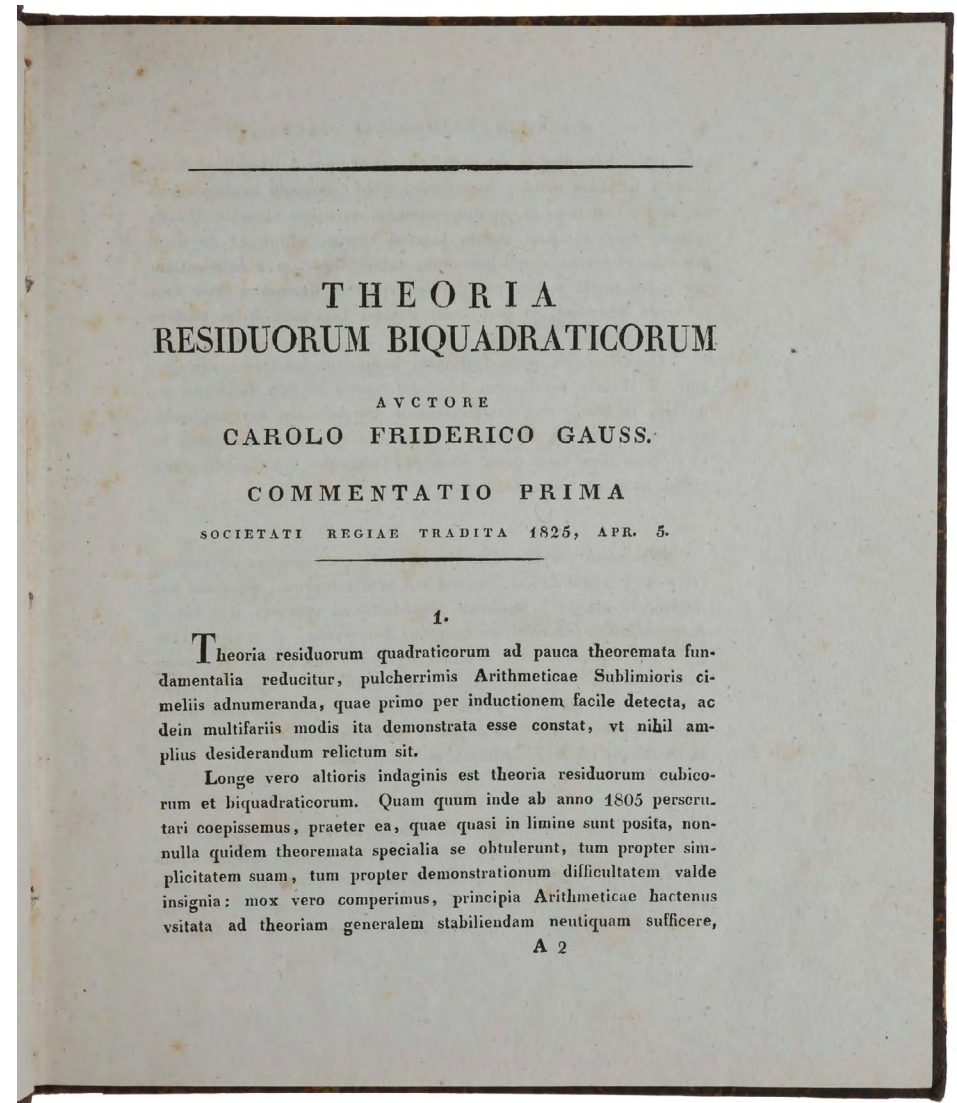
The Gaussioan plane

GAUSS, Carl Friedrich. *Theoria residuorum biquadraticorum. Commentatio prima [- secunda].* Göttingen: Dieterich, 1828-32.

\$9,500

First edition, very rare separately-paginated offprint issues, of these two important papers, in which Gauss coined the term 'complex number' and introduced the complex plane now known as the 'Gaussian plane'. Gauss offprints are especially difficult to find on the market in contemporary bindings, most having been removed from sammelbands and rebound later. "The foundations of the theory of algebraic integers were laid by Gauss in his important work *Theoria residuorum biquadraticorum, Commentatio II*, which appeared in 1832, in which he considered the numbers $a + bi$ ($i = \sqrt{-1}$)" (Klein).

<http://sophiararebooks.com/4003>



Thirteen original papers

GÖDEL, Kurt. *Ergebnisse eines mathematischen Kolloquiums, unter Mitwirkung von Kurt Gödel und Georg Nöbeling. Heft 1-5.* Leipzig & Berlin: Teubner, 1931-33.

\$7,500

First editions, and a fine set in the original printed wrappers, of these rare proceedings to which Gödel contributed thirteen important papers and remarks on the foundations of logic and mathematics. The most important are perhaps 'Über Vollständigkeit und Widerspruchsfreiheit' ('On completeness and consistency') in Heft 3 and 'Zur intuitionistischen Arithmetik und Zahlentheorie' ('On intuitionist arithmetic and number theory') in Heft 4.

<http://sophiararebooks.com/3707>



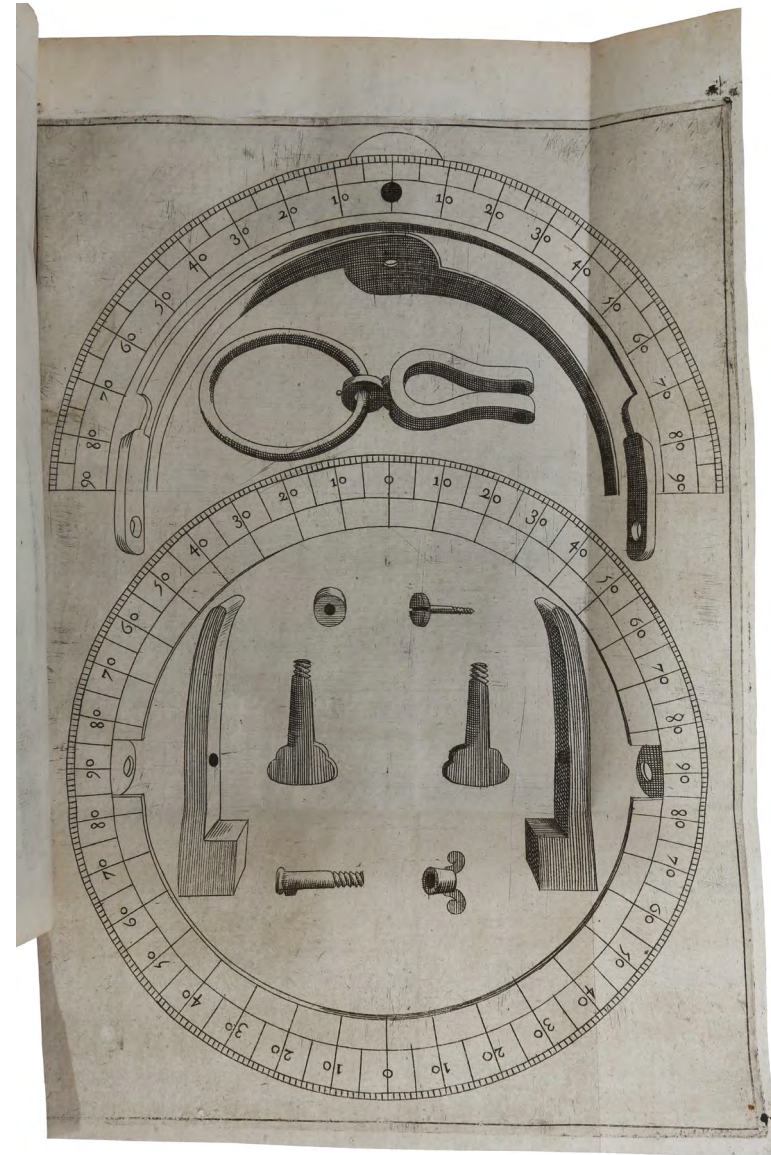
Copernicus refuted

GRANDAMI, Jacques. *Nova demonstratio immobilitatis terrae petita ex virtut magnetica.* La Flèche: George Griveau, 1645.

\$30,000

Presentation copy of the first edition of this rare and richly illustrated Jesuit anti-Copernican tract by Jacques Grandami (1588-1672), rector of the Jesuit college of La Flèche, which was attended by both Descartes and Mersenne. In this work Grandami employs the 'magnetic philosophy' initiated by William Gilbert to refute the heliocentrist position. He also claims to have solved the problem of determining longitude at sea.

<http://sophiararebooks.com/4171>



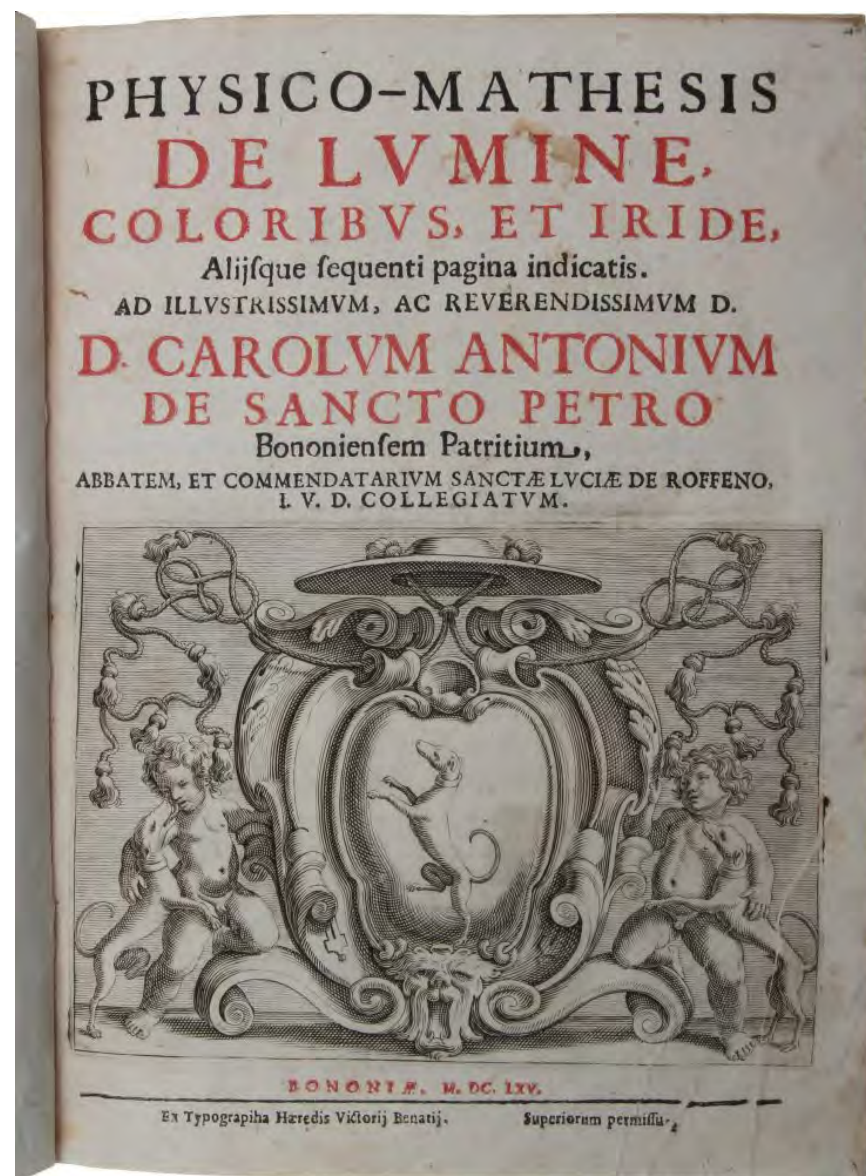
The wave theory of light

GRIMALDI, Francesco Maria. *Physico-mathesis de lumine, coloribus, et iride, aliisque adnexis libri duo...* Bologna: Girolamo Bernia, 1665.

\$65,000

First edition of his 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).

<http://sophiararebooks.com/3397>



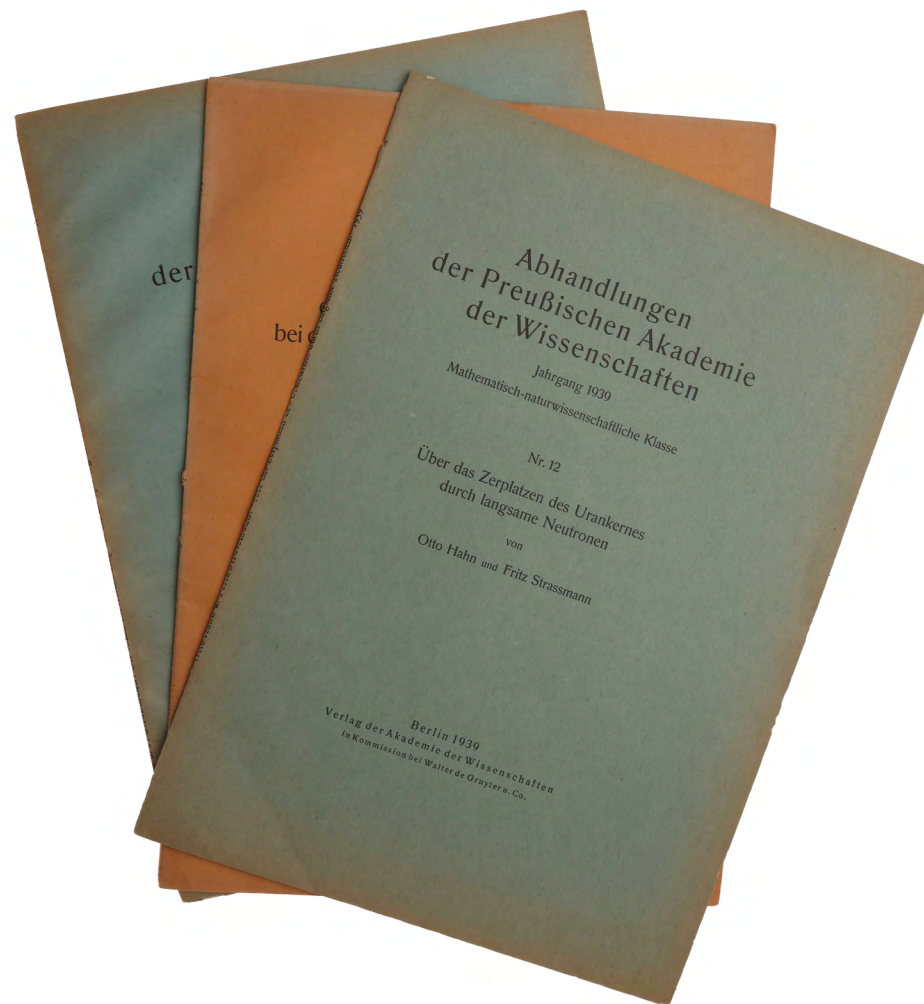
Nuclear fission

HAHN, Otto and Fritz STRASSMANN. *Über das Zerplatzen des Urankernes...; Einiges Über die Experimentelle Entwirrung...; Die Chemische Abscheidung der bei der Spaltung...* Berlin: de Gruyter. 1939 [1942, 1944].

\$5,000

First edition, offprint issues, of the three fundamental papers on nuclear fission which eventually lead to the creation of the atom bomb. "Hahn and Strassmann published this article that started scientists down the path to the atomic bomb. Originally working with Lise Meitner who was forced to flee Nazi Germany in 1938, they had been working with uranium and bombarding samples with slow neutrons. They realized that this caused the uranium atoms to split into lighter nuclei and releasing large amounts of energy, and the implications were not lost to a world at war" (Dibner). Hahn received the 1944 Nobel Prize in Chemistry "for his discovery of the fission of heavy nuclei."

<http://sophiararebooks.com/4152>



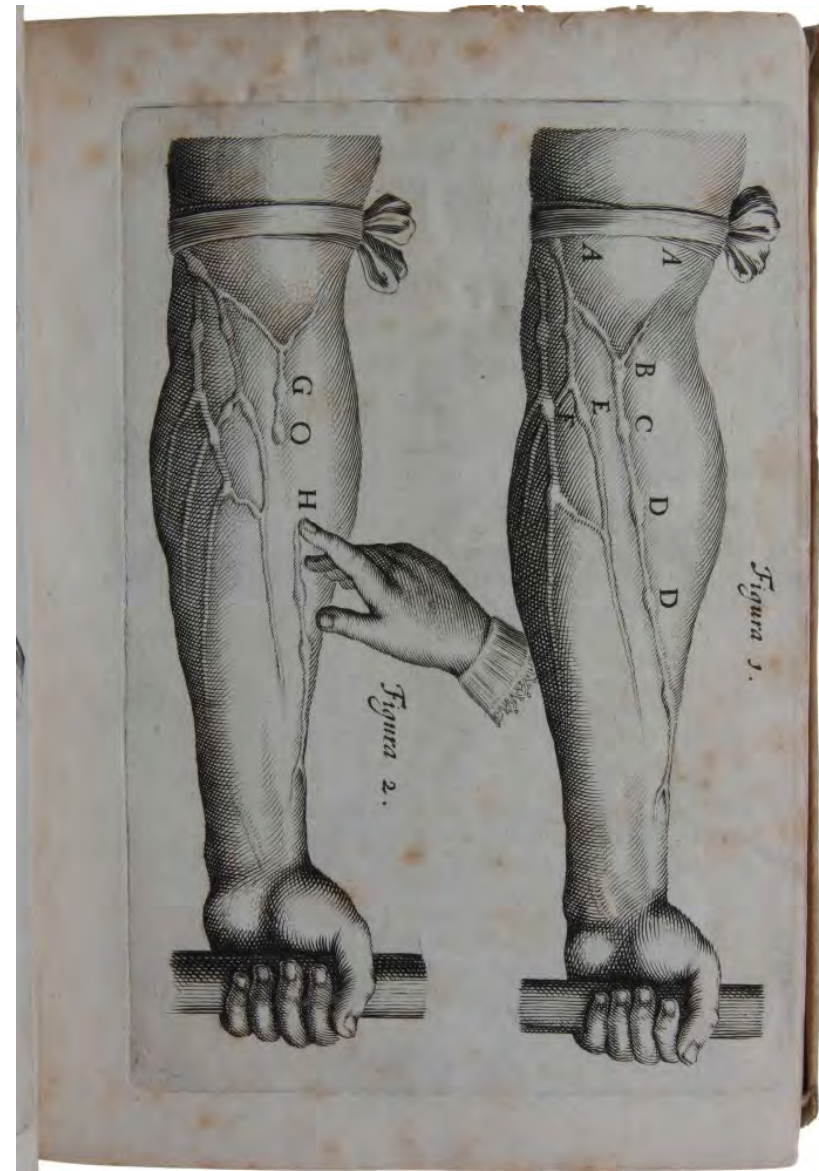
The most important medical book ever published

HARVEY, William. *De motu cordis & sanguinis in animalibus.*
Leyden: Maire, 1639.

\$50,000

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. 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), was fragmentary, lacking the plates, parts of the introduction and chapters I and XVI.

<http://sophiararebooks.com/3607>



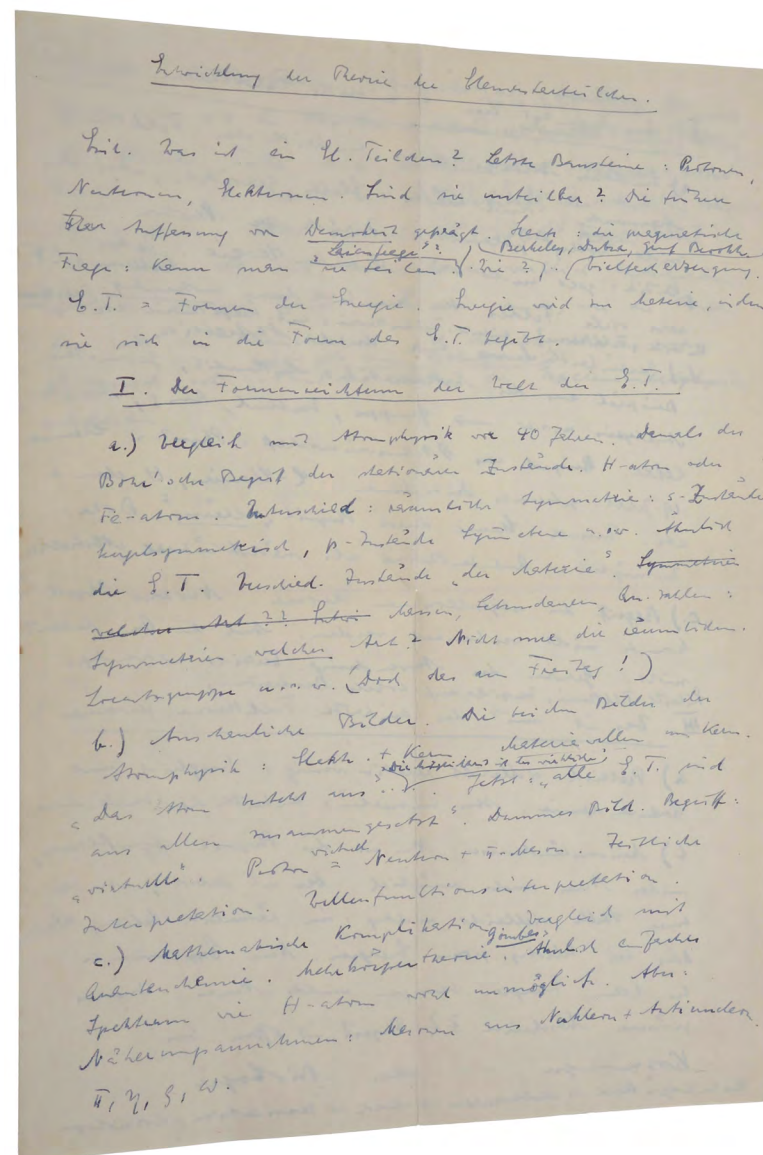
By the creator of quantum mechanics

HEISENBERG, Werner. Autograph Manuscript entitled 'Entwicklung der Theorie der Elementarteilche,' a working manuscript with autograph deletions and insertions. [Badenweiler: 1964].

\$38,000

A remarkable, wide-ranging and apparently unpublished manuscript by the great physicist, creator of quantum mechanics and formulator of the uncertainty principle, providing a broad conspectus of the development of the theory of elementary particles. Heisenberg references Plato, Newton, Bohr and Einstein, and concludes by propounding a 'Platonic' vision of particles as 'mathematical forms.' Of particular interest are his references to Einstein's attempts at a unified field theory and his closing philosophical observations and prognostications for the future of his field. The lecture was delivered on March 5, 1964 on the occasion of the presentation to Heisenberg of an honorary doctorate by the Eötvös Loránd University, Budapest.

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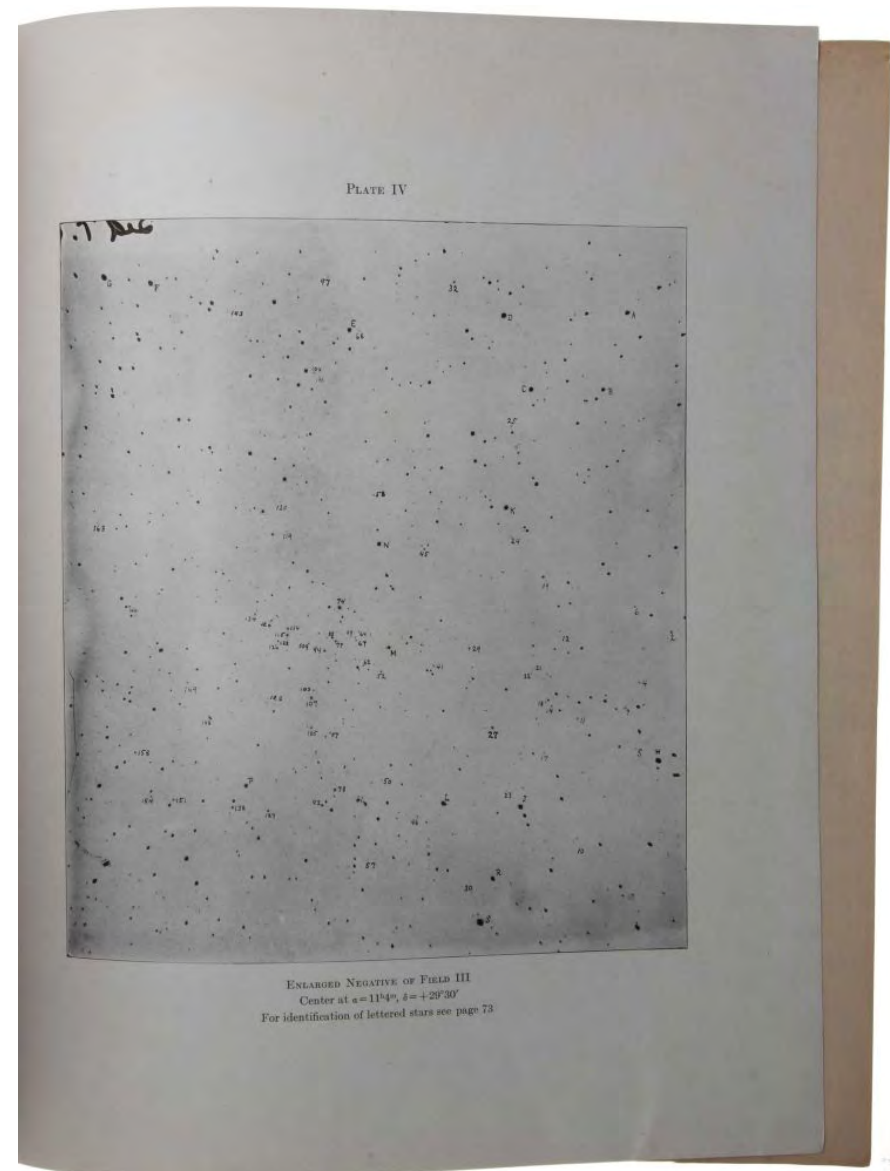
Star systems outside the Milky Way

HUBBLE, Edwin. *Photographic investigations of the faint nebulae.* Chicago: University Press, 1920.

\$4,850

First edition of the doctoral thesis of the foremost observational astronomer of the 20th century, which foreshadows much of Hubble's later work. In particular, it contains the first suggestion that some of the 'nebulae,' or galaxies, lie outside the Milky Way, and thus that the observable universe is much larger than our own galaxy: "Considering the problematic nature of the data, the agreement is such as to lend some color to the hypothesis that the spirals [i.e., spiral galaxies] are stellar systems at distances to be measured often in millions of light years" (p. 9). He confirmed this, one of the most important discoveries in astronomy, in 1926 when he had access to the 100-inch telescope at Mount Wilson. In his thesis, Hubble also identified for the first time the class of 'elliptical galaxies.'

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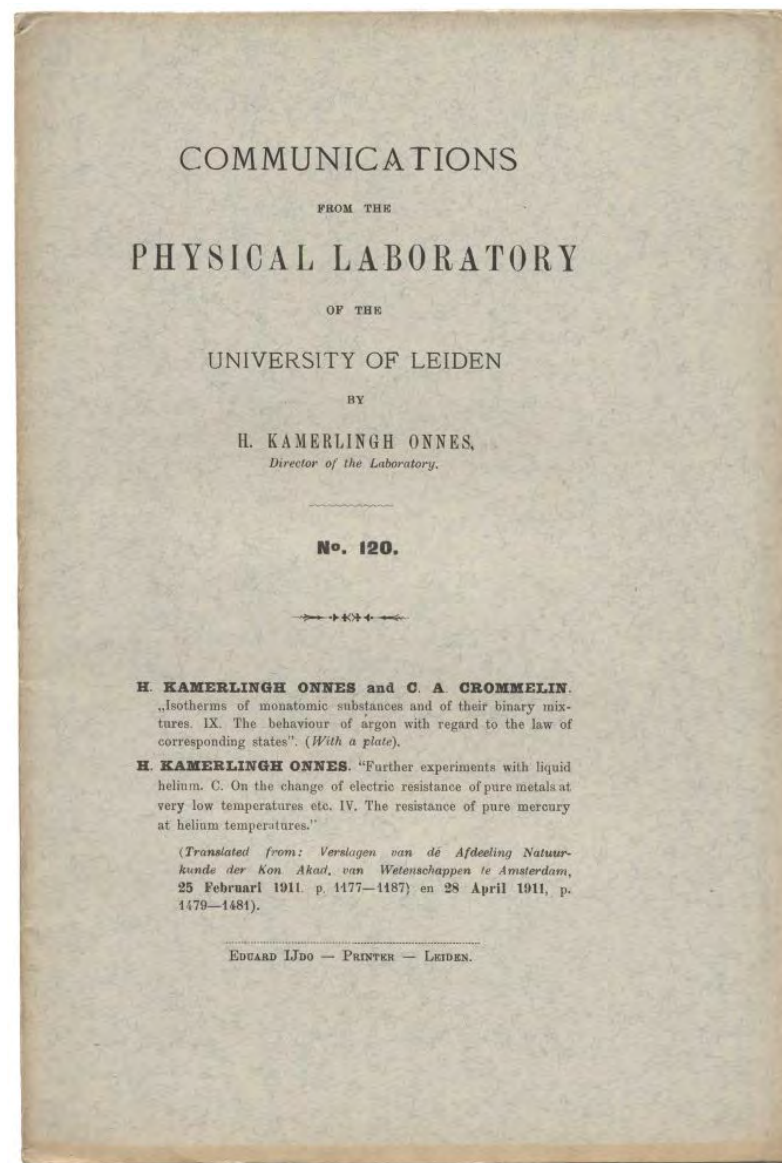
The discovery of superconductivity

KAMMERLIGH ONNES, Heike. *Further experiments with liquid helium.* Leiden: Eduard Ijdo, 1911.

\$4,500

First printing of the first announcement of the discovery of superconductivity, the disappearance of electrical resistance in certain materials at very low temperatures. "Of all the discoveries in condensed matter physics during the 20th century, some might call superconductivity the "crown jewel". Others might say that honour more properly belongs to semiconductors or the elucidation of the structure of DNA, given the benefits that both have brought to humanity. Yet no-one would deny that when a team led by Heike Kammerlingh Onnes stumbled across superconductivity... the scientific community was caught by complete surprise" (Grant). In the course of the same experiment, Kammerlingh Onnes and his team also made the first observation of superfluidity.

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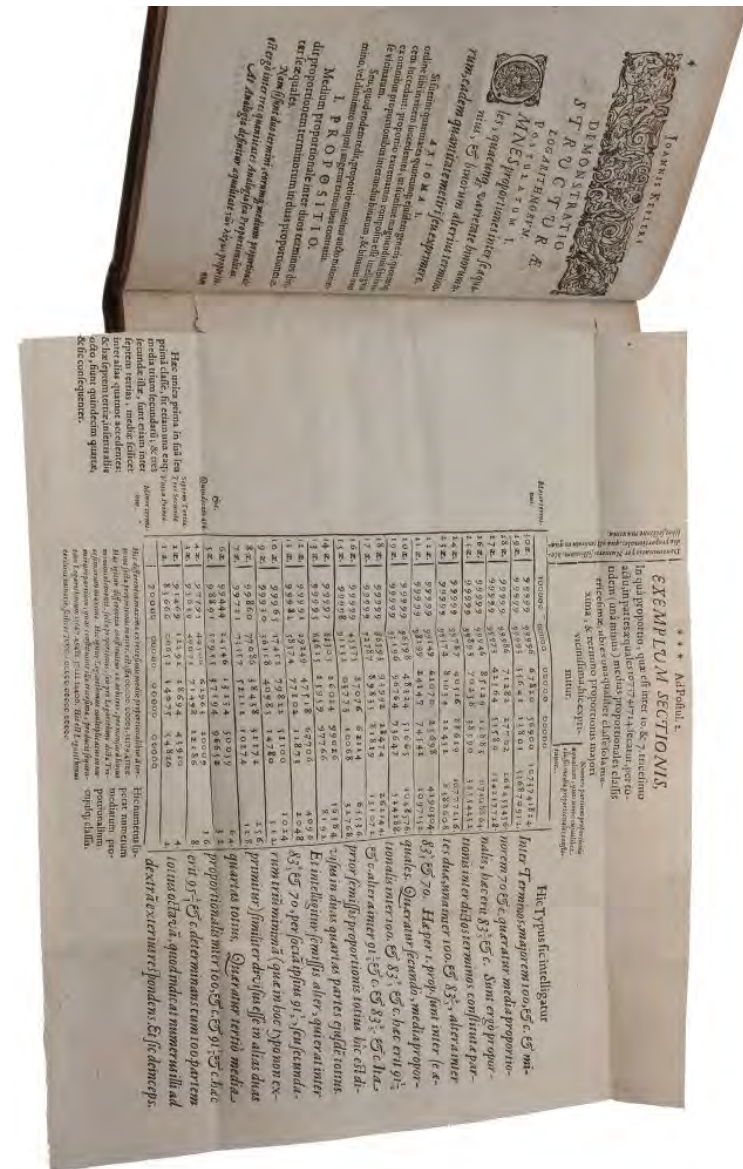
The basis for his Rudolphine Tables

KEPLER, Johannes. *Chilias logarithmorum ad totidem numeros rotundos...* Marburg: Caspar Chemlin, 1624-1625.

\$65,000

First edition of Kepler's logarithmic tables, constructed by means of his own original method. 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. It was through the use of these tables that Kepler 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). Only one other copy of this work has appeared at auction in the past fifty years.

<http://sophiararebooks.com/3609>



The great art of light

KIRCHER, Athanasius. *Ars magna lucis et umbrae in decem libros digesta.* Rome: Ludovici Grignani, 1646.

\$18,500

First edition of Kircher's principal contribution to optics, treating light, shadow, colour, refraction, projection, distortion and luminescence. The work also includes some of the earliest observations with a microscope, preceding those of Hooke and van Leeuwenhoek by two decades. "The first published account of the illumination and projection of images appeared in the first edition of Athanasius Kircher's *Ars magna lucis et umbrae* (1646)" (Bud & Warner).

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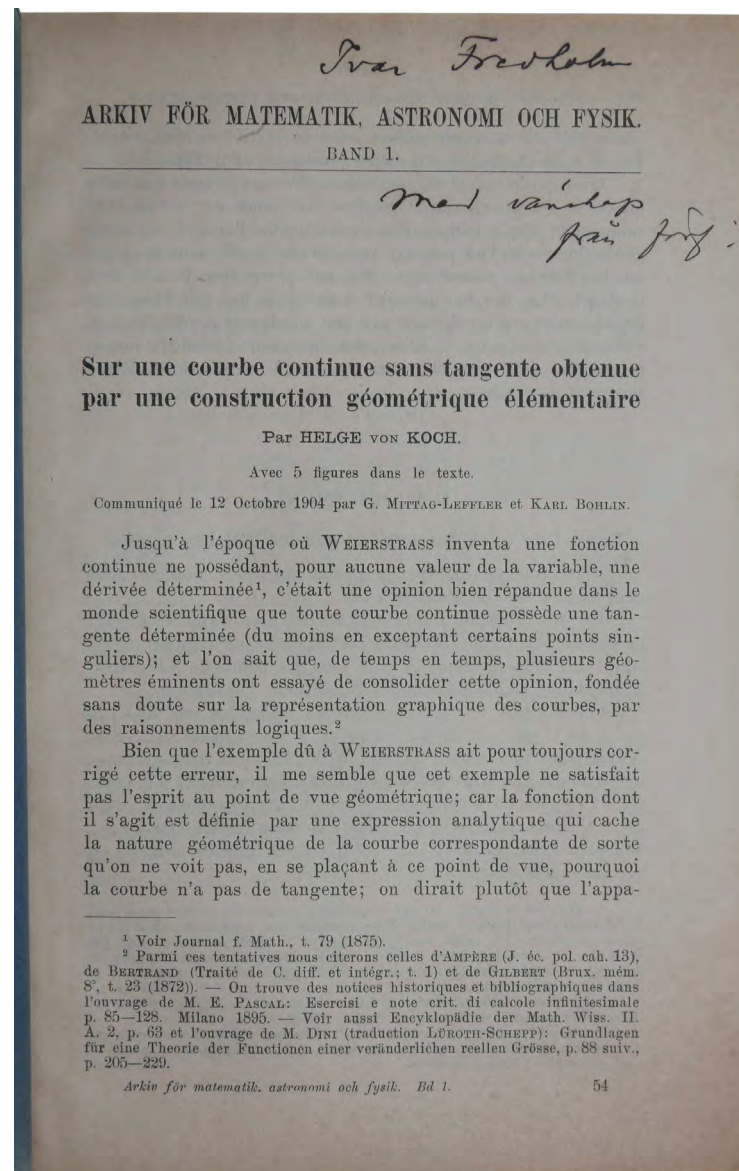
The discovery of fractals

KOCH, Helge von. *Sur une courbe continue sans tangente, obtenue par une construction géométrique élémentaire.* Stockholm: Norstedt, 1904.

\$3,850

First edition, rare offprint issue, inscribed by the author to Fredholm, of von Koch's paper, which contains the first examples of geometric fractals, the famous 'Koch curve' and 'Koch snowflake'. The term 'fractal' was coined much later, by Benoit Mandelbrot in his 1975 book *Les objets fractals, forme, hasard et dimension*. A fractal is an object that displays 'self-similarity' on all scales; it need not exhibit exactly the same structure at all scales, but the same 'type' of structures must appear on all scales. A fractal should also have a 'dimension' that is not a whole number, unlike a line (dimension 1) or a plane (dimension 2). Today fractals have found a bewildering variety of applications in both the arts and sciences.

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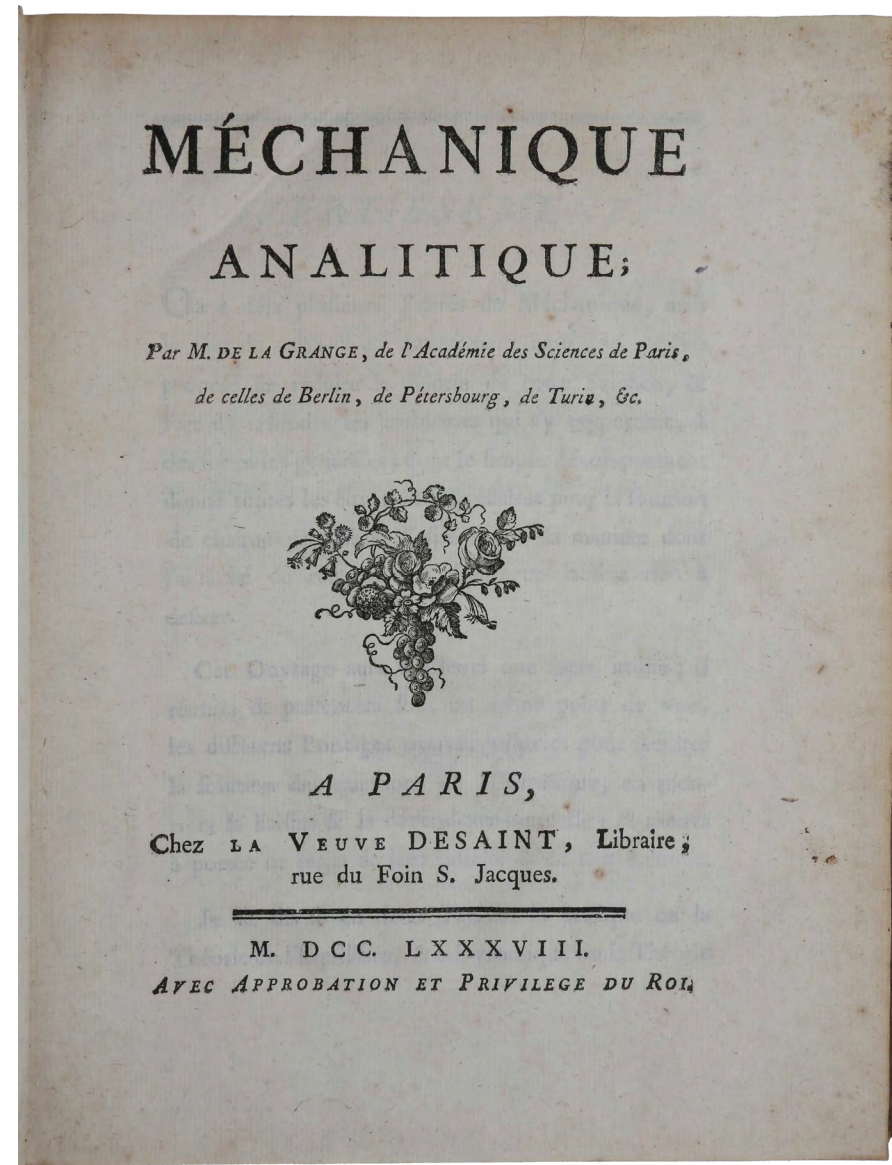
Second only to Newton's 'Principia'

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

\$14,500

First edition 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 Analitique* (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 61; Evans 10; Dibner 112; Sparrow 120; Norman 1257.

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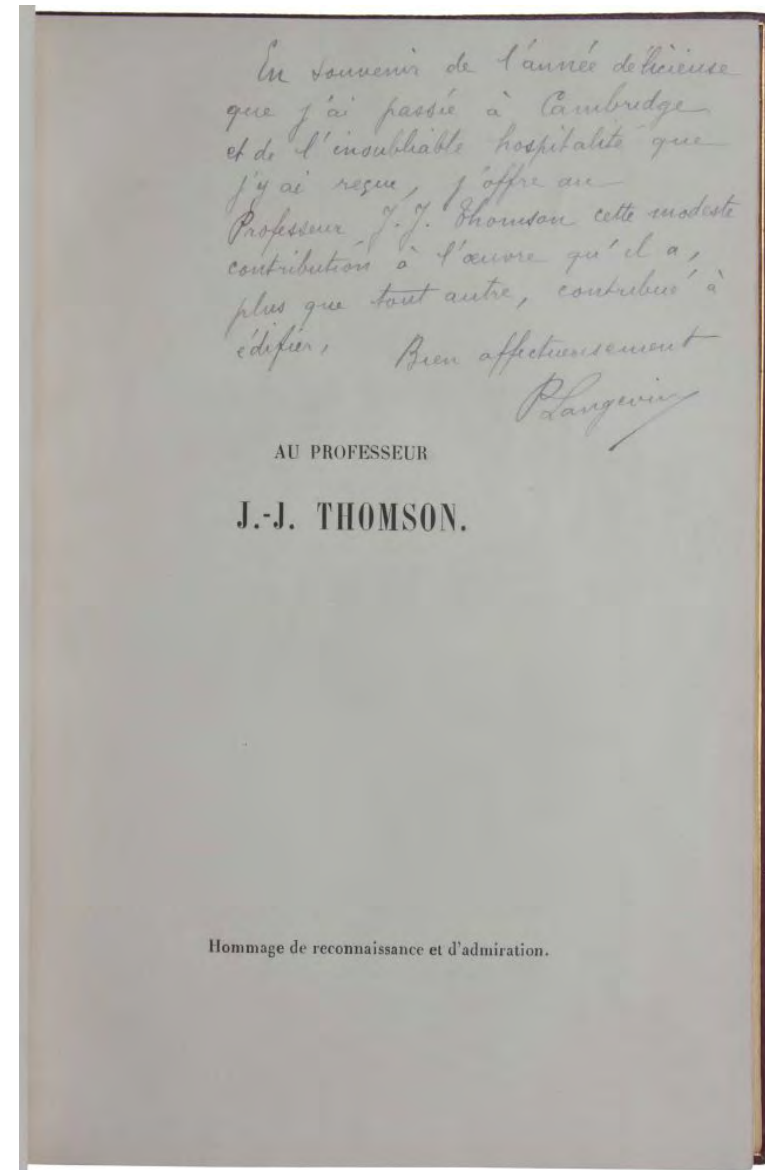
Inscribed to J.J. Thomson

LANGEVIN, Paul. *Recherches sur les gaz ionisés.* Paris: Gauthier-Villars, 1902.

\$7,500

First edition, the dedication copy, warmly inscribed to Nobel laureate J. J. Thomson, of Langevin's doctoral thesis. Langevin spent the year 1897-8 working with Thomson at the Cavendish Laboratory in Cambridge, during a period of high excitement when Thomson had just identified the electron and studies of the newly discovered X-rays and radioactivity were being carried out in his laboratory. The study of ionization in gases was then at the heart of physics, having led to the discovery of the electron and the elucidation of properties of X-rays, the state of the art being summarized in Thomson's classic book *Conduction of electricity through gases* (1903). Under Thomson's direction, Langevin worked on ionization by X-rays, in the process discovering, independently of Sagnac, that X-rays liberate secondary electrons from metals. Based on work carried out with Thomson, Langevin's thesis was completed on his return to Paris under the supervision of Pierre Curie.

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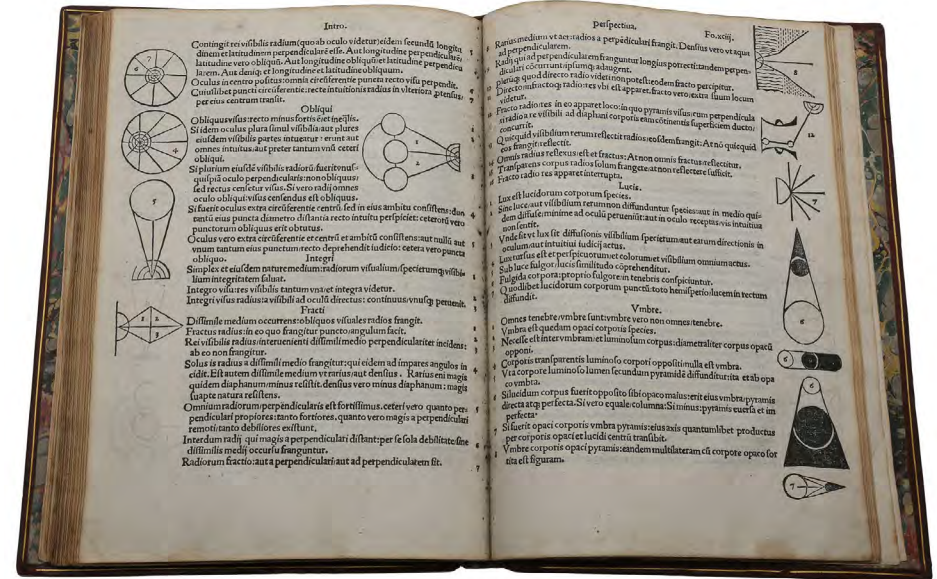
Bound by Roger Payne

LEFÈVRE D'ÉTAPLES, Jacques, BO[U]VELLES, Charles de,
& CLICHTOVE, Josse. *Epitome compendiosa[ue] introductio
in libros arithmeticos divi Severini Boetii...* Paris: Hopyl, 1503.

\$20,000

First edition of this very rare collection of works, in an attractive Roger Payne binding. The individual works are all first editions with the exception of Lefèvre's *Epitome* of Boethius' *De arithmetica* (first, 1496) and an unattributed *Opusculum de p[r]axi numerorum quod Algorismum vovant*. This latter text was the first to introduce Hindu-Arabic numerals into the European university curriculum, thereby greatly simplifying the procedures of practical calculation. The geometrical part of the volume comprises several works of Bovelles (ca. 1479-1567), which deal with the classical problems of the quadrature of the circle and duplication of the cube, and contain a highly original study of stellated polygons. Bovelles also gives here the first published account of the cycloid, a curve that was to be of great significance in the seventeenth century development of mathematics leading up to the invention of calculus and for Huygens' isochronous pendulum clock.

<http://sophiararebooks.com/3866>



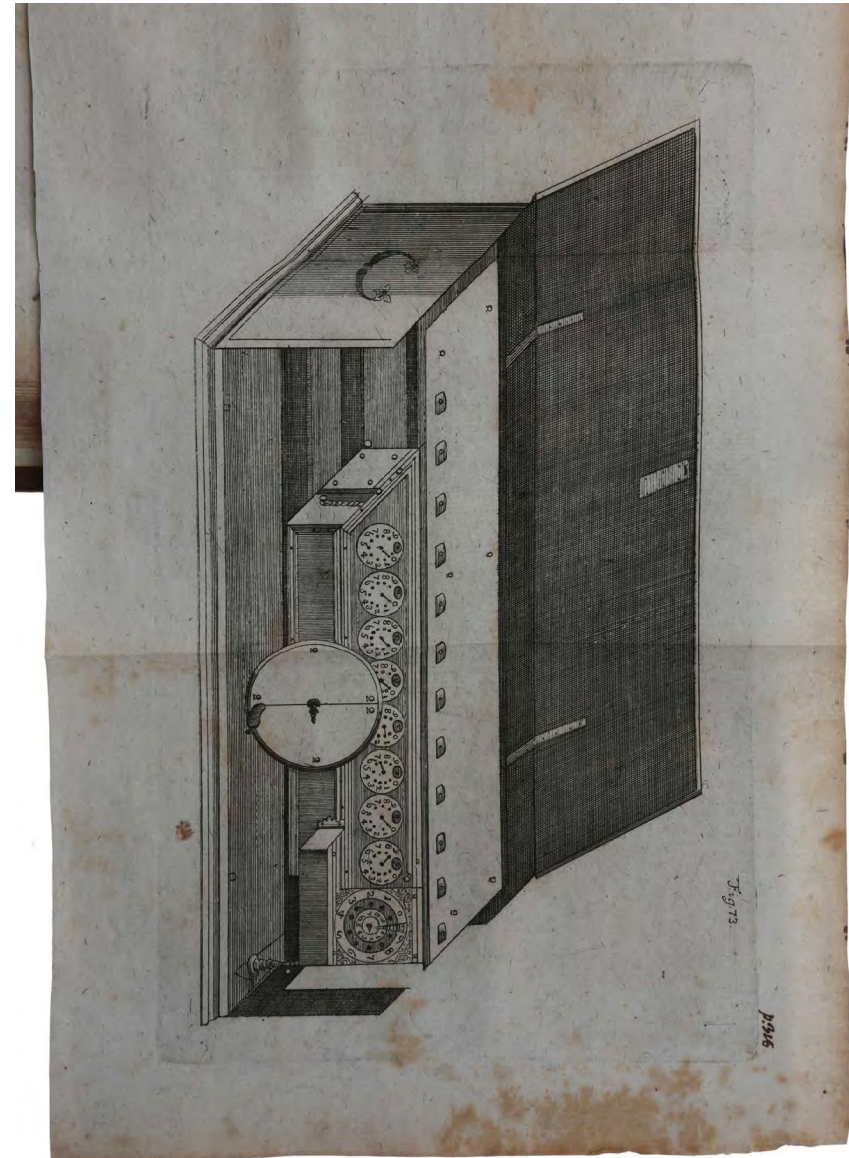
A milestone in computer history

LEIBNIZ, Gottfried Wilhelm. *Brevis descriptio machinae arithmeticae, cum figura.* Berlin: Johann Christian Papen, 1710.

\$40,000

First edition, rare, of Leibniz's description of his famous calculating machine, the first stepped-drum calculator, and the first machine that could perform multiplication and division. "Leibniz studied Morland's and Pascal's various designs and set himself the task of constructing a more perfect and efficient machine. To begin with, he improved Pascal's device by adding a stepped-cylinder to represent the digits 1 through 9 ... In 1694, Leibniz built his calculating machine, which was far superior to Pascal's and was the first general purpose calculating device able to meet the major needs of mathematicians and bookkeepers" (Rosenberg).

<http://sophiararebooks.com/3941>



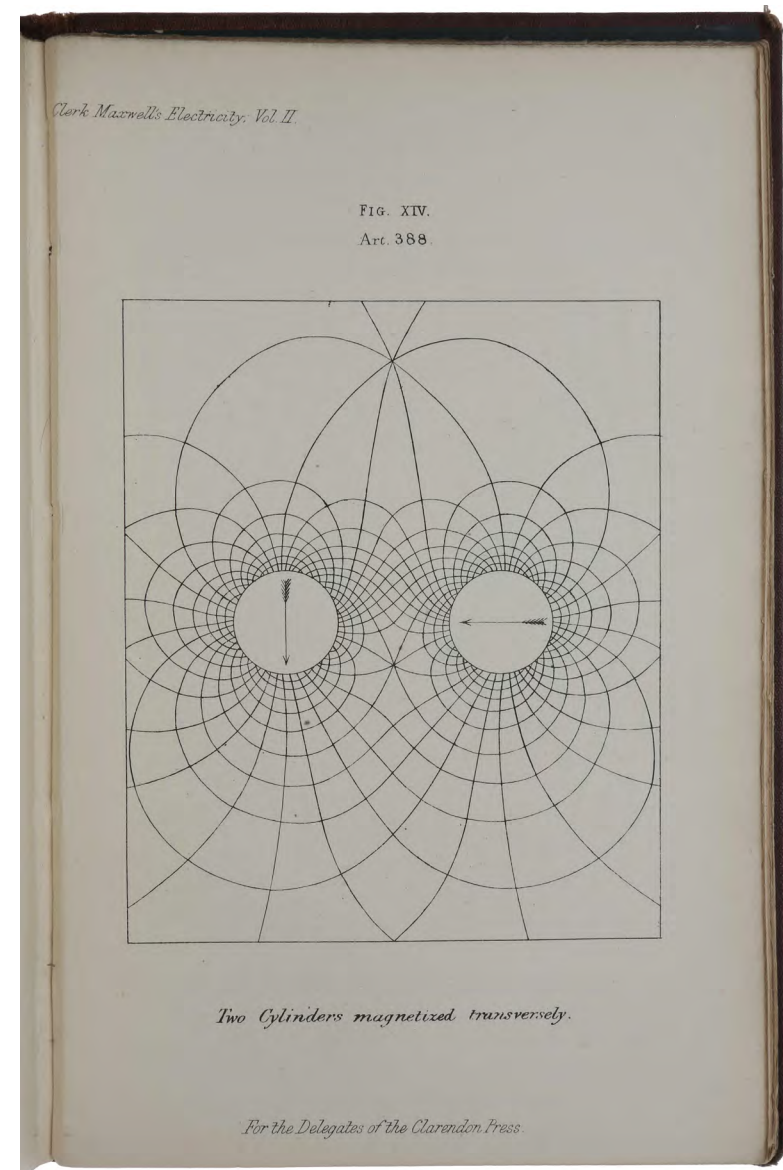
PMM 355 - Light as a form of electricity

MAXWELL, James Clerk. *A Treatise on Electricity and Magnetism*. Oxford: Clarendon Press, 1873.

\$20,000

First edition, first issue, and a wonderful association copy, of Maxwell's presentation of his theory of electromagnetism, advancing ideas that would become essential for modern physics, including the landmark "hypothesis that light and electricity are the same in their ultimate nature" (Grolier/Horblit 72). *Landmark Writings in Western Mathematics* 44. Norman 1666.

<http://sophiararebooks.com/4308>



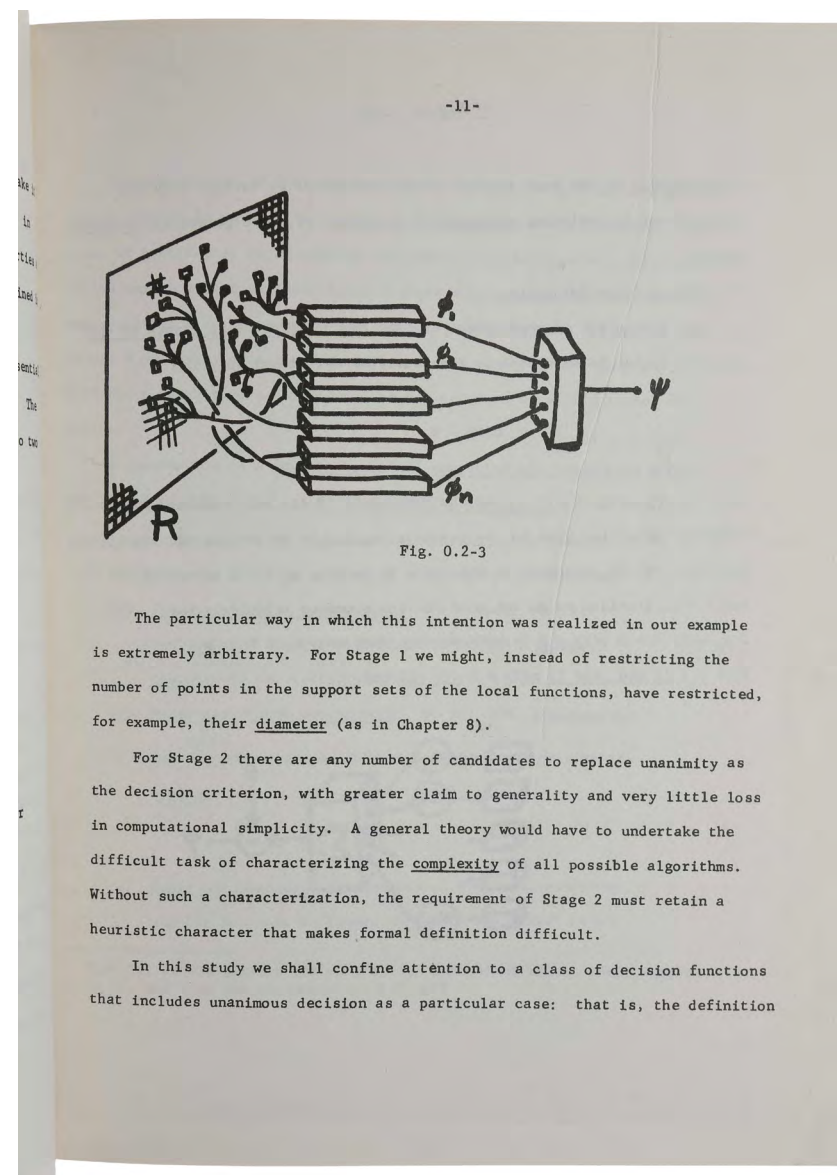
Artificial Intelligence

MINSKY, Marvin & PAPERT, Seymour. *Perceptrons and Pattern Recognition*. Artificial Intelligence Memo no. 140. MAC-M-358. Project MAC. Cambridge, MA: September 1967.

\$17,500

First edition, extremely rare pre-publication issue, of this important early work in Artificial Intelligence (AI), containing the first systematic study of parallelism in computation. It was first published in book form in 1969 as *Perceptrons. An Introduction to Computational Geometry*. It has remained a classical work on threshold automata networks for nearly two decades. It marked a historical turn in artificial intelligence, and it is required reading for anyone who wants to understand the connectionist counterrevolution that is going on today. Artificial-intelligence research, which for a time concentrated on the programming of Von Neumann computers, is swinging back to the idea that intelligence might emerge from the activity of networks of neuron-like entities. OCLC lists only two copies (Stanford and National Research Council Canada). There appears to be no copy at MIT, where the research was carried out and where this work was published. No copies in auction records.

<http://sophiararebooks.com/4332>



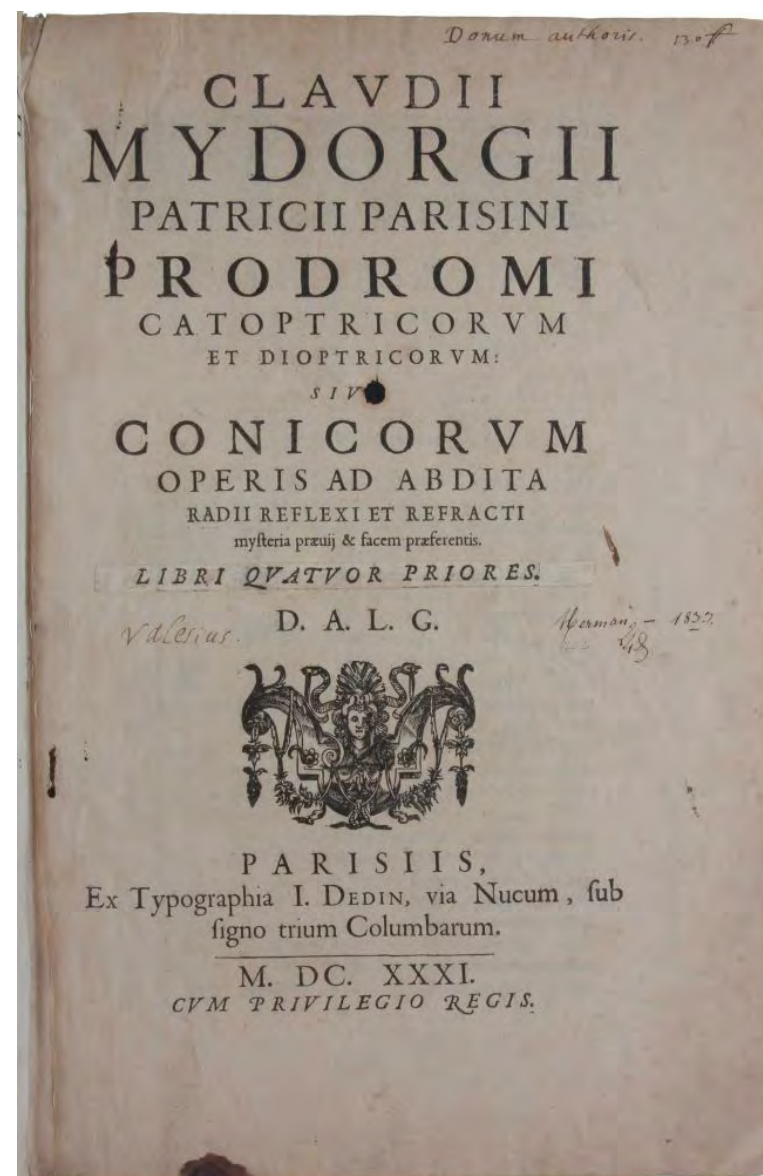
Author's presentation copy

MYDORGE, Claude. *Prodromi catoptricornum et dioptricornum, sive conicorum operis ad abdita radii reflexi et refracti mysteria praevis & facem praeferentis.* 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 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. The only other copy of the 1631 edition to have appeared at auction was Michel Chasles' copy, last sold in 1972.

<http://sophiararebooks.com/3576>



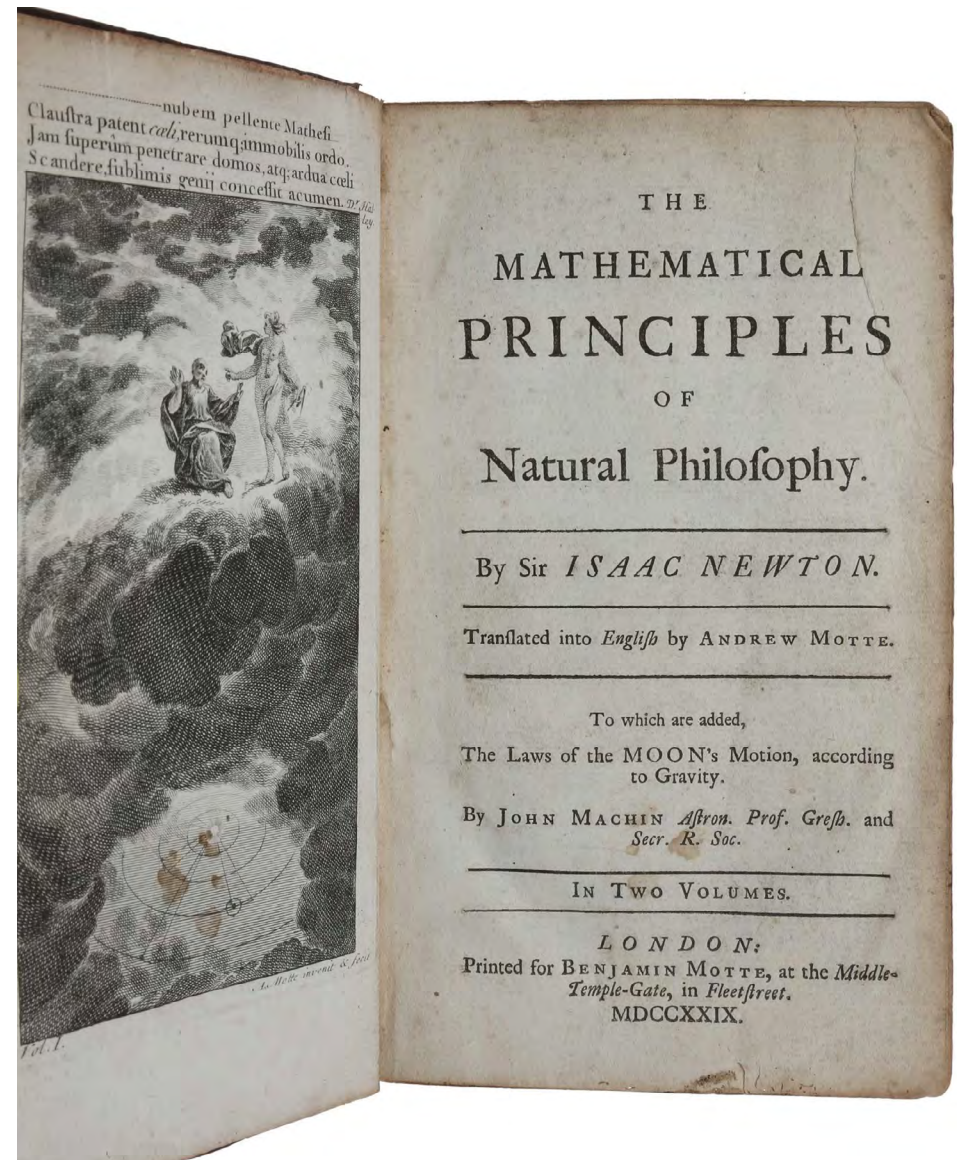
First English edition of the 'Principia'

NEWTON, Isaac. The Mathematical Principles of Natural Philosophy... Translated... by Andrew Motte. To which are added, the lawes of the moon's motion, according to gravity. By John Machin... London: Benjamin Motte, 1729.

\$85,000

First edition in English of the *Principia*, "generally described as the greatest work in the history of science. Copernicus, Galileo and Kepler had certainly shown the way; but where they described the phenomena they observed, Newton explained the underlying universal laws. The *Principia* provided the greatest synthesis of the cosmos, proving finally its physical unity. Babson 20; Norman 1587; Wallis 23. See PMM 161 for the first edition (1687).

<http://sophiararebooks.com/3907>



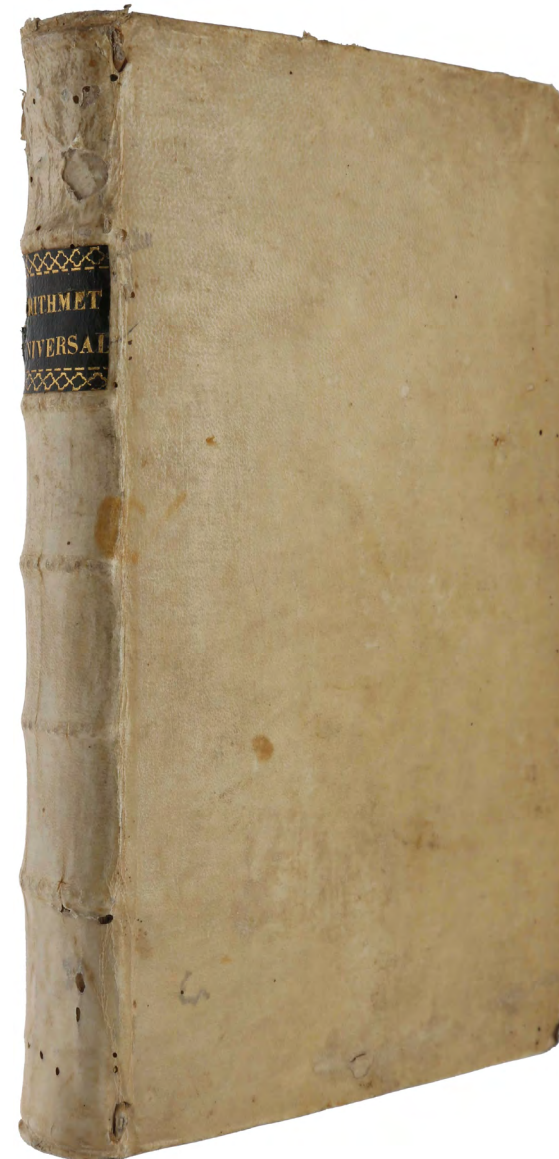
*‘His most often read and republished
mathematical work’ (Whiteside)*

NEWTON, Isaac. *Arithmetica Universalis*. Cambridge / London: Typis Academicus / Benjamin Tooke, 1707.

\$22,000

First edition of Newton’s treatise on algebra, or ‘universal arithmetic.’ “Included are ‘Newton’s identities’ providing expressions for the sums of the i^{th} powers of the roots of any polynomial equation, for any integer i , plus a rule providing an upper bound for the positive roots of a polynomial, and a generalization, to imaginary roots, of René Descartes’ Rule of Signs” (Parkinson). About this last rule for determining the number of imaginary roots of a polynomial (which Newton offered without proof), Gjertsen notes: “Some idea of its originality ... can be gathered from the fact that it was not until 1865 that the rule was derived in a rigorous manner by James Sylvester.” The final chapter, on the extraction of roots, is by Edmund Halley.

<http://sophiararebooks.com/4064>



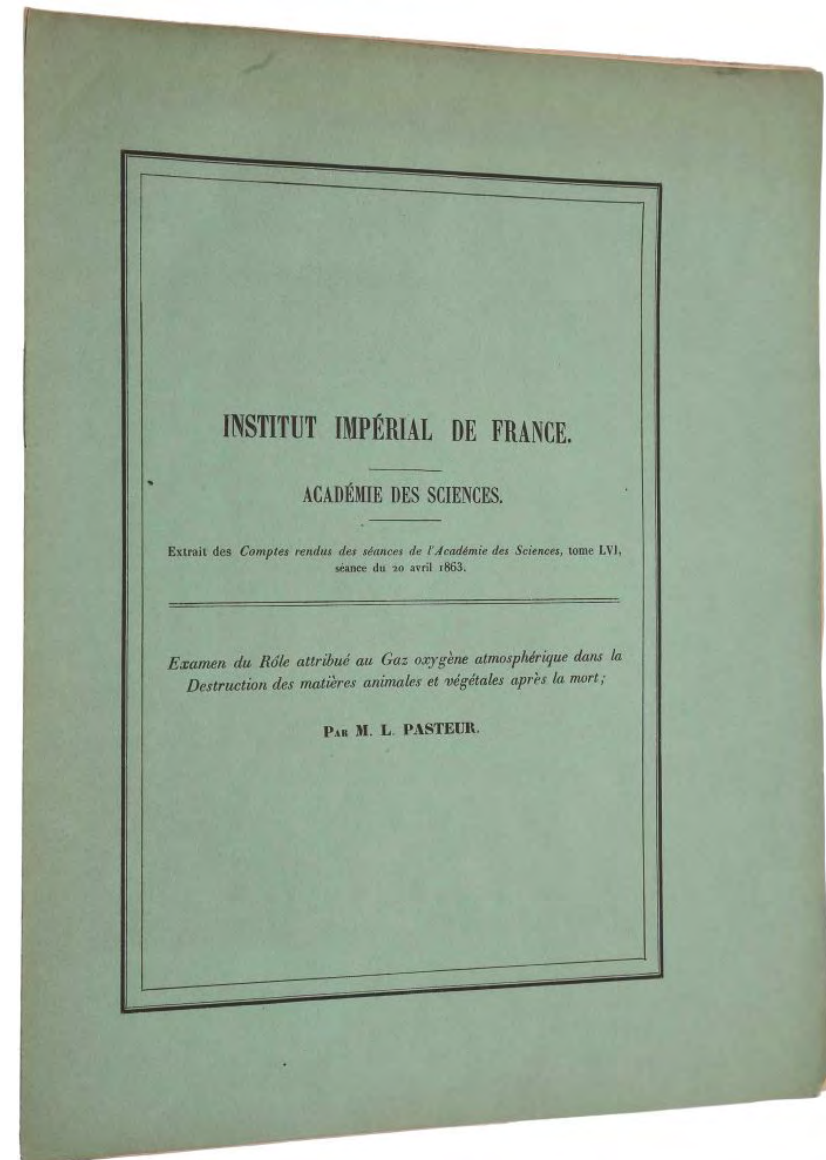
Spontaneous generation refuted

PASTEUR, Louis. *Examen du rôle attribué au gaz oxygène atmosphérique dans la destruction des matières et végétales après la mort.* Paris: Bachelier, 1863.

\$5,850

First edition, offprint issue, of the *ne plus ultra* of Pasteur's work on spontaneous generation, and his proof that putrefaction was, like fermentation, caused by living organisms; this paper directly influenced Joseph Lister's research on antisepsis. Pasteur himself regarded the experiments described in this work as the most decisive (Rostand), writing at the end of the paper that they struck the final blow against the doctrine of spontaneous generation.

<http://sophiararebooks.com/3671>



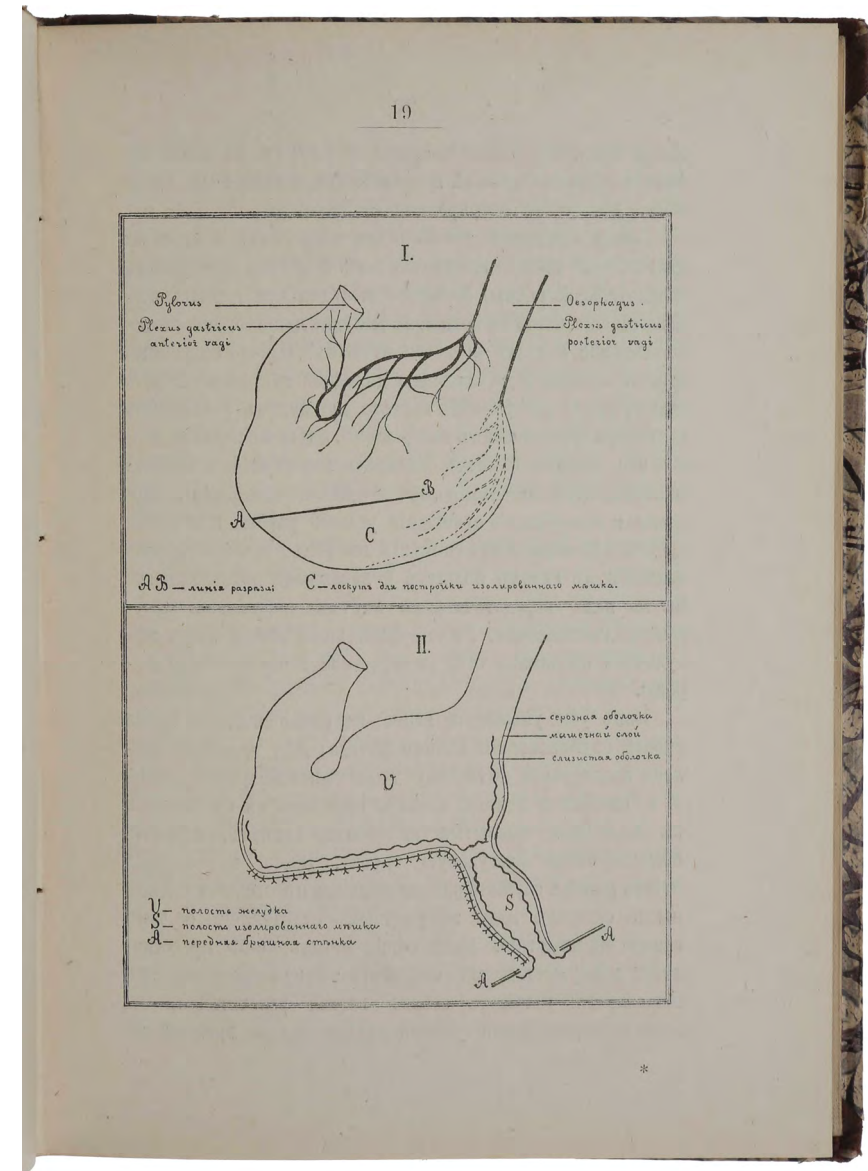
PMM 385 - Conditioned reflexes

PAVLOV, Ivan Petrovitch. *Lektsii o rabotie glavnikh pishtshevaritelnykh zhelyos.* St. Petersburg: Kushnereff, 1897.

\$20,000

A fine copy, in contemporary Russian binding, of this famous work on digestive juices by the demonstrator of the 'conditioned reflex'. "Using live dogs in his experiments, Pavlov determined the effect of stimuli on the generation of body secretions, digestive juices and saliva thru brilliant operative techniques. Completely mechanistic, he concluded that even such concepts as 'freedom', 'curiosity' and 'religion' were conditioned reflexes of the brain. Authoritarian psychologists have exploited these tenets in conditioning masses of population." (Dibner). PMM 385; Grolier/Horblit 83; Dibner 135; Grolier/Medicine 85; Lilly, *Notable Medical Books* 24.

<http://sophiararebooks.com/4196>



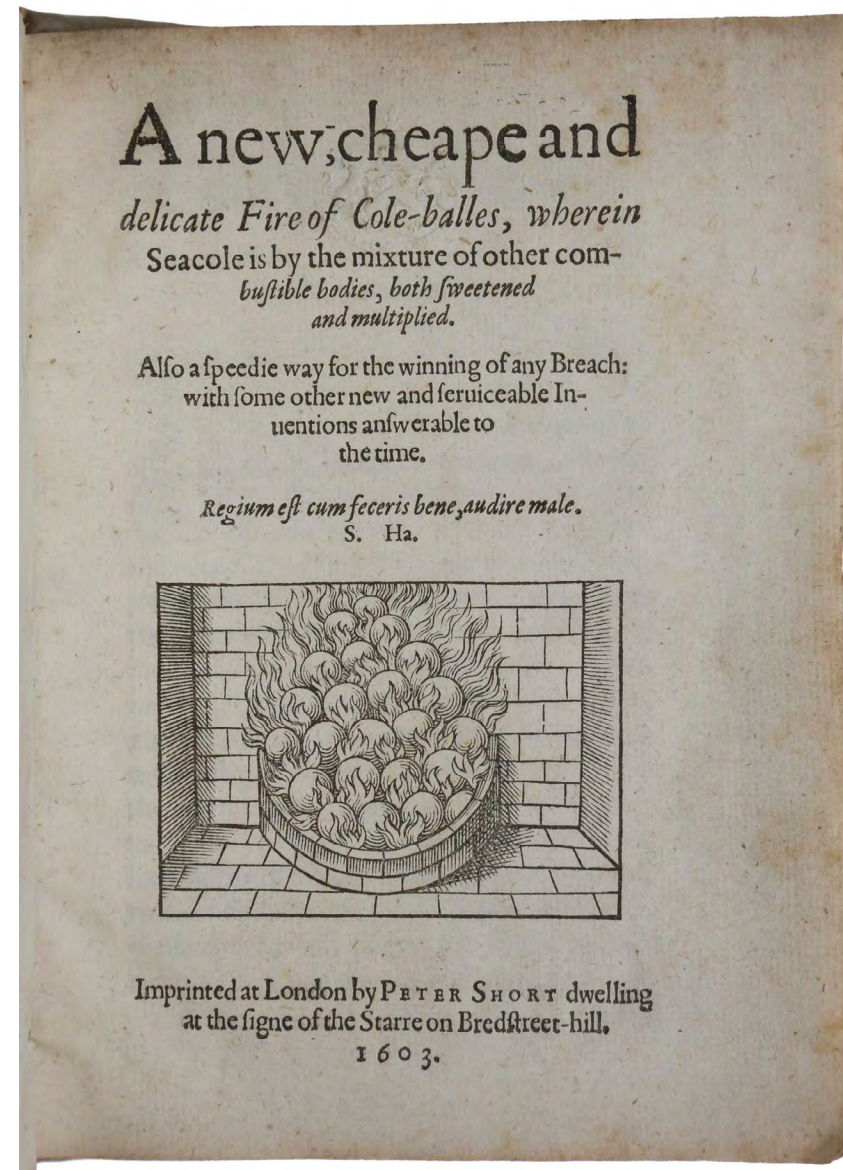
Fuel from coal

PLAT, Sir Hugh. *A new, cheape and delicate Fire of Cole-balles, wherein Seacole is by the mixture of other combustibile bodies, both sweetened and multiplied.* London: Peter Short, 1603.

\$12,500

First edition, the superb Macclesfield copy bound in contemporary vellum gilt, of this important work by “Elizabethan London’s most curious student of nature” (Harkness), which first introduced the process of making coke from coal, a technological innovation that proved crucial in the industrial revolution. “The technique of making coke from coal [was] suggested in 1603 by Hugh Plat as a process similar to making charcoal from wood” (Osborne). “Coke’s superior crushing strength allowed blast furnaces to become taller and larger. The ensuing availability of inexpensive iron was one of the factors leading to the industrial revolution” (Newgera).

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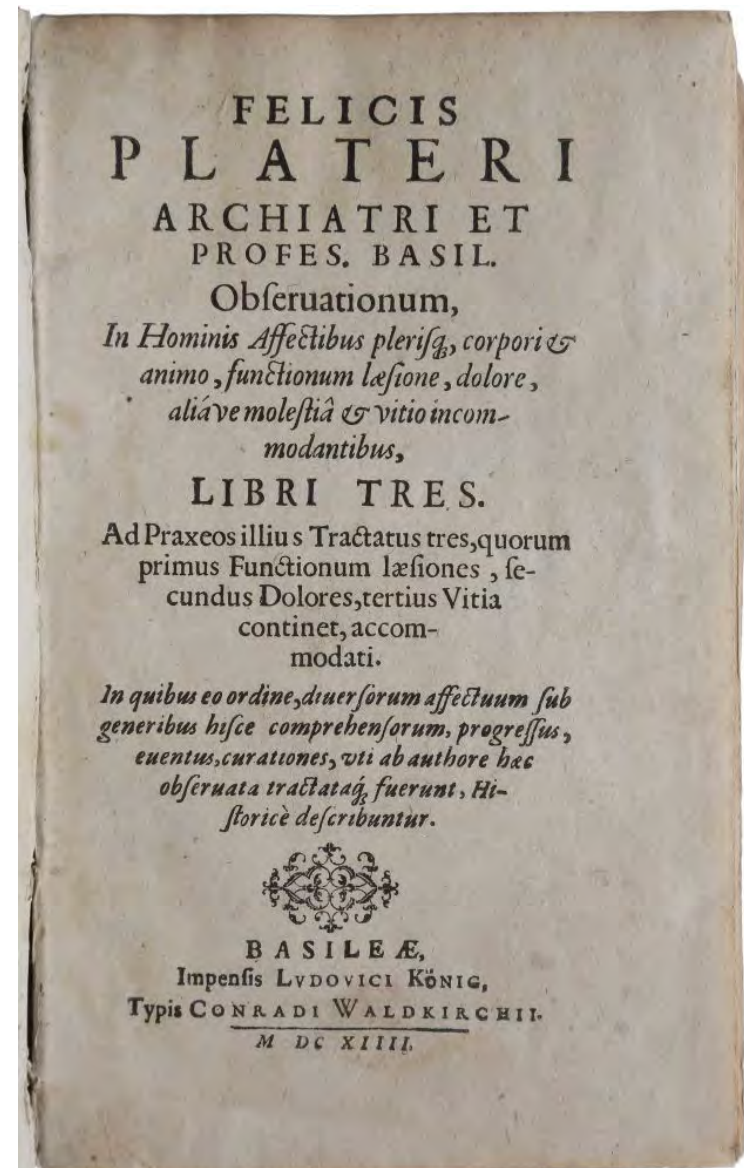
One of the earliest books on orthopaedics

PLATTER, Felix. *Observationum, in hominis affectibus plerisque, corpori & animo, functionum laesione, dolore, aliave molestia & vitio incommodantibus, libri tres.* Basel: Waldkirch, 1614.

\$2,800

First edition of this important medical work by one of the foremost pathologists of the sixteenth and early seventeenth centuries. It contains “the first known case report of the death from hypertrophy of the thymus (in an infant) and an account of a meningioma” (Norman). “The work also contains the first mention of the thickening of the palmer fascia which results in retraction of the fingers and later called Dupuytren’s contracture”. (Heirs). Norman 1716; *Heirs of Hippocrates* 373; G&M 3789 (endocrinology), 4297.9 (the earliest book listed on orthopaedics), and 4511.1 (neurology).

<http://sophiararebooks.com/3799>



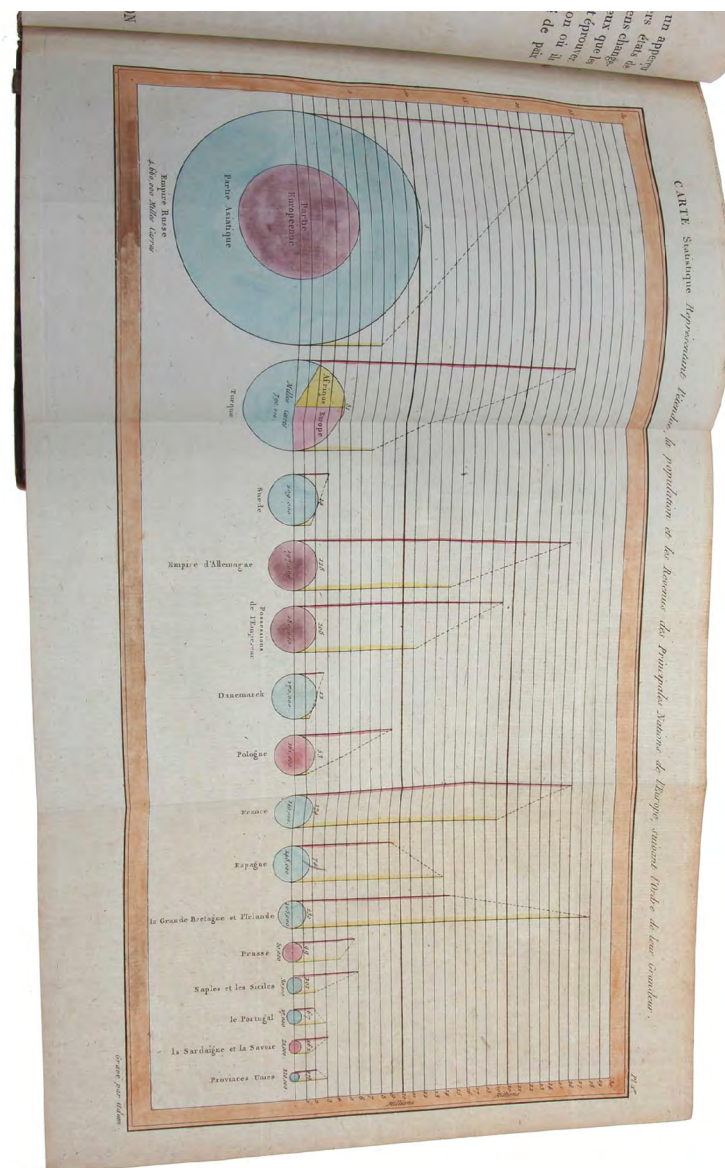
Statistical Account of the United States of America

PLAYFAIR, William. *Elemens de statistique, ou l'on demontre, d'aprees un principe entierement neuf, les ressources de chaque Royaume, Etat et Republique de l'Europe.* Paris: Chez Batilliot jeune et Genets Jeune, 1802.

\$4,350

A fine copy of the important first French edition of *The Statistical Breviary*. Playfair, the founder of graphical methods of statistics, published this work originally in English in 1801. It is considered his most theoretical book about graphics in which he “broke free of analogies to the physical world and drew graphics as designs-in-themselves” (Tufte), and contains what is generally credited as the first pie chart. Donnant did not merely produce a translation but also added several original contributions to this edition, for example *A Statistical Account of the United States of America*, which Playfair translated into English and published in 1805.

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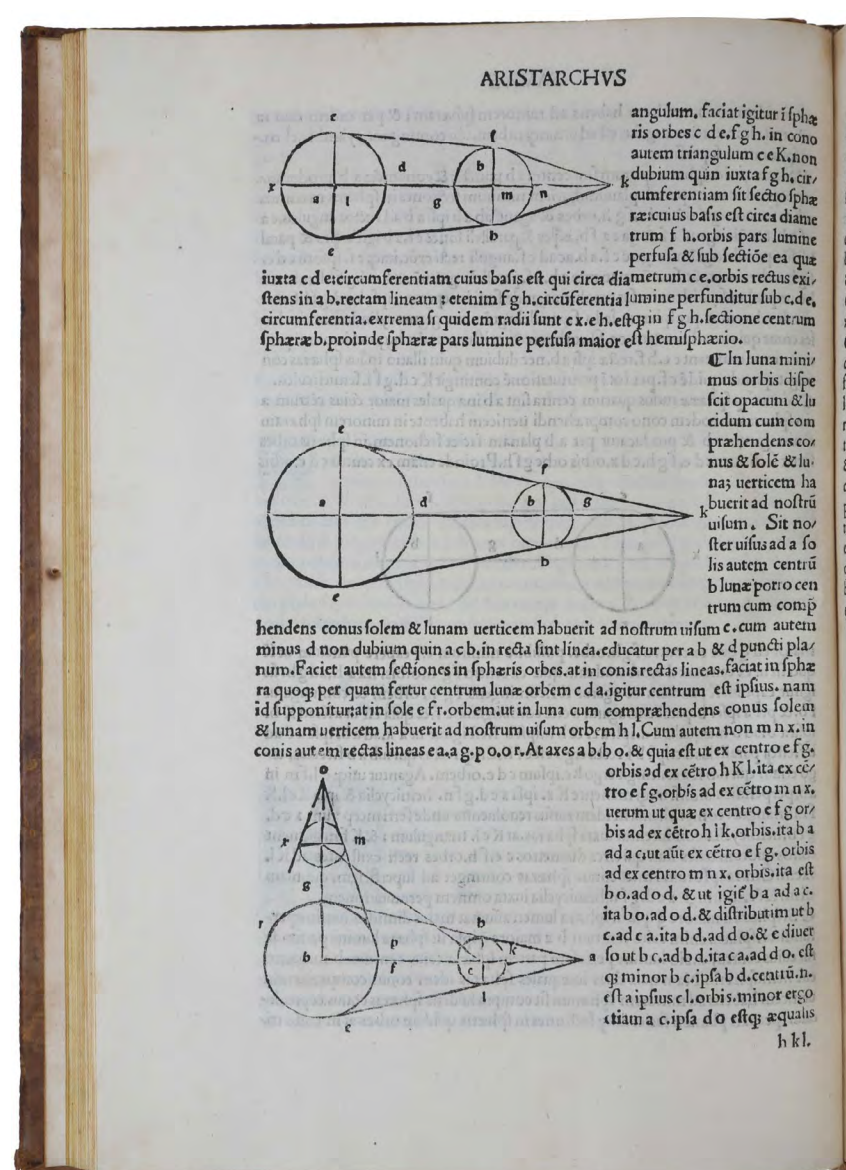
The only extant work by Aristarchus of Samos

RHAZES, ARISTARCHUS, EUCLID, ARISTOTLE, GALEN et al. *Georgio Valla Placentino interprete: Hoc in volumine hec continentur Nicephori logica Georgij Valle libellus de argumentis Euclidis...* Venice: Simon Bevilaqua, 1498.

\$48,500

First edition, very rare, of this remarkable collection of twenty-two Greek texts translated by Giorgio Valla, most on scientific subjects, with the majority of the texts appearing here in print for the first time. Among the most notable such 'firsts' in this volume are: *De pestilential*, the most important work of the great Persian physician Rhazes, the first medical description of smallpox and the most important early work on epidemiology – Rhazes' explanation for why the disease does not strike the same individual twice is the first theory of acquired immunity; five works by Gale; the only extant work by Aristarchus of Samos, who proposed a heliocentric cosmology almost two millenia before Copernicus.

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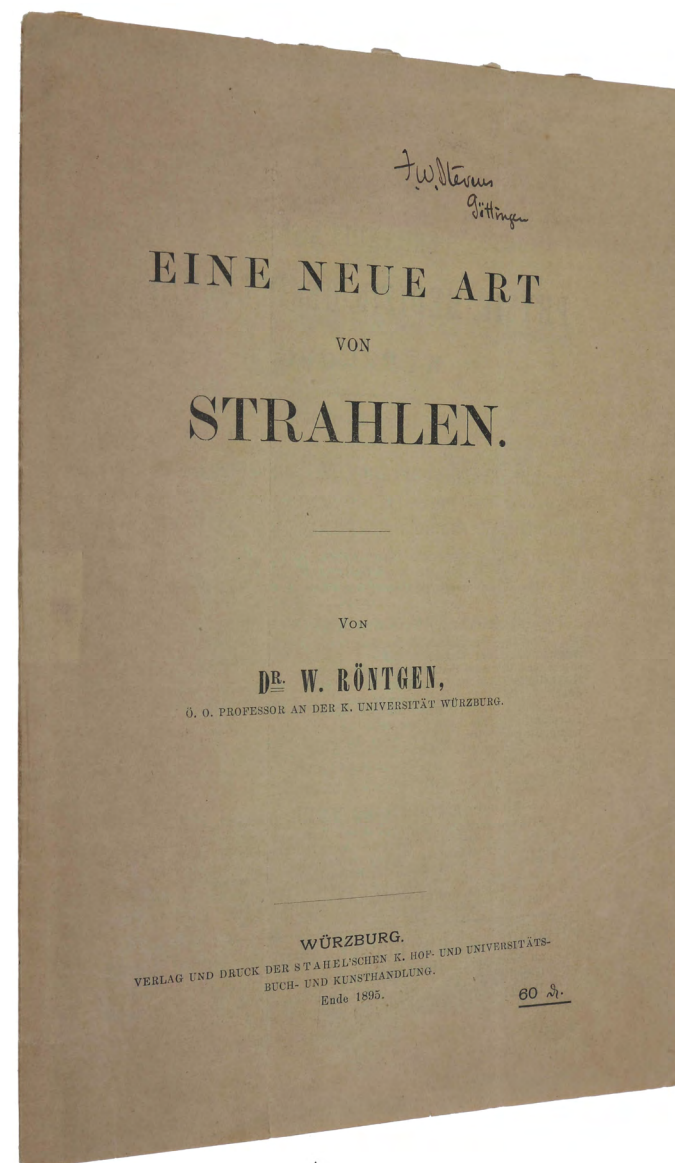
PMM 380 - X-rays

RÖNTGEN, Wilhelm Conrad. *Eine neue Art von Strahlen.*
Würzburg: Verlag und Druck der Stahel'schen K. Hof- und Universitäts-Buch und Kunsthandlung, 1895.

\$17,000

First edition, a fine copy of the very rare offprint. The discovery of X-rays was the most important contribution to medical diagnosis in a century, and a key to modern physics. "Although he was unable to determine the true physical nature of the rays, Röntgen was certain that he had discovered something entirely new, a belief soon confirmed by the work of other scientists such as Becquerel, Laue and the Curies. For his discovery, Röntgen was awarded the Nobel Prize in physics for 1901" (Norman). Dibner, *Heralds*, 162 (first and second papers); GM 2683 (journal). Horblit 90 (journal). PMM 380.

<http://sophiararebooks.com/4106>



The earliest printed textbook for midwives

RÖSSLIN, Eucharius. *Der swangern Frawen und hebammen rosztgarten.* Cologne: Arnt von Aich, 1518.

\$75,000

An exceptionally fine copy, in an untouched contemporary binding, of this landmark work. This is the earliest printed textbook for midwives and one of the first printed books devoted to obstetrics, including engravings attributed to the Frankfurt artist Martin Kaldenbach, a pupil of Albrecht Dürer. "Rösslin's obstetrical treatise had an enormous impact on contemporary obstetrical practice and remained influential for two hundred years, going through over one hundred editions before the close of the eighteenth century. It appears that there is only one copy of this issue in America, at the National Library of Medicine, lacking the last signature." *Provenance:* London bookseller and bibliophile Irving Davis (sold Sotheby's, 2-3 April 1985, £18,700); from the library of Jean Blondelet.

<http://sophiararebooks.com/4006>



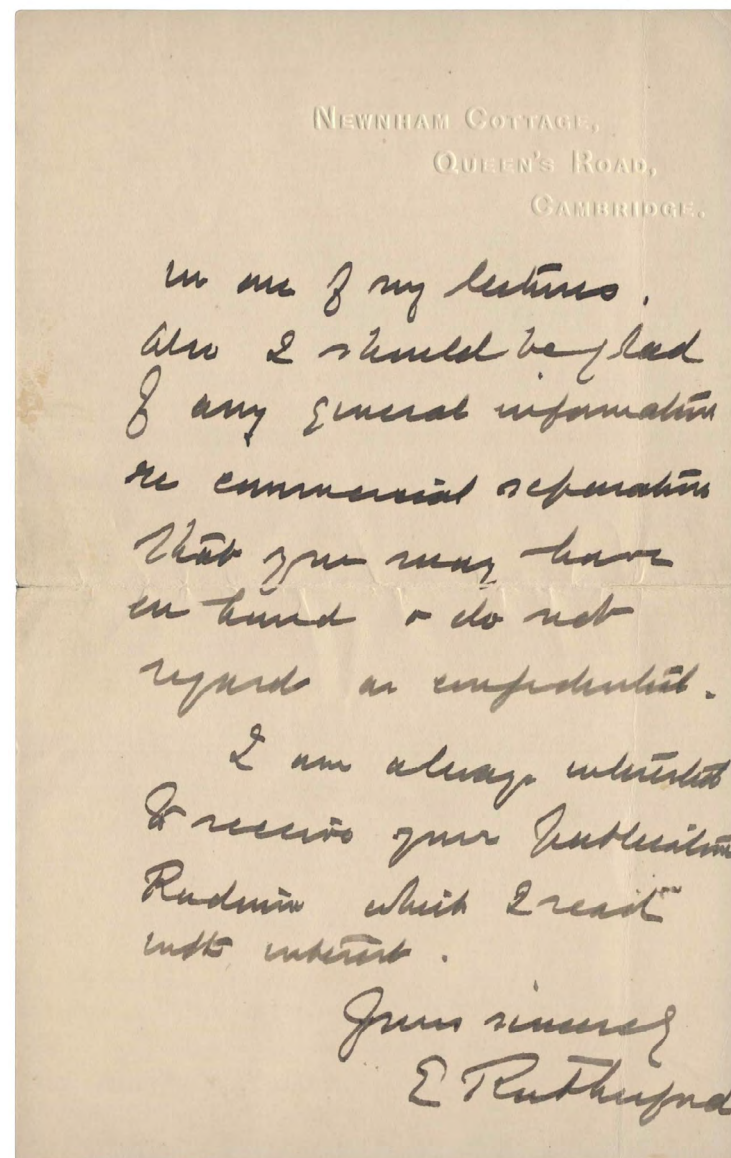
Rutherford on the production of radium

RUTHERFORD, Ernest. Autograph letter signed 'E Rutherford' to Charles Herman Viol, 8 January 1921. Three pages on two sheets..

\$5,850

Important letter from Rutherford to Charles Herman Viol requesting information about the production of radium. Rutherford (1871-1937) had moved in 1919 from Manchester to Cambridge, where he was director of the Cavendish Laboratory. There he continued his research on radioactivity, mainly in collaboration with James Chadwick, work which depended on a steady supply of radioactive materials. Since 1913 Viol had been director of research at the US Standard Chemical Company, the first successful large-scale producer of radium, and editor of its in-house journal Radium. He was thus in an excellent position to respond to Rutherford's request. Rutherford letters with significant scientific content are rare on the market.

<http://sophiararebooks.com/3663>



*The first book to use illustrations printed in colour
from more than one block*

**SACROBOSCO, Johannes; REGIOMONTANUS, Johannes;
PEURBACH, Georg.** *Sphaerae mundi compendium soeliciter
inchoat.* Venice: Erhard Ratdolt, 1482.

\$38,500

First printing of this assembly of basic texts of pre-Copernican astronomy, an exceptional copy in an untouched contemporary binding. This is also the first book to use illustrations printed in colour from more than one block, a cornerstone in the history of colour printing (Graff) the book is often catalogued incorrectly as having contemporary hand-colouring. Sacrobosco's *De sphaera mundi* (editio princeps 1472) was the first printed astronomical book, a synthesis of Ptolemy and his Arabic commentators, presenting an elegant, accessible Ptolemaic cosmology, and accepted as the most authoritative astronomical textbook of its time.

<http://sophiararebooks.com/3949>



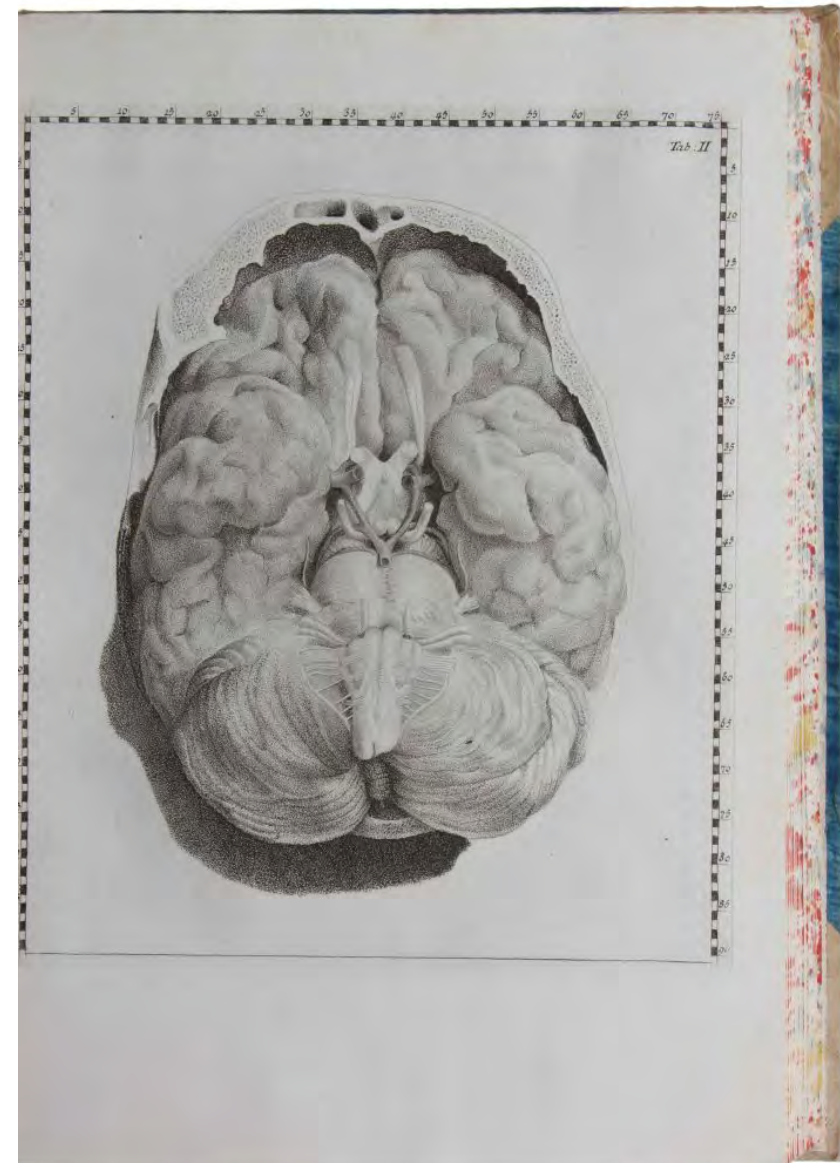
One of the finest anatomies of the 18th century

SANTORINI, Giovanni Domenico. *Anatomici summi septemdecim tabulae quas nunc primum edit atque explicat iisque alias addit de structura mammarum et de tunica testis vaginali.* Parma: Bodoni, 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. Norman 1888; Garrison-Morton 399.1; *Heirs of Hippocrates* 788; Pincus 248.

<http://sophiararebooks.com/3623>



The earliest illustration of a telescope

SCHEINER, Christoph; TANNER, Adam. *Disquisitiones mathematicae, de controversiis et novitatibus astronomicis...* [with:] *Astrologia Sacra*. Ingolstadt: Eder for Elisabeth Angermaria, 1614 & 1615.

\$48,000

First edition, in a beautiful contemporary binding, of Scheiner's very rare work containing the second earliest map of the moon – but the first to give topographical details – as well as the first illustrations of a telescope. It builds upon Scheiner's 1612 discovery of sunspots, made using a telescope he built himself, which led to his famous controversy with Galileo. This work discusses almost all the astronomical issues then current, especially those brought about by the newly invented telescope. There is an extensive argument against the notion of an infinite universe, illustrated by a striking full-page woodcut on p. 17 of 'Chaos infinitum ex atomis' surrounding the sphere of fixed stars.

<http://sophiararebooks.com/4126>



By the maker of Kepler's telescope

SCHYRLAEUS DE RHEITA, Anton Maria. *Oculus Enoch et Eliae.* Antwerp: Hieronymus Verdussen, 1645.

\$58,500

First edition of this very rare and influential work in the history of the telescope, a remarkable copy, uncut in the original interim boards. Rheita “introduced a number of crucial improvements in his work, leading to a real breakthrough in telescope design. First, Rheita suggested a new and much better method of polishing lenses, leading to a strong reduction of deviations; secondly (and even more importantly), he found that a compound ocular, composed of three or four lenses, resulted in a much better quality than using only a single (compound) ocular” (Van Helden).

<http://sophiararebooks.com/4027>



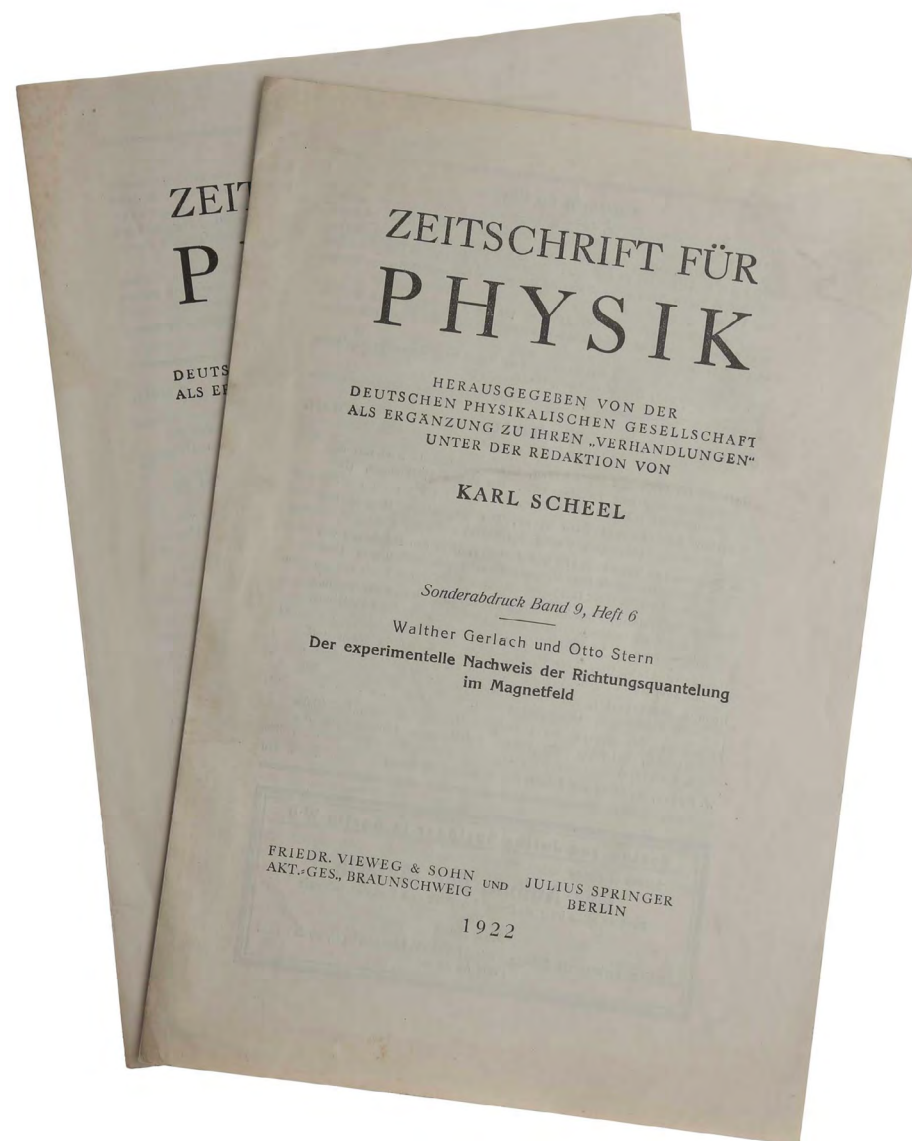
*One of the great achievements of
experimental physics*

STERN, Otto & GERLACH, Walther. *Der experimentelle Nachweis der Richtungsquantelung im Magnetfeld.* [Offered with:] *Das magnetische Moment des Silberatoms.* Braunschweig: Vieweg & Berlin, 1922.

\$7,500

First edition, the very rare offprints, of the famous Stern-Gerlach experiment, which demonstrated the spatial quantization predicted by the Bohr-Sommerfeld quantum theory of the atom and the existence of electron spin. “This direct demonstration of spatial quantization was immediately accepted as among the most compelling evidence for quantum theory” (Friedrich & Herschbach). “The Stern-Gerlach experiment is undoubtedly one of the great achievements of experimental physics” (Longair).

<http://sophiararebooks.com/3850>



Renaissance ballistics

TARTAGLIA, Niccolò. *Three bookes of colloquies concerning the arte of shooting: in great and small peeces of artillerie, variable randges, measure, and waight of leaden...* London: Dawson for Harrison, 1588.

\$48,500

First edition in English, very rare with all the plates, of the first three books of Tartaglia's 1546 *Quesiti et Inventioni Diverse*, dealing with ballistics and expanding and correcting the treatment in his 1537 *Nova Scientia*, the first systematic treatise on the subject. Designed as a handbook for practicing military men, copies of this work were often damaged through use, perhaps in the field, and few complete examples survive. ABPC/RBH list only three other copies, and no other complete copy since 1968. OCLC lists seven copies in US, the majority incomplete.

<http://sophiararebooks.com/4103>



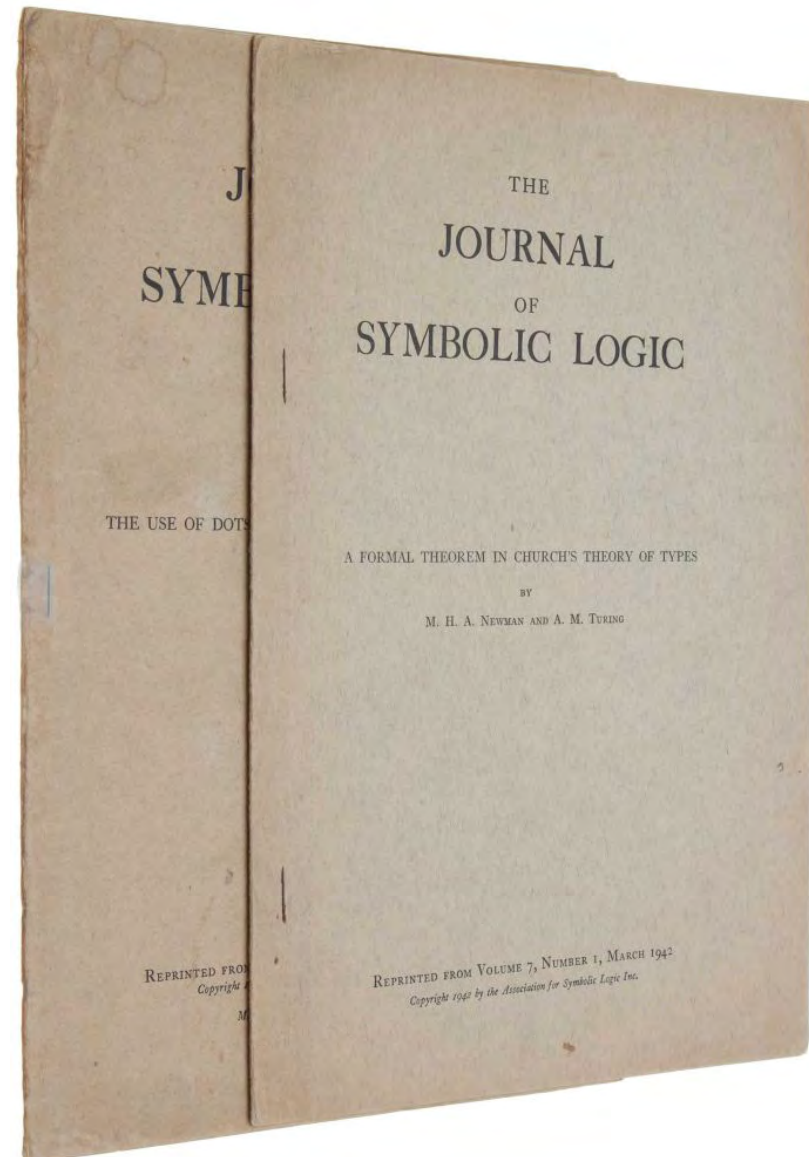
The copy of Robin Oliver Gandy

TURING, Alan Mathison. *A formal theorem in Church's theory of types. [with:] The use of dots as brackets in Church's system.* The Association for Symbolic Logic, 1942.

\$5,850

First edition, the very rare offprint issues, and with a fine provenance, of Turing's papers on Church's type theory. "Church's type theory is a formal logical language which includes first-order logic, but is more expressive in a practical sense. It is used, with some modifications and enhancements, in most modern applications of type theory. It is particularly well suited to the formalization of mathematics and other disciplines and to specifying and verifying hardware and software" (*Stanford Encyclopedia of Philosophy*). Offprints of Turing's papers are extremely rare in institutional holdings, and even more so in commerce.

<http://sophiararebooks.com/3192>



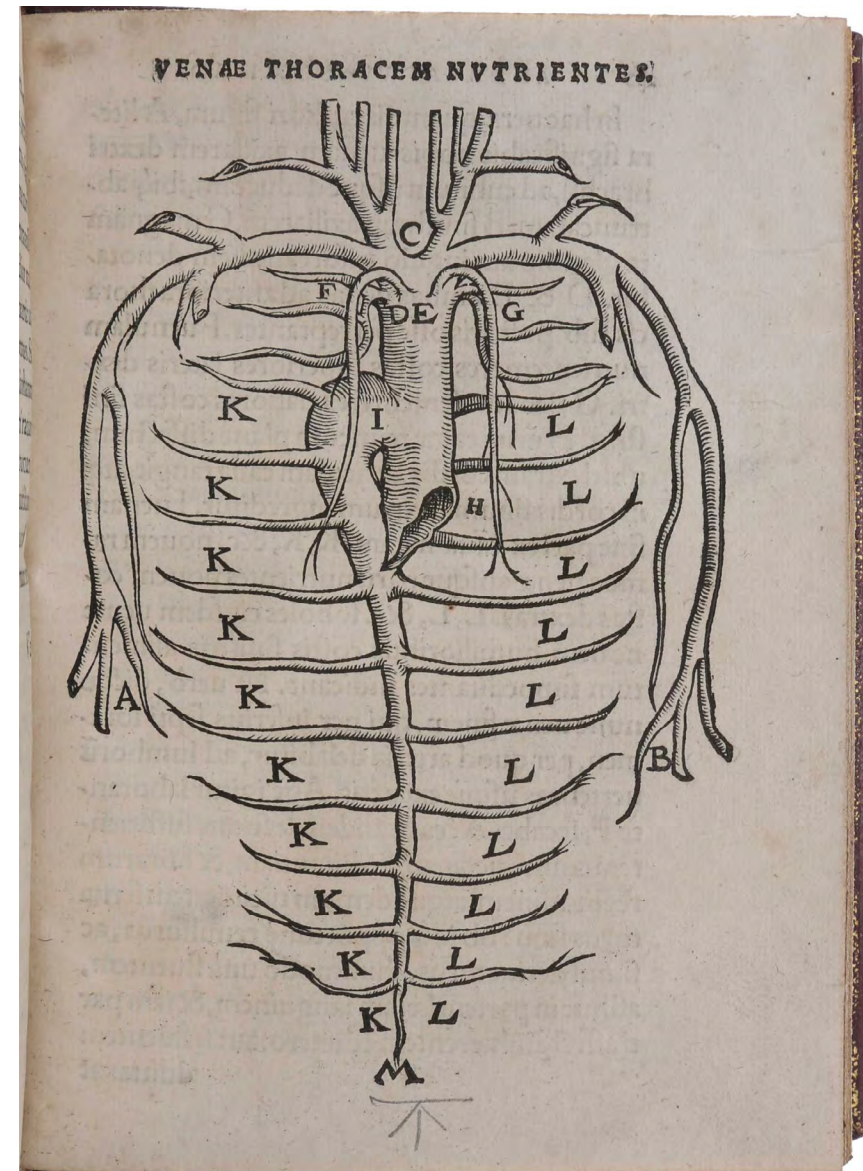
Vesalius' on bloodletting

VESALIUS, Andreas. *Epistola docens venam axillarem dextri cubiti in dolore laterali secandam...* Basel: Winter, 1539.

\$150,000

First edition of Vesalius's 'venesection letter,' one of his rarest works, embodying what may be the earliest approach to an area of medicine which may be called scientific in the modern sense. This is a fine copy, complete with the final leaf (the Cushing and Waller copies both lack it). "Out of the venesection controversy came as a purely incidental finding the discovery of the venous valves... which in the consciousness of Harvey was to provide the key to unlocking the door to the circulation" (Saunders & O'Malley). ABPC/RBH list only the Norman copy (in a modern binding) since 1929.

<http://sophiararebooks.com/4001>



Large paper copy

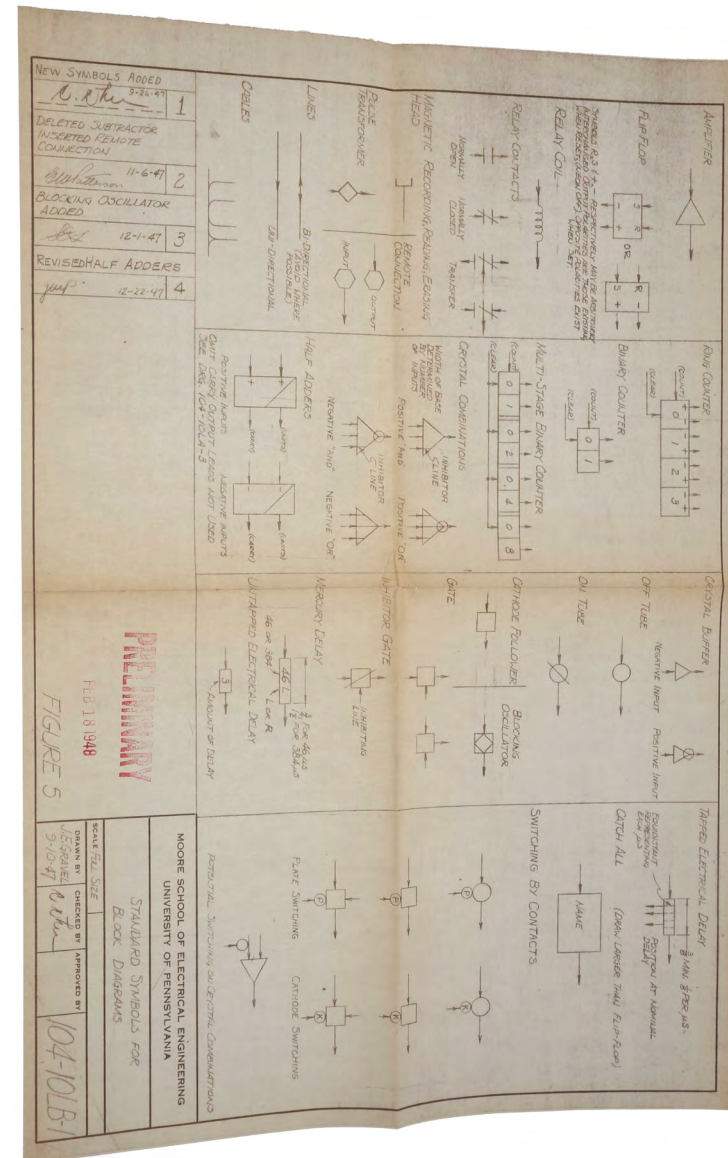
VOLTAIRE [François-Marie Arouet]; [NEWTON, Sir Isaac].
Éléments de la Philosophie de Neuton, mis à la portée de tout le monde. Amsterdam: Etienne Ledet, 1738.

\$12,000

First edition, first issue, extremely rare large and thick paper copy, and in a beautiful contemporary binding, of Voltaire's only scientific work. "Owing to Descartes' great influence and Newton's dispute with Leibniz, the spread of his [Newton's] thought on the continent took about fifty years. One of his greatest champions in France was Voltaire (1694-1778), whose *Éléments de la Philosophie de Neuton*, 1738, was widely read" (PMM). Voltaire "presented Newton as the discoverer of the true system of the world and the destroyer of the errors of Cartesianism" (Norman).

<http://sophiararebooks.com/4104>





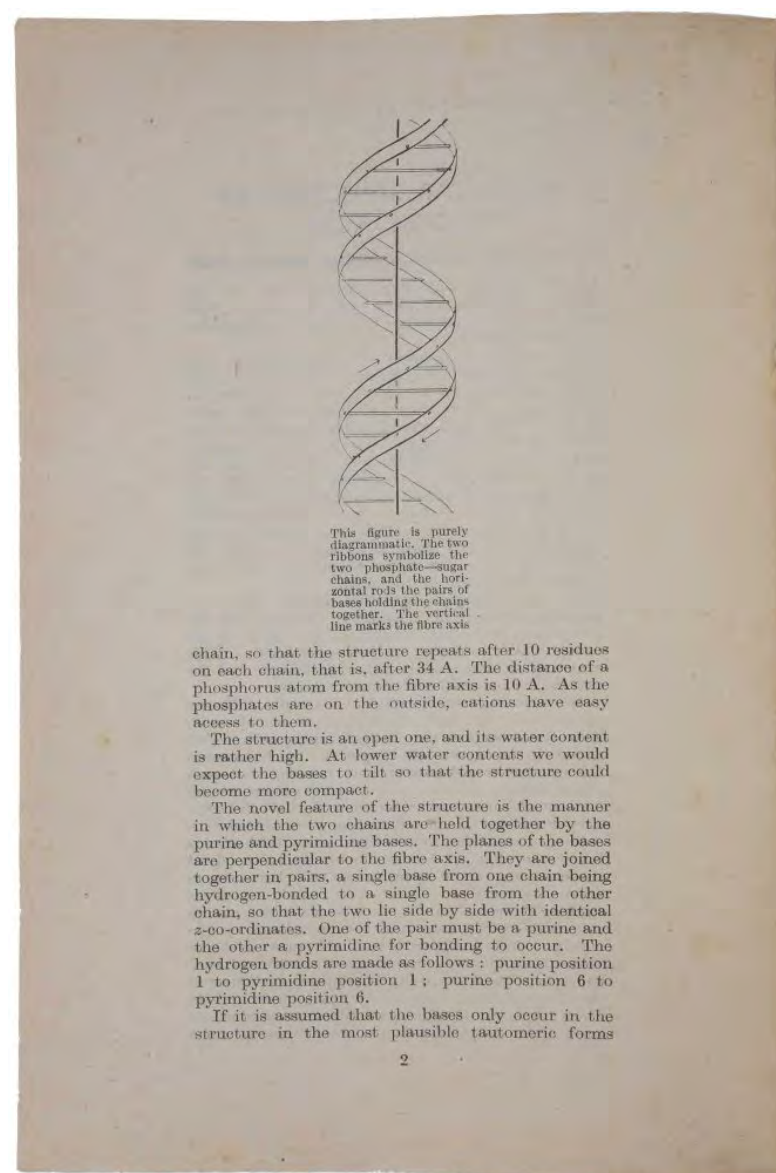
Discovery of the structure of DNA

WATSON, J. D. & CRICK, F. H. C.; WILKINS, M. H. F., STOKES, A. R. & WILSON, H. R.; FRANKLIN, R. E. & GOSLING, R. G. *Molecular Structure of Nucleic Acids: A Structure for Deoxyribose Nucleic Acid; Molecular Structure of Deoxypentose Nucleic Acids; Molecular Configuration in Sodium Thymonucleate*. St. Albans: Fisher, Knight & Co., 1953.

\$17,000

First edition, in the rare offprint form, of one of the most important scientific papers of the twentieth century (accompanied in the same offprint by two related papers), which “records the discovery of the molecular structure of deoxyribonucleic acid (DNA), the main component of chromosomes and the material that transfers genetic characteristics in all life forms. Grolier 99; Dibner 200.

<http://sophiararebooks.com/3714>



An extremely fine copy

WRIGHT, Wilbur. *Experiments and Observations in Soaring Flight*. [Chicago: 1903].

\$25,000

First edition, the rare offprint issue, and a virtually mint copy, of Wilbur Wright's second report of his and Orville's flying experiments. This is the first account of the Wrights' experiments with motorized gliders. "Of the work described in their second paper Wilbur later testified in 1912: 'This was the first time in the history of the world that lateral balance had been achieved by adjusting wing tips to respectively different angles of incidence on the right and left side ... We were the first to functionally employ a movable vertical tail in a flying aeroplane. We were the first to employ wings adjustable to respectively different angles of incidence in a flying aeroplane. We were the first to use the two in combination in a flying aeroplane'" (Norman 2267).

<http://sophiararebooks.com/4144>

