History of Science and Mathematics

Probability Theory, Astronomy, Natural History, Computing, Physics, Women in Science, and More

Chemistry in the Kitchen
By an Innovator in Gas Lighting and Food Safety

1. ACCUM, Fredrick. *Culinary Chemistry, Exhibiting the Scientific Principles of Cookery,* with concise instructions for preparing good and wholesome pickles, vinegar, conserves, fruit jellies, marmalades, and various other alimentary substances employed in domestic economy…London: Published by R. Ackermann, 1821.

Twelvemo. xxii, [2], 356, xxiii, [1, ads] pp. With a hand-colored engraved frontispiece and decorative title-page.

Original red cloth with gilt spine. Some dustsoiling. Spine sunned. Clean and fresh throughout despite some offsetting to title-page and frontispiece. A very good copy.

$1,500

First edition.

Fredrick Accum (1769 - 1838) was German chemist. His most significant achievements were advancements in gas lighting, efforts to keep processed food free from dangerous additives, and promoting chemistry to the public. Given his extensive experimental work in gas lighting, his name was listed as "practical chymist" on the 1812 list of the first Corporation of London's highly successful Gas-Light and Coke Company. He also wrote an 1815 treatise that became the classic text of gas technology. Most of his publications were in English and he lived in London for several years. His books were composed in a style that made them accessible to the common reader and were influential in the popularization of chemistry during his era. Accum published *Treatise on Adulteration of Food* (1820), which warned of the dangers of chemical additives.
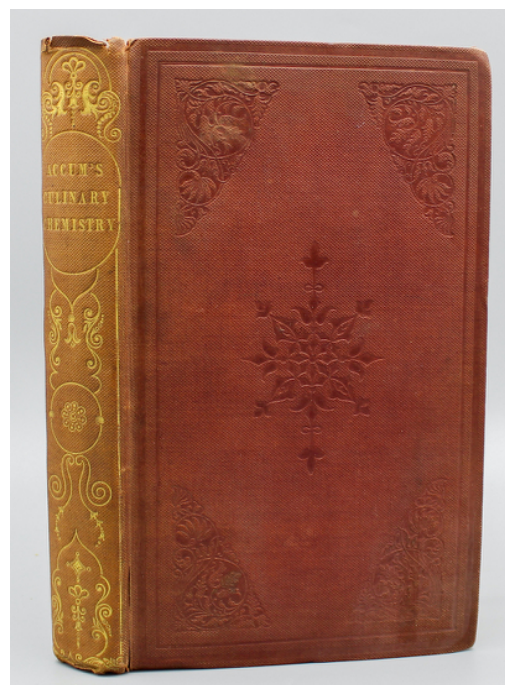
He was also the first person to bring significant awareness to the subject, but his work proved controversial, as it criticized standard industry food practices of the time. Accum applied his expertise in chemistry to cooking, and his book *A Treatise on the Art of Brewing* (1820) covered many topics including the history of beer brewing, the chemical constitution of malt liquors, how to brew porters, ales, and table beer, mashing (preparation of the wort), etc.

We could not locate any copies in commerce.
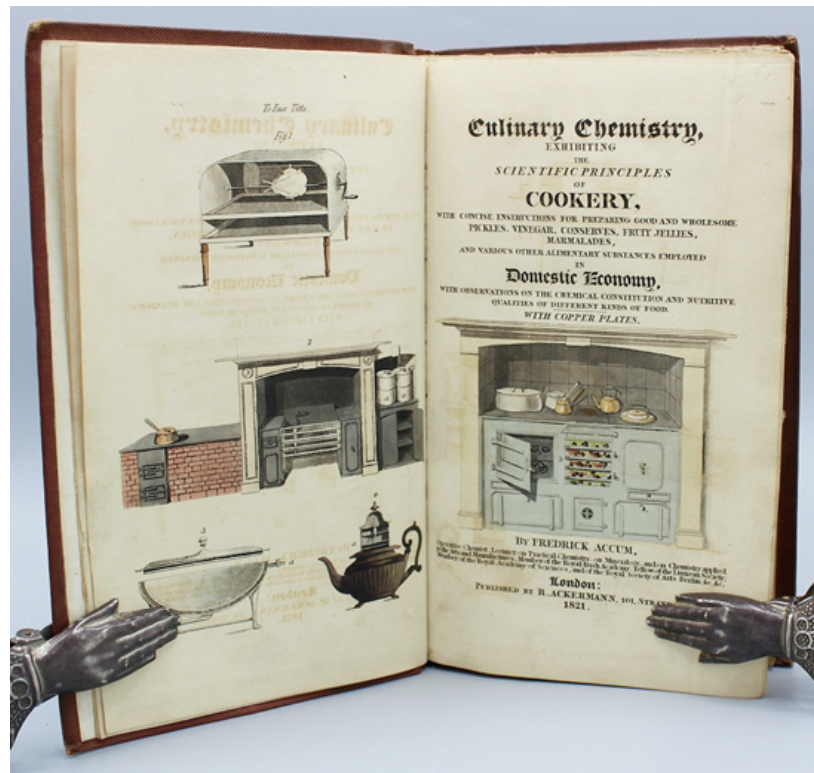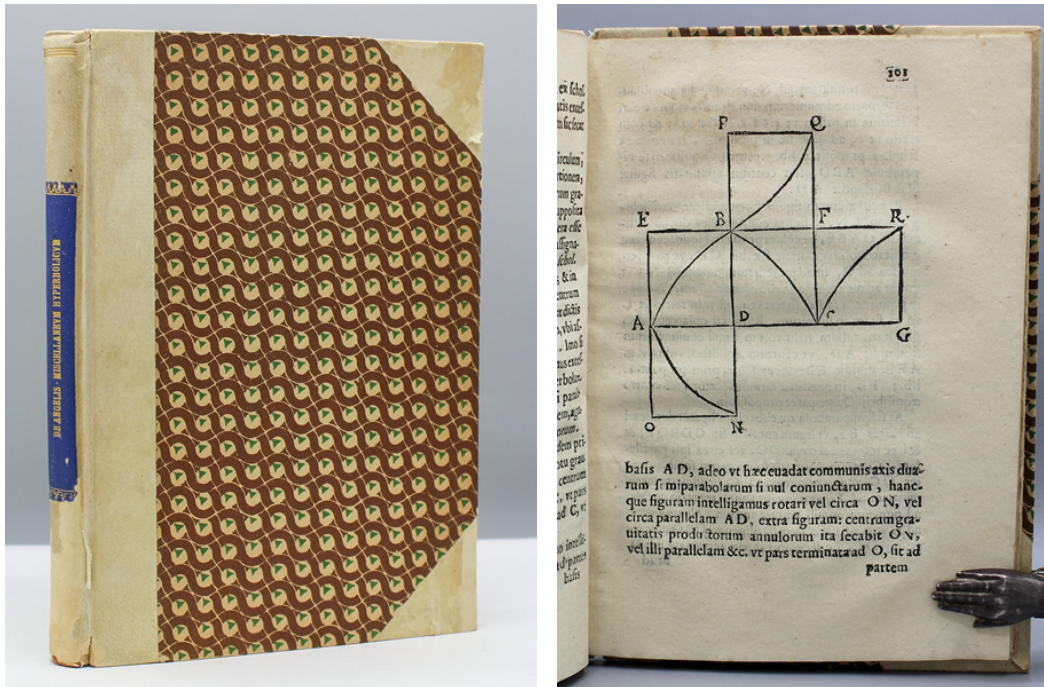
2. ANGELI, Stephano degli. *Miscellaneum Hyperbolicum, et Parabolicum: In quo praecipue Agitur de Centris Graitatis Hyperbolae, Partium Eiusdam.* Venice: Joannem La Nou, 1659.

Small quarto. [8], 215, [1] pp.

Numerous woodcut diagrams in text. Title-page lightly foxed, light dampstain at lower corner through part of the text. Bottom corner of V1 torn away and reinforced with new paper. Book location label on front pastedown. A very good copy. Late nineteenth century vellum over decorative boards, gilt cloth spine label.

$3,500

First edition of a scarce mathematical text.

Stefano degli Angeli (1623 - 1697) entered the Order of the Gesuati of Saint Jerolamen. At twenty-one, he became a reader of literature, philosophy, and theology in the faculty of his order at Ferrara, but left three years later for health reasons and went to Bologna. At the University of Bologna, under the guidance of Bonaventura Cavalieri (1598 - 1647), he developed a strong interest in mathematics. Cavalieri was so appreciative of his abilities that he entrusted Angeli with the task of correcting and publishing his last work, *Exercitationes geometricae sex* (1647). Angeli was offered the opportunity to succeed Cavalieri as professor of mathematics, but turned it down. After various appointments, he became in 1663 professor of mathematics at the University of Padua, a post that had been held by Galileo, and he remained there until his

death. Riccati was one of his pupils. Angeli's mathematical works were on infinitesimals, which he used to study spirals, parabolas, and hyperbolas. While in Venice, he published the present work, as well as De infinitorum parabolis (1654), *De infinitorum spiralium spatiorum mensura* (1660) which contains a generalization of Archimedes' spiral, and *De infinitorum cochlearum mensuris ac centris gravitatis* (1661) which carries out Torricelli''s intention of finding the centre of gravity of a solid body called a cochlea. At Padua, he examined fluid statics based on Archimedes' principle and Torricelli's experiments. He published *Della gravita dell aria e fluidi* in 1671.
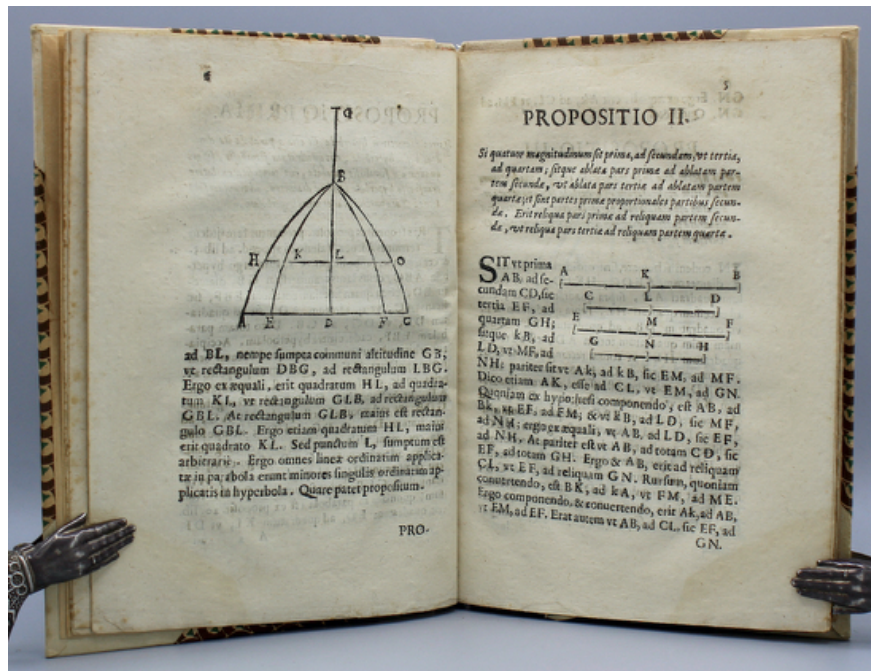
OCLC notes copies at Columbia, Harvard, New York Public Library, Linda Hall Library, Michigan, Wisconsin, Göttingen, Oxford, Edinburgh, and Marburg. This book has not appeared at auction in at least the last thirty years, according to Rare Book Hub.

Riccardi, column 34, no. 3 ("raro"). See DSB, and the website of the School of Mathematics and Statistics at the University of Saint Andrews.

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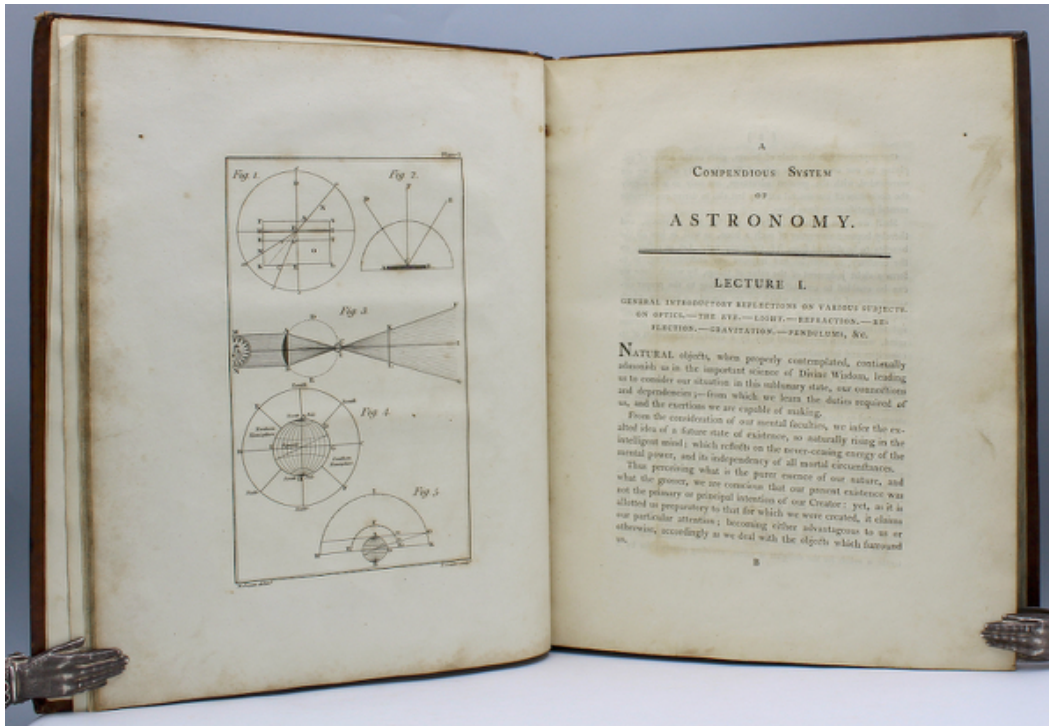
Astronomy for Young Women by a Pioneering Woman Science Educator, Praised by Charles Hutton, with Astronomical Plates

3. BRYAN, Margaret. *A Compendious System of Astronomy, in a Course of Familiar Lectures…*Also Trigonometrical and Celestial Problems, with a Key to the Ephemeris, and a Vocabulary of the Terms of Science Used in the Lectures…London: Printed for the Author and Sold by Leigh and Sotheby… and G. Kearsley, 1797.

Quarto. xxx, 311 pp. With seventeen plates illustrating astronomical principles and equipment, plus mathematical diagrams. Lacking the frontispiece.

Contemporary polished calf. Gift inscription (to an Isabella Bell Junior, 1821) to preliminary blank. Red morocco spine label. Upper hinge fragile, as usual. Minor toning to some leaves, and toning to versos of plates, but largely clean throughout. Aside from the lacking plate, which is often not present, a very good, fresh copy of a scarce book.

$1,500

First edition.

A Compendious System of Astronomy is made up of the lectures that Margaret Bryan (fl. 1795 – 1815) delivered to her students in the early years of her position running a girls' boarding school in Blackheath. The present work
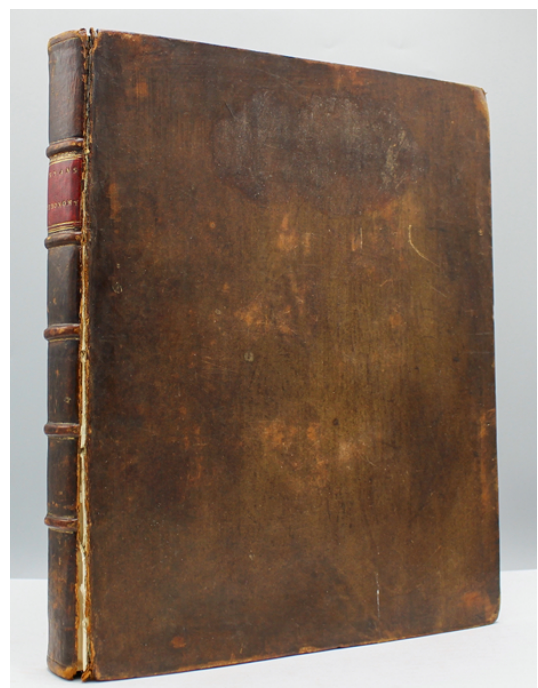
was admired by the mathematician Charles Hutton, whose written endorsement is included in the preface. He praised that "even the learned and more difficult sciences are…beginning to be successfully cultivated by the extraordinary and elegant talents of the female writers of the present day," (p. xi). The list of subscribers in the present work notes hundreds of individuals including the Archbishop of Canterbury; scholars at Cambridge and Oxford; celebrated mathematicians and astronomers including Hutton and Nevil Maskelyne, the Astronomer Royal of England; and many women, including many of Bryan's own pupils.
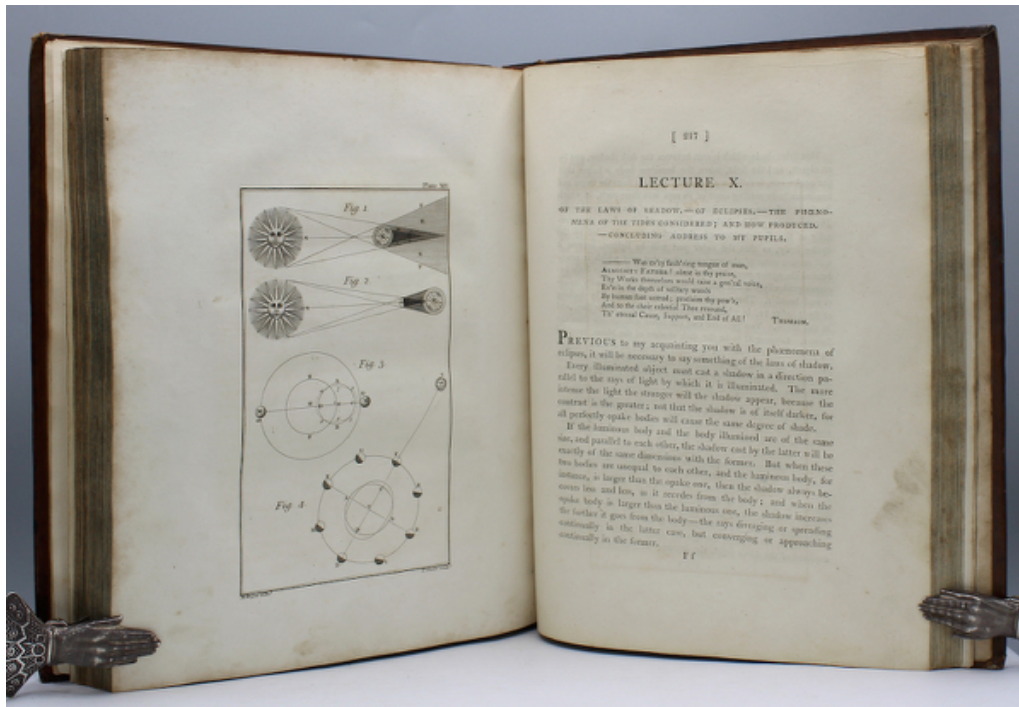

Margaret Bryan was a writer of texts on chemistry, astronomy, and mathematics and an early example of a woman teaching science to women. She ran the Blackheath School between 1795 and 1806, opened her own school in London in 1815, and then took another position running a school in Margate the next year. Along with the present work, Bryan also published *Lectures on Natural Philosophy* (1806), which was compiled from her lectures at the Blackheath School on hydrostatics, optics, pneumatics, and acoustics; and *An Astronomical and Geographical Class Book for Schools* (1815).

ESTC T113598.
Cambridge University Whipple Library website. *A Compendious System of Astronomy.*
The Linda Hall Library website. "Scientist of the Day: Margaret Bryan" (January 6, 2020).

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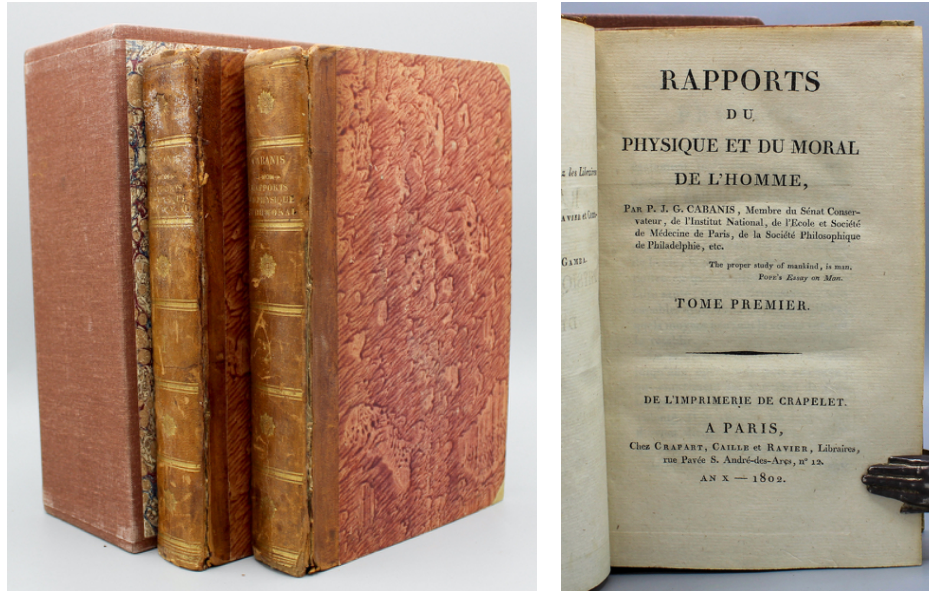
4. CABANIS, P[ierre] J[ean] G[eorge]. *Rapports du physique et du moral de lhomme.* Paris: Crapart, Caille et Ravier, An X [1802].

Two volumes, octavo. xliv, 484; iv, 624 pp.

Contemporary quarter calf over batik boards, gilt-lettered spines, speckled edges. Hinges cracking, spines a bit scuffed, but a very good copy overall. In cloth open-end slipcase.

$600

This is Cabanis' (1757-1808) principle work. It is comprised of twelve Mémoires, the first six of which were read at sessions of the Institut de France. Cabanis sets forth a psychology and an ethical system based on the necessary effects of an animals organization upon its relationships with its environment. Even the unlimited perfectability of the human species, which renders it capable of all things, derives from the fact that man is undoubtedly the most subject to the influence of exterior causes. As a physician, Cabanis considered, in the seventh memoir of the Rapports, the influence of illnesses on the formation of ideas and values. The text is a summary of his physiological and medical conceptions. Borrowing the word from the German philosophers, Cabanis termed the science of man anthropologie, the methodical joining of the physical history and the moral science of man (George Canguilhem, Dictionary of Scientific Biography).
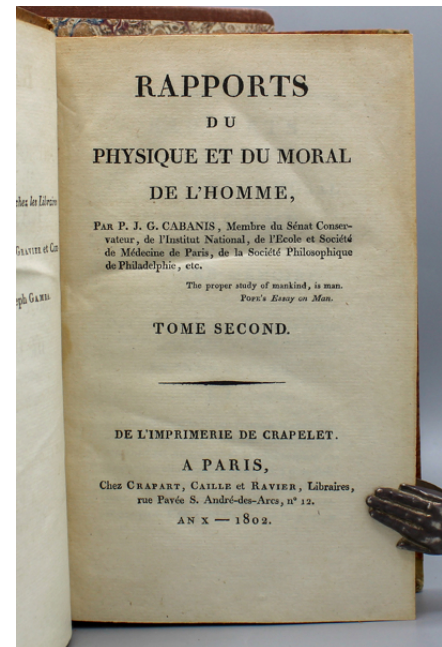
Boring, *A History of Experimental Psychology,* pp. 215-216.
Zilboorg, *A History of Medical Psychology,* pp. 283-284.
Hirsch, I, 793. Brett, History of Psychology, pp. 375-382.

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Stellar Classification by Annie Jump Cannon,
Developer of the Standard Classification Scheme Still in Use Today

5. CANNON, Annie J[ump]. "Spectra Having Bright Lines." [In] *Annals of the Harvard College Observatory,* vol. 76, no. 3. [Cambridge, Massachusetts: Astronomical Observatory of Harvard College, 1914.]

Folio. pp. [19], 20-42. The article is complete, as issued, despite odd pagination. With two halftone spectrogram plates: "Spectra of Classes P and Q" and "Spectra of Novae."

One article in paper self-wrappers, sewed, unbound as issued. Some foxing to front of wrappers at spine and a bit of foxing in the lower corners of the last three pages. A very good, clean copy of a scarce article by a central member of the Harvard Computers and one of the most important figures in the development of modern astronomy.

$500

First edition. This article was published in 1914 but is often misdated because it was later reissued featuring a title-page dated 1916.

"Spectra Having Bright Lines" records the stellar spectra data that allows astronomers to determine astronomical distances by how analyzing how bright a star appears from Earth. The data is organized according to the Harvard System, a stellar classification scheme that was developed by Annie Jump Cannon (1863 – 1941) and has been the standard for the International Astronomical Union since 1922. Cannon developed her system from previous innovations by fellow Harvard Computers Antonia Maury and Williamina Fleming. Other notable Harvard Computers were astronomers like Florence Cushman and Henrietta Swan Leavitt.

During her lifetime, Cannon manually classified about 350,000 stars and discovered five novas, a binary star system, and hundreds of variable stars. One of her most significant classification projects was her *Second Catalogue of Variable Stars,* which featured 25,000 stars she personally catalogued. She was also a suffragist, a member of the National Women's Party, and the first woman to receive an honorary doctorate of science from Oxford University.

OCLC records four copies: two at Harvard and one each at the Naval Observatory in Washington, D.C. and at Ohio State University.

Sloan Digital Sky Survey/SkyServer. "Spectra of Stars."
Date of 1914 from the *Harvard University Gazette,* vol. 10, no. 20 (February 6, 1915), p. 4.

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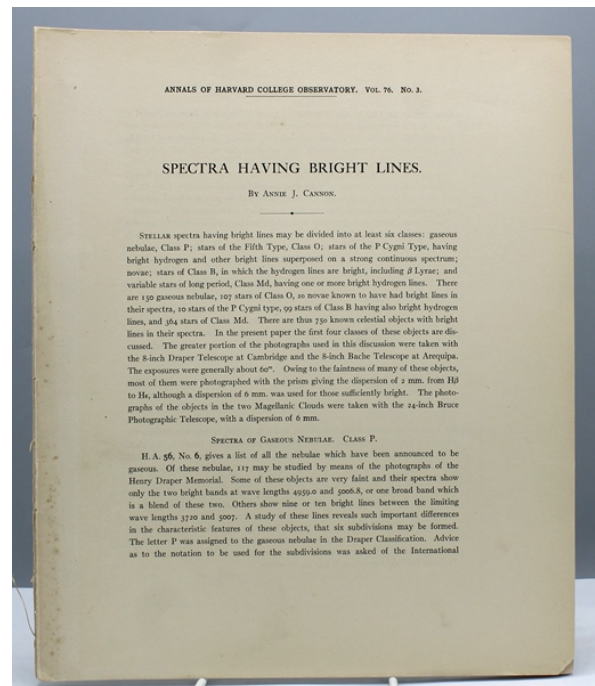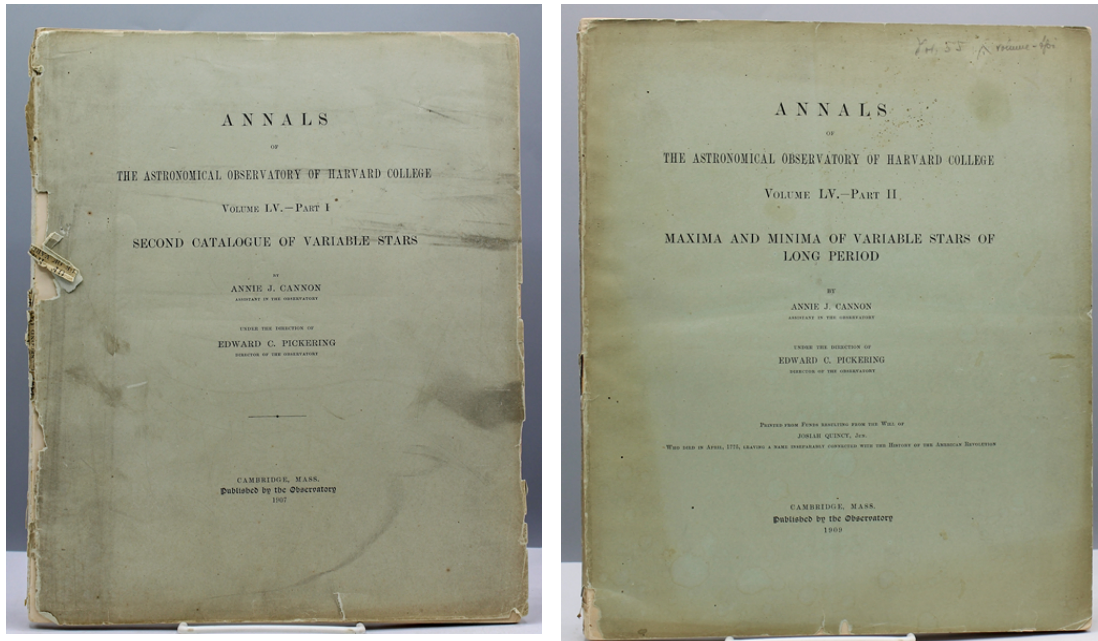
By the "Harvard Computers" Member
Who Laid the Groundwork for Modern Stellar Classification

6. CANNON, Annie J[ump] and Edward C. Pickering. *Second Catalogue of Variable Stars.* [In] *The Annals of the Astronomical Observatory of Harvard College.* Volume LV. – Part I [of II]. Cambridge, Mass: Published by the Observatory, 1907.

Quarto. [6] pp., pp. 1-94. Full-page tables throughout.

[with:]

CANNON, Annie J[ump] and Edward C. Pickering. *Maxima and Minima of Variable Stars of Long Period.* [In] *The Annals of the Astronomical Observatory of Harvard College.* Volume LV. – Part II [of II]. Cambridge, Mass: Published by the Observatory, 1909.

Quarto. [4] pp., pp. 99-291. Full-page tables throughout.

Original light blue printed paper wrappers. Some chipping to edges and spine some smudging to wrappers. Lower wrapper of Part I lost. A bit of faint toning to margins of leaves. A very good, clean set of publications by one of the most important figures in the development of modern astronomy.

$1,250

First printing. The *Second Catalogue* is the finalized version of Cannon's *Provisional Catalogue of Variable Stars,* which was published by the Harvard Observatory in 1903 and contains about 1,200 stars catalogued by Cannon. The *Second Catalogue* includes 25,000 stars catalogued by Cannon, plus the 15,000 stars catalogued by Edward C. Pickering before Cannon took over the project. *Maxima and Minima of Variable Stars of Long Period* supplements and expands upon the *Second Catalogue.*
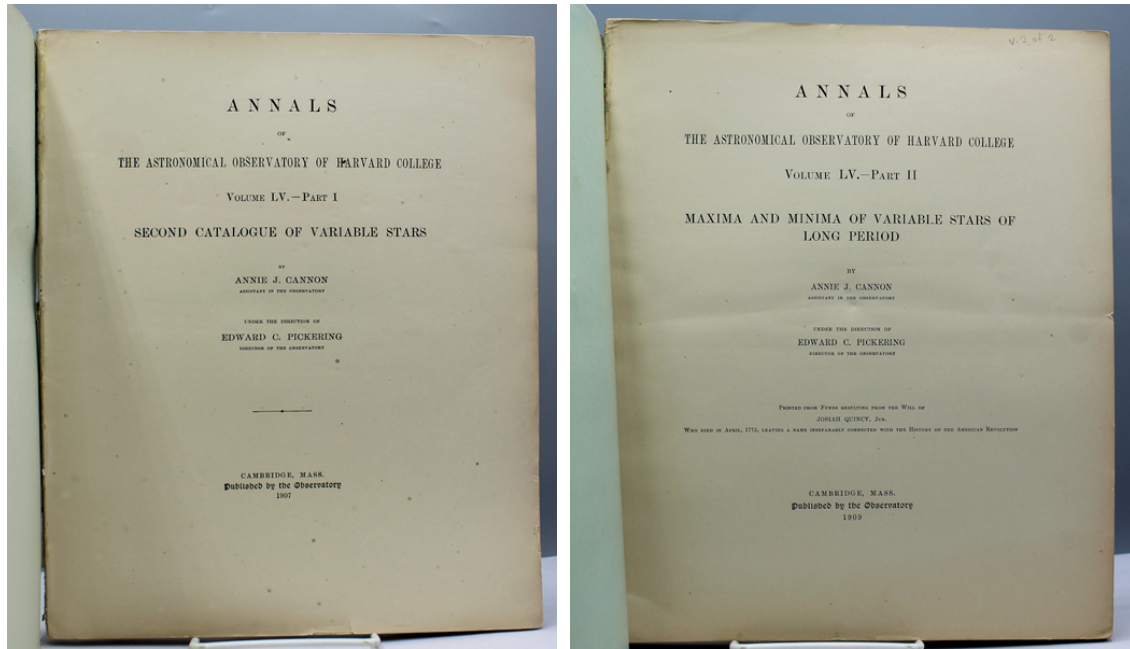
Annie Jump Cannon (1863 – 1941) was an astronomer credited with the creation of the Harvard System, a star classification scheme that was adopted by the International Astronomical Union in 1922 and is still in use today. As a member of the Harvard Computers, Cannon worked alongside Henrietta Swan Leavitt, who discovered that that the relationship between the luminosity and period of Cepheid variables can be used to measure the distance between galaxies, and other important astronomers like Williamina Fleming, Florence Cushman, and Antonia Maury. Both during and after her employment at Harvard, Cannon manually classified about 350,000 stars and discovered five novas, a binary star system, and hundreds of variable stars. Cannon was also a suffragist, an advocate for higher education for women, a member of the National Women's Party, and the first woman to receive an honorary doctorate of science from Oxford University.

Encyclopedia Britannica.
Also see *A Provisional Catalogue of Variable Stars* (*The Annals of the Astronomical Observatory of Harvard College*, v. 48, no. 3, 1903).

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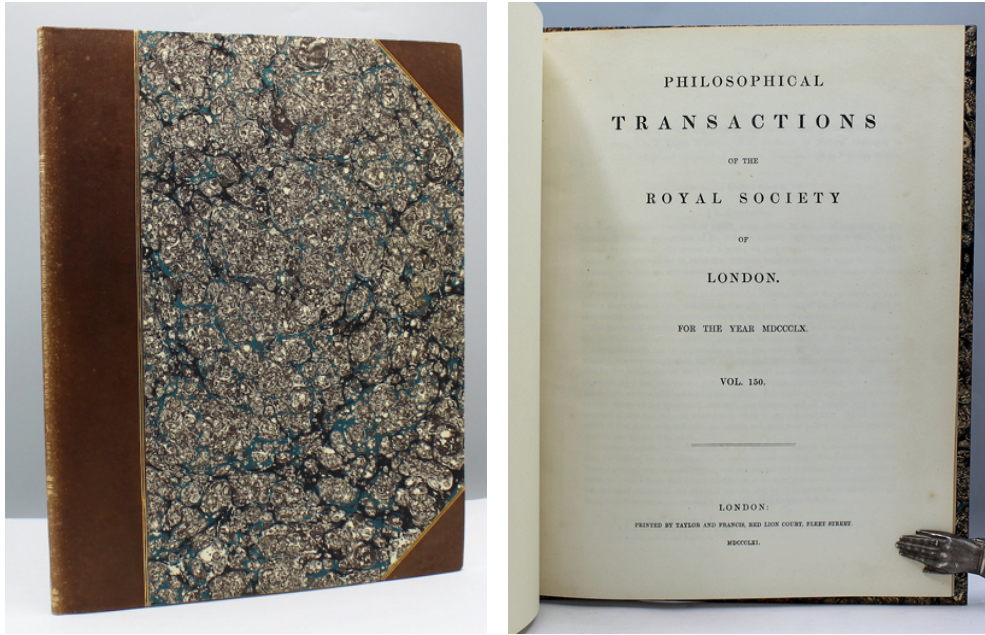
7. CAYLEY, Arthur. "Memoire on the theory of matrices." In *Philosophical Transactions of the Royal Society,* Volume 148 (1858), pp. 17-37.
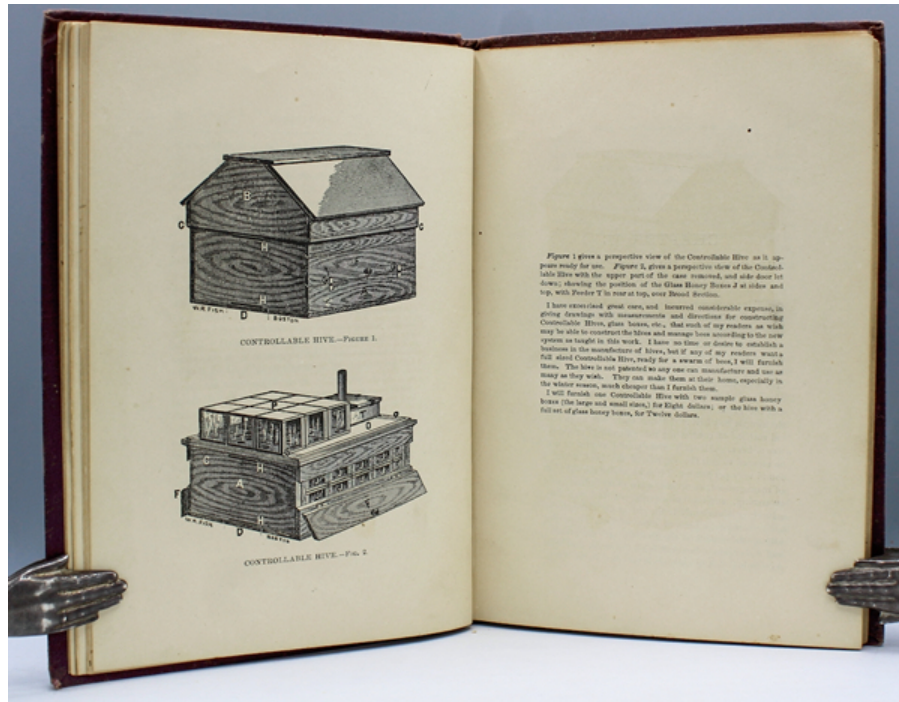
Octavo.

Fine condition. Half morocco with gilt lettered spine.

$1,250

Although the term "matrix" was introduced into mathematical literature by Sylvester in 1850, the credit for founding the theory of matrices must be given to Arthur cayley, since he published the first expository articles on the subject (Feldman et al., "Arthur Cayley—Founder of Matrix Theory", in *The Mathematics Teacher,* October, 1962).

In this paper Cayley introduces matrices to simplify the notation which arises in simultaneous linear equations. He further introduces the ideas of unit matrix, matrix addition and multiplication, inverse matrix and powers of matrices. More significantly, he introduces the algebraic notation of matrix calculus, explores the non-commutative algebra associated with matrix multiplication and proves the Cayley-Hamilton Theorem—that every matrix satisfies its own characteristic equation. Today the use of matrices in mathematics, physics, engineering and computer science is enormous.

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Uncommon Beekeeper's Manual by a Woman Beehive Designer,
Published to Accompany Her New Invention

8. COTTON, Lizzie E. *Bee Keeping for Profit.* A New System of Bee Management. West Gorham, Maine: Lizzie E. Cotton, 1883.

Octavo. 150 pp. With four plates (including frontisportrait) and eight vignettes illustrating bees and beehives. Illustrations include a beehive design developed by the author.

Contemporary purple cloth. Spine faded, some dampstaining to cloth. Early ink ownership signature to front pastedown (Marcus J. James, agricultural and mining engineer in Colorado). A very good, clean copy.

$350

Second edition. First published in 1880. All editions are uncommon in institutions and rare in commerce.

Lizzie E. Cotton wrote the present work to accompany her "Controllable Hive" invention, which is illustrated in the plates. In the words of Wyatt A. Mangum in the *American Bee Journal,* Cotton's hive consisted of "glass honey boxes on top, over the brood frames…the location of a honey super on a modern hive. Cotton also situated glass honey boxes on the sides of the hive,
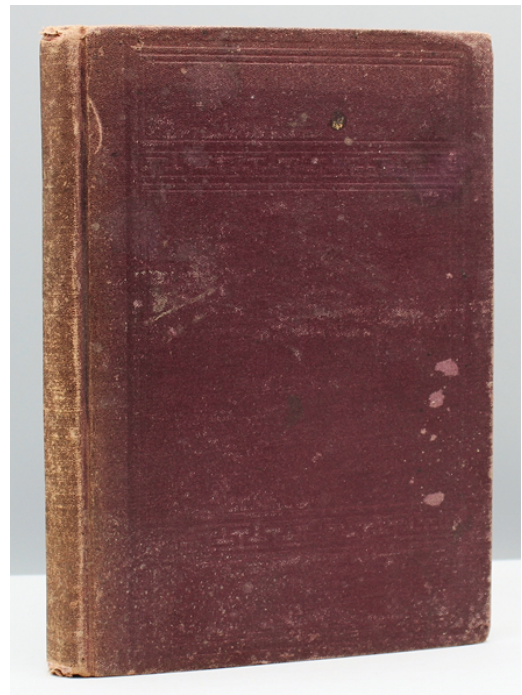
knowing that bees stored honey on the periphery of the brood nest." Surviving examples of Cotton's Controllable Hive are rare today, and the specifications included in the present work seem to be the only published designs.
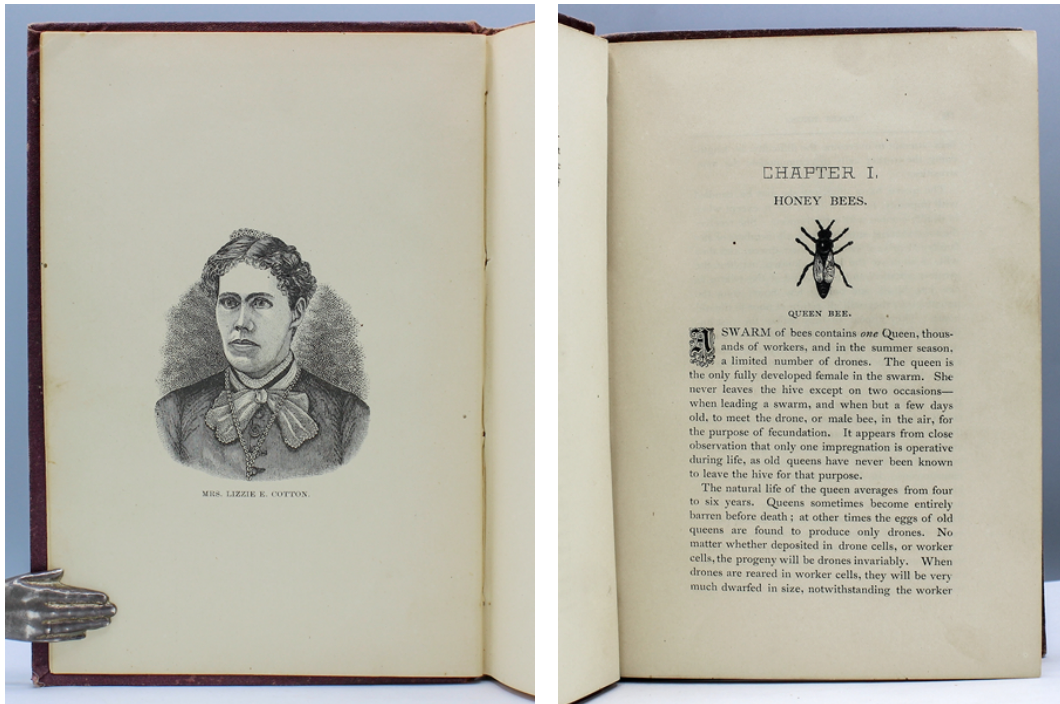
Mangum continues, "Cotton's spring management [of her hives] sought to grow the colony so the bees covered all the brood frames by feeding the colony with her special syrup feeder situated on top of the frames. Cotton described early spring feeding to produce early swarming to increase hive numbers…Increasing hive numbers by swarming was an old method before Langstroth's frame in America, which dated back to European skep beekeeping. Increasing by swarming would have been familiar and acceptable to beekeeper customers buying her book and hives."

Mangum, Wyatt A. "Mrs. Lizzie E. Cotton: Beehive Designer from the 1880s." *American Bee Journal,* June 1, 2022.

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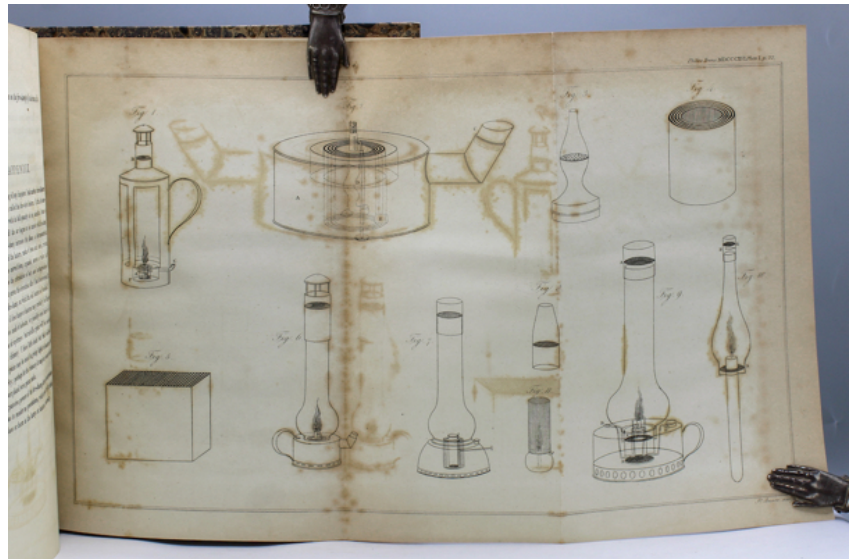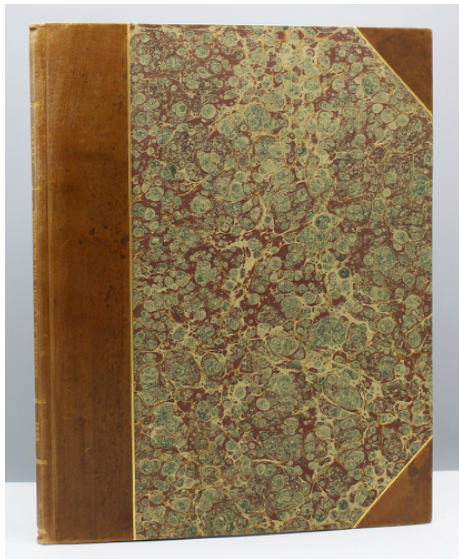
9. DAVY, Humphry. "On the fire damp of coal mines, and on methods of lighting the mines so as to prevent its explosion. Read November 9, 1815. [Together with:] "An Account of an invention for giving light in explosive mixtures of fire damp in coal mines, by consuming the fire damp. Extracted from The Philosophical Transactions of the Royal Society of London, 1816.

Quarto. pp. 1-24, with original title-page to the volume preserved. Engraved folding plate.

Modern marbled boards. Light foxing, some offsetting from the plate at the folds. Very good.

$900

Davy's first description of his safety lamp. A disastrous mine explosion in England in 1813 led to the formation of the society to study the nature of these accidents and appeal to scientists to propose remedial measures. Their first report was issued in 1815 and prompted Davy, Stephenson and others to devise their safety lamps. The Davy lamps consisted of enclosing the lamp in metal gauze, and thereby lowering the ignition point of methane, the chief constituent of "fire-damp", the explosive gas in coal mines. George Stephenson arrived at a similar design at about the same time, and a bitter controversy followed.
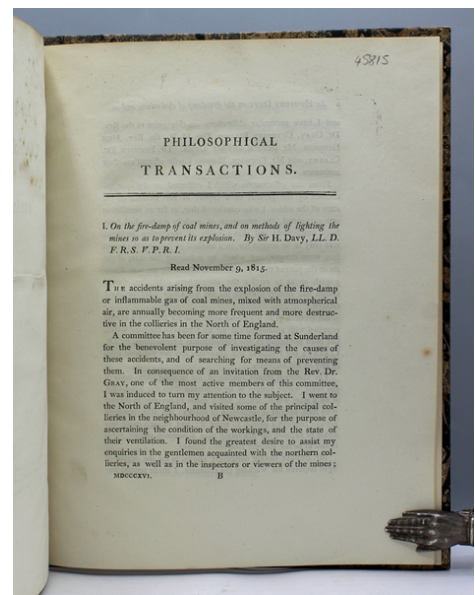
Dibner 181. Norman 612.

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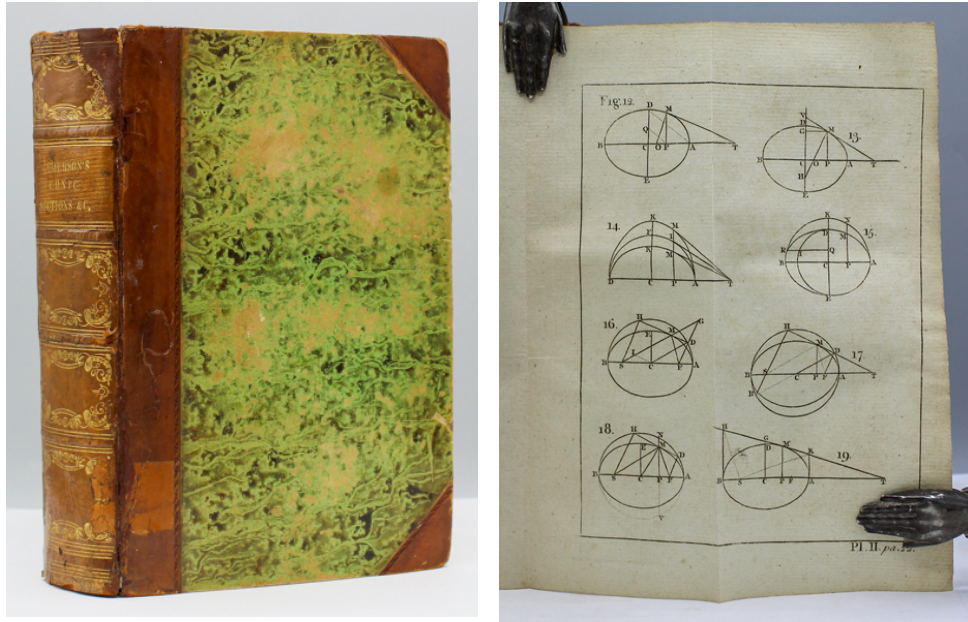
10. [EMERSON, William.] *The Arithmetic of Infinites, and the Differential Method; Illustrated by Examples…* London: Printed for J. Nourse, 1767.

Three parts in one, octavo. 4, 44, [2], 225, [1], iv, 115, [3] pp. Forty-two engraved folding plates. Each part with a separate half-title.

Nineteenth-century half calf over decorative boards, gilt-decorated spine. Chip at head of spine neatly repaired with newer calf, embossed library stamp on title-page, rubberstamped numeral on verso of title-page, some offsetting to endpapers. A good, clean copy.

$750

Emerson (1701-1782) was a capable mathematician, and his texts, beginning with the Doctrine of Fluxions (1749), were widely used in the eighteenth century He was also rather an eccentric, and the studied oddity of his dress caused a widespread belief that he was a magician.

Wallis, 743EME67.
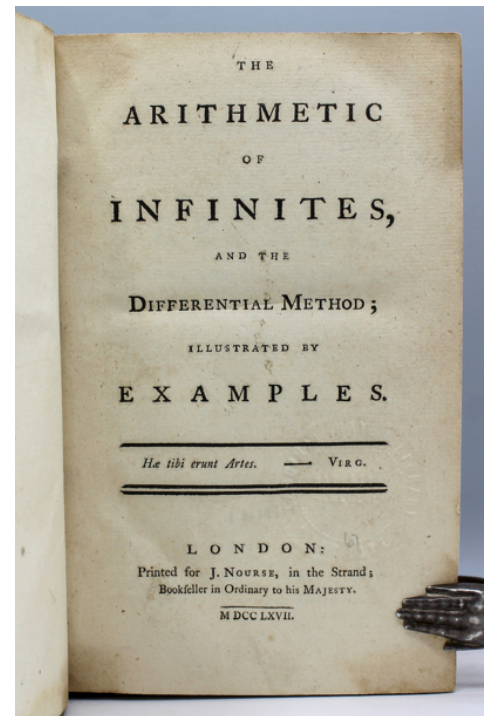
11. [EMERSON, William.] *A System of Astronomy: Containing the Investigation and Demonstration of the Elements of that Science.* London: J. Nourse, 1769.

Octavo. x, ii, 368, [4] pp.

Contemporary English diced Russia, gilt leaf border, gilt flat spine, tooled in compartments, all edges gilt. English Royal Arms of the Order of the Garter in gilt in the center of both covers, all edges gilt. With sixteen folding engraved plates (plate 11 misbound). Complete with the errata leaf and publisher's advertisements. Joints, corners lightly worn. A very good copy.

$650

First edition.

Emerson (1701 - 1782), who is well known for his mathematical works, gives a historical overview of "the earliest science." This is a comprehensive account of the systems of the world, the motion of the planets, and their periods. Emerson contemplates solving some of the principal astronomical problems by spherical trigonometry and by globes. He discusses the theory of the moon and satellites and the calculation of eclipses, as well as the contributions of Tycho Brahe, Kepler, Galileo, Halley, and Newton.

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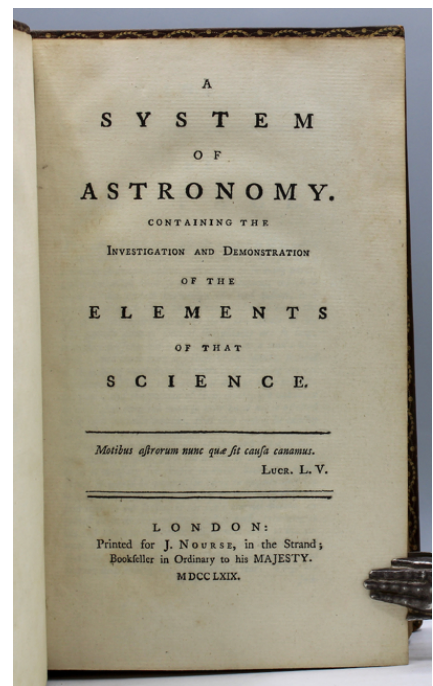
Student's Edition of Euclid and Du Hamel's Astronomy
In an Attractive Contemporary Binding

12. [EUCLID]. *Euclidis Sex Primi Elementorum Geometricorum Libri, commodiùs demonstrati.* a.p. Georg[es] Fournier è societate Jesu. Cantibrigiæ: Excudebat J. Field, impensis Edwardi Story, 1665.

[with:]

Du HAMEL, [Jean-Baptiste]. *Elementa Astronomica...Ad illustriss. virum. D.D. Claudium Bazin...* Cantabridgiæ: Excudebat J. Field, impensis Edwardi Story, apud quem prostant venales, 1665.

Long twelvemo. [10], 302; 72 pp. Engraved borders, initial letters, and numerous diagrams. A few leaves mispaginated.

Contemporary calf ruled and stamped decoratively in blind. Edges speckled red. Bound without the front and rear pastedowns. Binding extremities lightly rubbed and worn and a small repair to the spine. Margins slightly shaved with no loss of text. Slight foxing, dampstaining, a few small marginal tears, and light worming. L4 to Q12 has minor worming in the gutter margin, at times touching text, but with no loss of legibility. Gathering C is partially loose. Former owner's ink annotation on front free endpaper, dated 1668 and labeled "Cambr." Additional pencil marking and a 1.5" tear on front free endpaper. Contemporary ink annotation on title-page. Modern bookplate on inner front board. A very good copy overall.


$1,250

Second edition of these two works bound together for students. The first was published in London in 1654. ESTC cites four copies of the first edition and five copies of the second in North America.
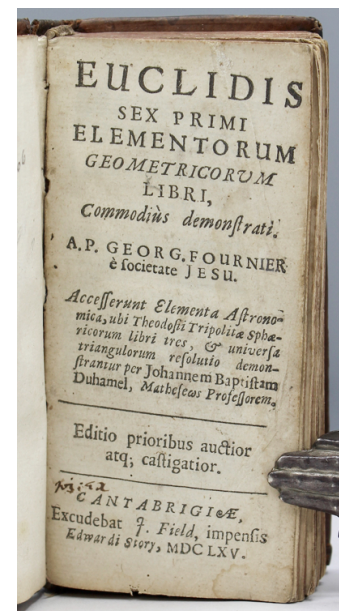
Georges Fournier (1595 - 1652) was a French Jesuit priest, geographer, mathematician, and teacher of René Descartes. He published the treaty *Hydrographie*, in which he tried to provide a scientific foundation for the design of ships.

Jean-Baptiste du Hamel (1624 - 1706) was a French cleric, natural philosopher, and the first secretary of the Academie Royale des Sciences. Among his publications are: *Les Sphériques de Théodose* (1642), *Astronomia physica* (1659), and *De mente humana* (1672).

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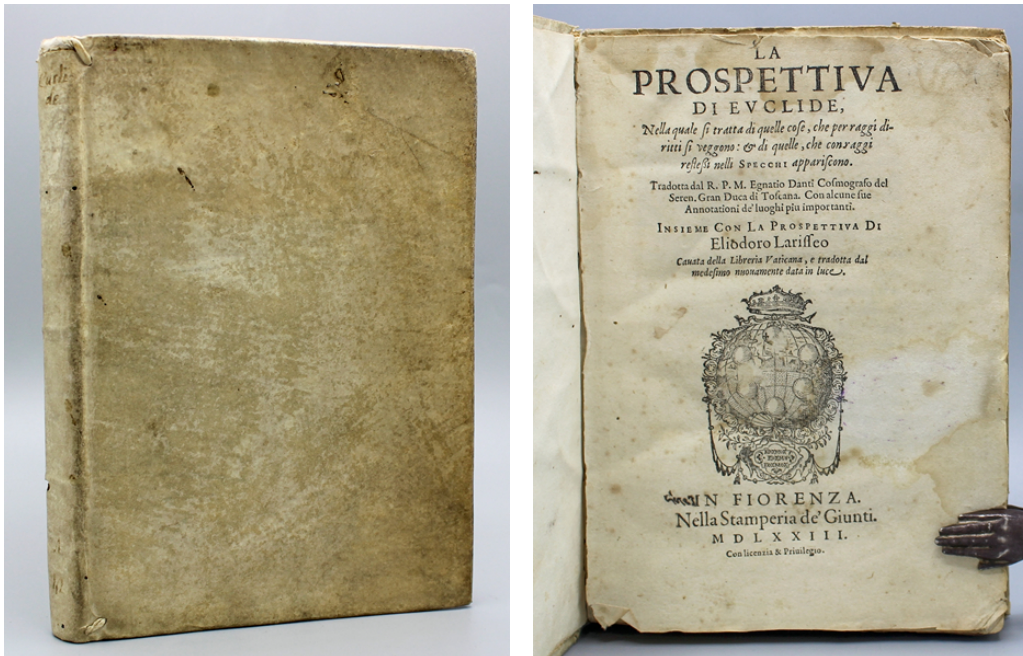
13. [EUCLID.] *La prospettiva di Euclide,* Nella quale si tratta di quelle cose, che per raggi diritti si veggono & di quelle, che con raggi reflessi nelli specchi appariscono Tradotto dal R.P.M. Egnatio Danti Cosmografo del Seren. Gran Duca di Toscana. Insieme con la Prospettiua di Eliodoro Larisseo. Firenze: Nella Stamperia de' Giunti, 1573.

Small quarto. [8], 110, [2, blank with small vignette on verso]. [34] pp.

Contemporary vellum over stiff boards, title in manuscript on spine. Covers soiled, with a few stains, one wormhole at spine, light worming to pastedown endpapers. Dampstain at top edge and fore-edge in first and last few leaves, first few leaves closely cropped at top edge, grazing a few

words, but not affecting legibility. A little light foxing and toning, and a few additional small stains. One inch tear at fore-edge of blank between the two works. A good, sound copy.

$2,500

First Italian edition of Euclid's *Optica (La prospettiva di Euclide),* together with a translation of the spurious *Catoptrica (Gli specchi di Euclide). La prospettiva di Eliodoro Larisseo* follows, first in the Italian, and then in the Greek and Latin versions, in parallel columns. Geometrical diagrams in text. Woodcut printer's device on title-page, decorative initial letters, tail-pieces, and other vignettes. Separate title-page for *La Prospettiva di Elidoro Larisseo,* with small typographic vignette.
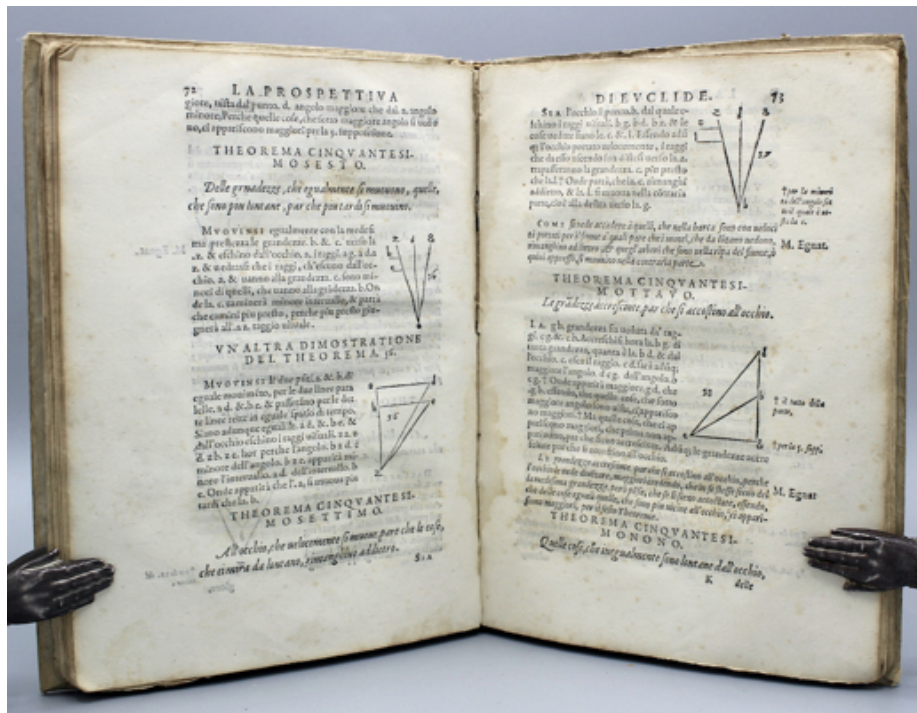
Euclid's *Optics* is a work on vision written around 300 BC. The earliest surviving manuscript of Optics is in Greek and dates from the 10th century AD. It focuses almost completely on the geometry of vision with little reference to either the physical or psychological aspects of sight. No Westerner had previously given such mathematical attention to the subject of vision. Euclid's work influenced many later Greek, Islamic, and Western European Renaissance scientists and artists. Heliodorus of Larissa (fl. 3rd century?) first propounded the axiom that light on being reflected always chooses the shortest way.

Adams E 1021. Riccardi I, 391. Wellcome I - 2085; Gamba, 1385.

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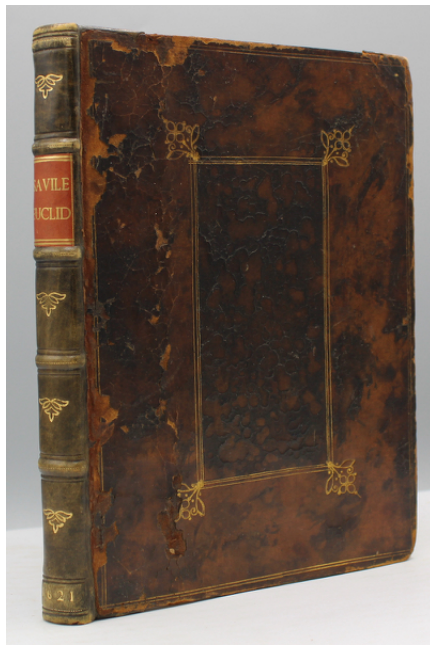
14. [EUCLID.] [SAVILE, Henry]. *Praelectiones tresdecim in principium Elementorum Euclidis habitae MDC.XX.* Oxford: Iohannes Lichfield & Iacobus Short, 1621.

Small quarto. [4], 260 pp. First edition. Woodcut diagrams throughout, decorative initial letters and headbands. Printed in Roman, italic, and Greek types.

Contemporary paneled calf, neatly rebacked in modern calf. Gilt spine with red calf label. Old armorial bookplate on front pastedown, with library withdrawal rubberstamp. Some light toning, offsetting to margins of first and last few leaves from the binding, tear in upper margin of Kk3. A very good copy.

$4,500

Sir Henry Savile (1549-1622), warden of Merton College, Oxford, was one of the foremost scholars of his day and a patron and donor to the library established by his friend Thomas Bodley. The Praelectiones are a series of lectures on Euclid's Elements delivered to inaugurate the Savilian professorships in Geometry and Astronomy, which he founded. Euclid was a life-long interest of Savile's. He stated at one point that he could forget to eat or sleep when absorbed by his study of the Elements. His lectures are today "still of scholarly worth" (Oxford DNB).
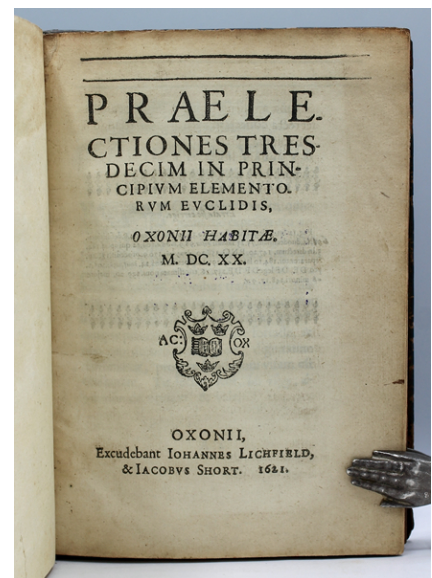
Though many copies of this book exist in old British libraries (especially at Oxford), it is quite scarce on the market, and ESTC notes only five copies in American libraries (Columbia, Folger, Harvard, Huntington, and University of Illinois).

STC 21782. Madan I, p. 116.

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15. EVELYN, John. *Silva: or, a Discourse of Forest-Trees, and the Propagation of Timber in His Majesty's Dominions...in Two Books. Together with An Historical Account of the Sacredness and Use of Standing Groves. Terra, A Philosophical Essay of Earth; being a Lecture in Course. To which is annex'd, Pomona: Or an Appendix, concerning Fruit-Trees, in relation to Cyder; the Making and Several Ways of Ordering It...Also Kalendarium Hortense; Or, The Gardener's Almanack...*London: Printed for J. Walthoe, J. Knapton, D. Midwinter, A. Bettesworth, J. Tonson, W. Innys, R. Robinson, J. Wilford, J. Osborn and T. Longman, B. Motte, A. Ward; and sold also by F. Fayram, 1729.

Folio. [2], xxviii, 329, [1, blank], + vi (table); [4], 235, + [5, table] pp. Title page printed in red and black. Textual engravings and diagrams in addition to engraved borders, headbands, tailpieces, and initial letters. A few leaves misnumbered and a few gatherings missigned.

Brown calf ruled in gilt. Edges speckled red. Binding extremities lightly worn and rubbed with some minor chipping to spine and back cover. Crown of spine worn away less than 1/4." Very minor foxing. Engraved armorial bookplate on front pastedown. Very good.

$1,250

Fifth edition of Evelyn's most celebrated work. The first edition (*Sylva*) was published in 1664, and has the distinction of being the first official publication of the Royal Society. Later editions contain additional material.

John Evelyn (1620-1706) is well known for his work *Diary*. In 1652, he commenced working on the garden at
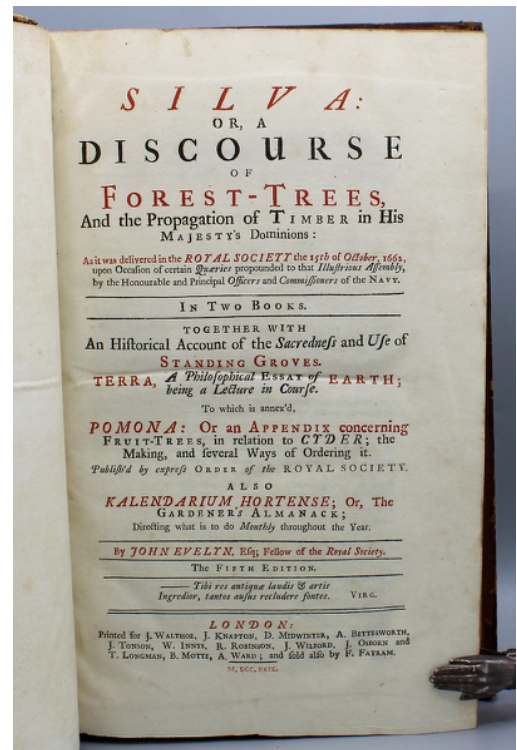
Sayes Court, which began his interest in botany and garden history. This led to his writing the *Elysium Britannicum*, an encyclopedic history of gardens and gardening practices. Evelyn's pioneering work on tree cultivation (*Sylva*, 1664) as well as his work on soils (*A Philosophical Discourse on Earth*, 1676 - entitled *Terra: A Philosophical Discourse* in later editions) were outgrowths of *Elysium*. Meant primarily to encourage tree planting after the devastation of the Civil War, *Sylva* was a learned work addressed more to gentleman than to foresters. In it, Evelyn introduced the word "avenues" into the language of landscaping. He was one of the virtuosi who formed the Georgical committee of what became the Royal Society in 1661. Long dismissed as a dabbler in the sciences, Evelyn is now recognized as a scholar and participant in the reception of the new science of the seventeenth century (Oxford DNB).

Henrey 136.
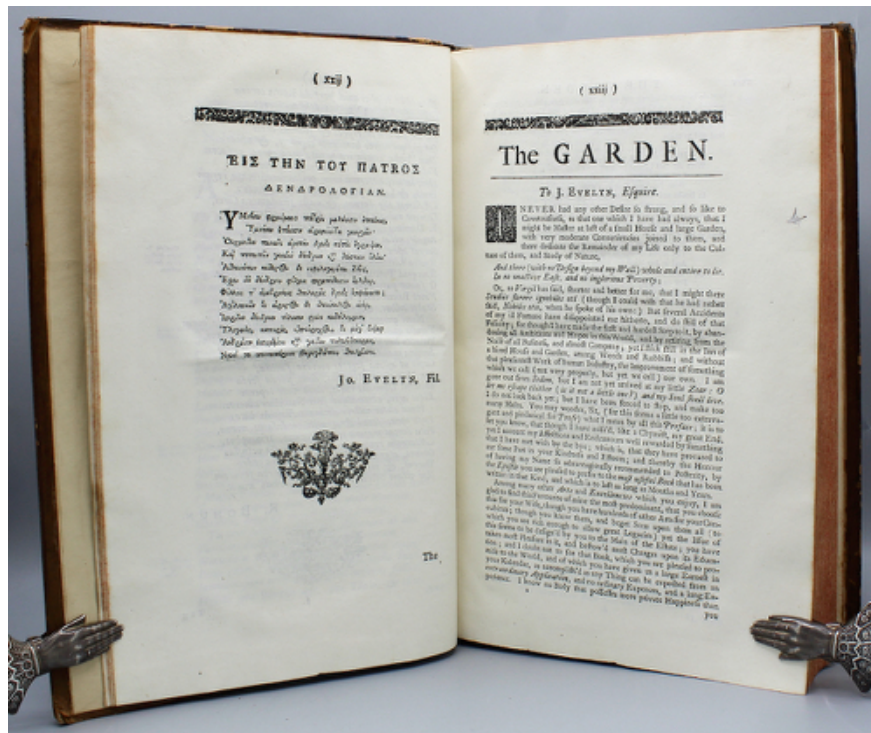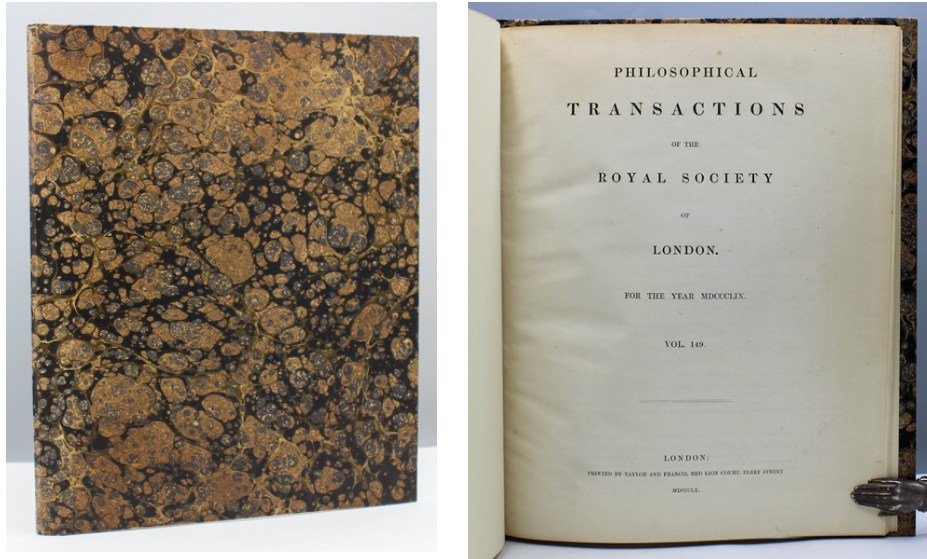
16. FARR, William. "On the Construction of Life Tables, illustrated by a New Life Table of the Healthy Districts of England. Read April 7, 1859." In: The Philosophical Transactions of the Royal Society of London, 1859, pp. 837-878.

Quarto. [2], 42 pages, one folding table. The extracted paper, with the original title-page to the volume bound in.

Modern boards. Pencil numerals on verso of the title, otherwise fine.

$2,500

The first printing of Farr's preliminary report describing the use of the Scheutz calculator to prepare life tables, published five years before his English Life Tables (1864, see Garrison & Morton 1700.1), and representing the very earliest application of computers to medical statistics. The table was one of the greatest achievements of William Farr, the Scheutzes and, of course, Charles Babbage, who was inspirational in this project.

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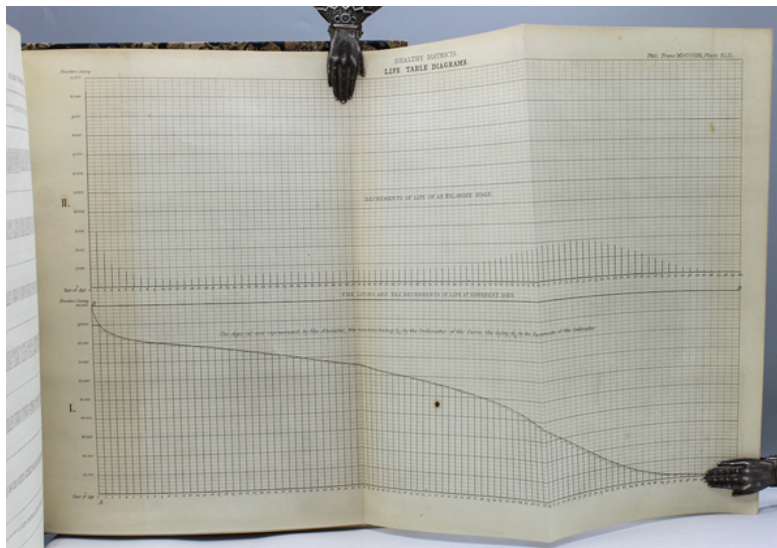
By Harvard Computers Member Mary Fowler,
Who Specialized in Astrophotography and Analyzed Binary Stars

17. FOWLER, Mary and Henry Norris Russell. "Photographic Determinations of the Position of the Moon." [In:] *Annals of Harvard College Observatory.* Vol. 76, No. 7. [Cambridge, Massachusetts: Astronomical Observatory of Harvard College, 1915.]

Quarto. pp. 127-160. With two zincographed plates. Article is complete as issued.

Printed self-wrappers, sewn, unbound as issued and complete with final blank that is often missing. Some dust-soiling to front wrapper and small open tear at spine, not affecting text. Stitches at spine loosened. Plates and final blank are detached but present. Some predation to lower corner at fore-edge. Small open tear to final blank. A good copy of this uncommon work by a Harvard Computer.

$500

First edition. This article is dated 1915 and was published that year but is often misdated because it was later reissued featuring a title-page dated 1916.

The present work compiles data that Harvard Computers member Mary Fowler gathered from her analysis of photographs of the moon. Fowler specialized in astrophotography, which is now much less common for gathering scientific data but was a major advance in the field of astronomy during the early-to-mid twentieth century. An earlier publication of hers in *Popular Astronomy* used astrophotographs taken at Harvard between 1907 and 1911 to determine the orbit of the spectroscopic binary U Saggitae and infer even more data about the star from as far back as 1887, almost fifteen years before the star was officially documented.

We could not find much information on Mary Fowler in the sources available to us. She was a member of the Harvard Computers alongside important woman astronomers like Anne J. Cannon, Antonia Maury, Williamina Fleming, Florence Cushman, and Henrietta Swan Leavitt.

OCLC records 3 copies of this 1915 issue (the Naval Observatory, Harvard, Ohio State) and five copies of a 1917 edition with different pagination (Johns Hopkins and Western University in Ontario, Canada along with the Naval Observatory, Harvard, and Ohio State).

"Orbit of U Saggitae." *Popular Astronomy.* Vol. 21 (1913), p. 436.

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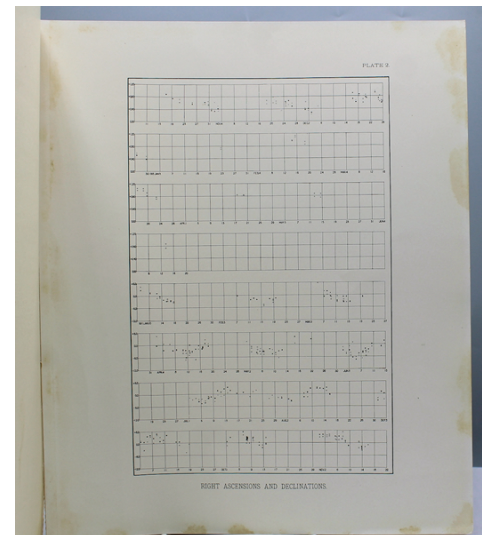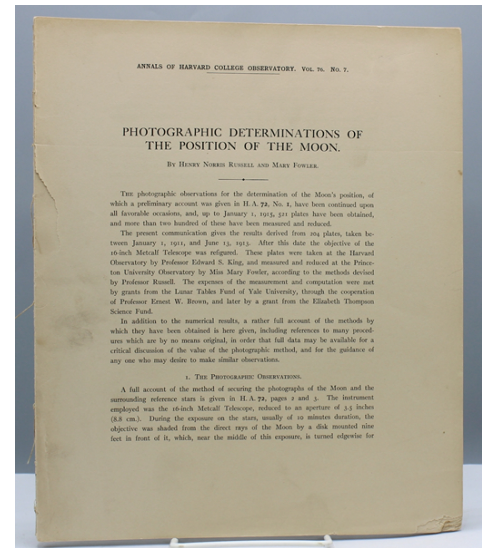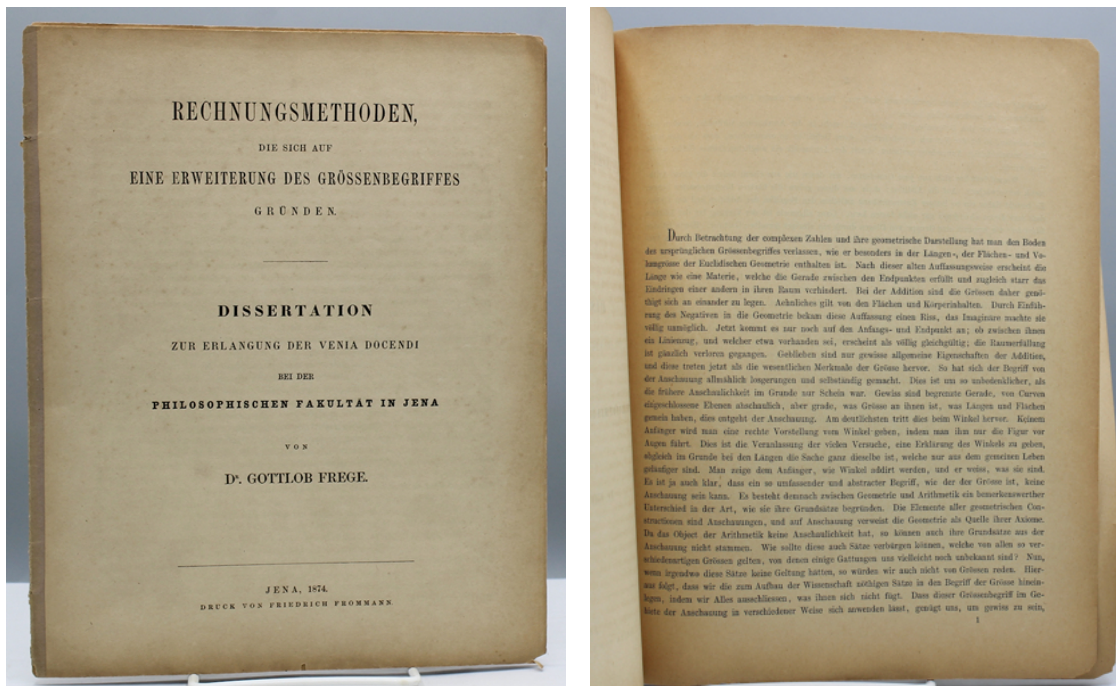
18. FREGE, Gottlob. Rechnungsmethoden, die sich auf Eine Erweiterung des Grössenbegriffes Grunden. Dissertation zur Erlangung der Venia Docendi bei der Philosophiscehn Fakultät in Jena. Jena: Friederich Fromann, 1874.

Quarto. [2], 26, [1, curriculum vita] pp.

This item is printed on acidic paper, which is lightly browned around the edges. The last leaf is beginning to chip at the top, with no text loss. A very good copy of an extremely fragile pamphlet. Self-wrapper, with reinforcement strip at spine.

$7,500

First edition of Frege's qualifying dissertation for his job teaching at the University of Jena. Very scarce.

This is one of the rarest of Frege items. We have been able to locate only the Smithsonian copy and the copy at Brown. "In 1873 Frege received his doctorate in philosophy at Göttingen with the thesis 'Ueber eine geometrische Darstellung der imäginaren Gebilde in der Ebene.' The following year at Jena he obtained the venia docendi in the Faculty of Philosophy with a dissertation entitled "Rechunsmethoden, die sich auf eine Erweitung des Grössenbegriffes gründen," which concerns one-parameter groups of functions and was motivated by his intention to give such a definition of quantity as gives maximal extension to the applicability of the arithmetic based upon it. The idea presented in the dissertation of viewing the system of an operation f and its iterates as a system of quantities, which in the introduction to his *Grundlagen der Arithmetik* (1884) Frege essentially ascribes to Herbart, hints at the notion of f-sequence expounded in his *Begriffschrift* (1879)" (B. Van Rootselaar, writing in the DSB).

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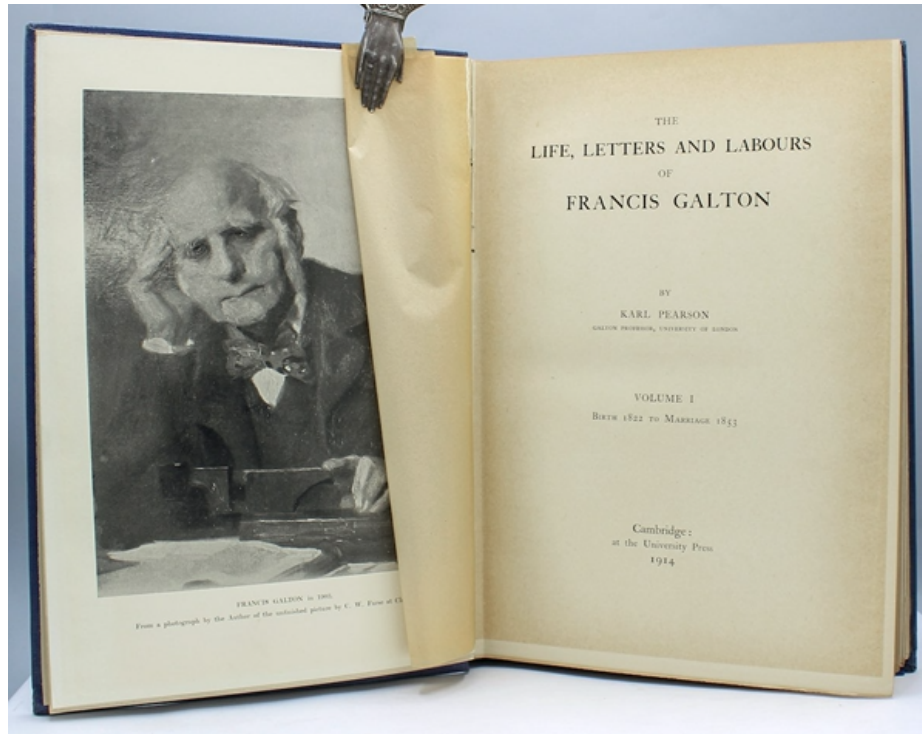
19. [GALTON, Francis.] PEARSON, Karl. *The Life, Letters and Labours of Francis Galton.* Cambridge: At the University Press, 1914-1930.

Three volumes in four, large octavo. [xxiv], 246, [2, advertisement for the Pearson and Galton-founded journal, Biometrika]; [xii], [426]; xii, [2], 438, [2]; [6], pp. [441]-673, [3], [8, ads] pp. With 190 portraits and other plates, several in color. Five folding genealogical tables in a pocket at the back of Volume I. Two charts in rear pocket of Volume IIIA.

Original blue cloth, gilt spines, gilt portrait bust of Galton on front covers. Spine of Volume I lightly faded. Bottom corners bumped in Volume I, upper corner of Volume II bumped. Vols. IIIA and IIIB have worn dust jackets. A very good set.

$1,500

First edition.

Francis Galton (1822 - 1991), grandson of Erasmus Darwin and cousin of Charles Darwin, was one of the last of the gentleman scientists. He held no academic post, and most of his experiments were conducted at home or were farmed out to friends. His intellectual capacity was legendary, however, and he produced a steady flow of original ideas, even though he produced no one particular great work, at least in comparison to others in his family. His earliest important work was in meteorology. He noted the importance of anticyclones, for example, the term

coined by himself. But his best-known studies were in heredity. He believed that talent—scholarly, artistic, athletic—was hereditary, and his conclusions became the foundation of modern eugenic sociology. (Again, the term "eugenics" is his.)
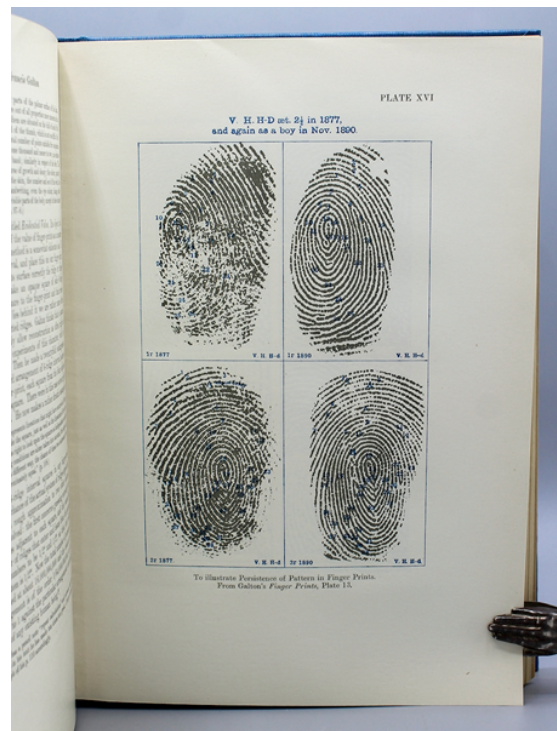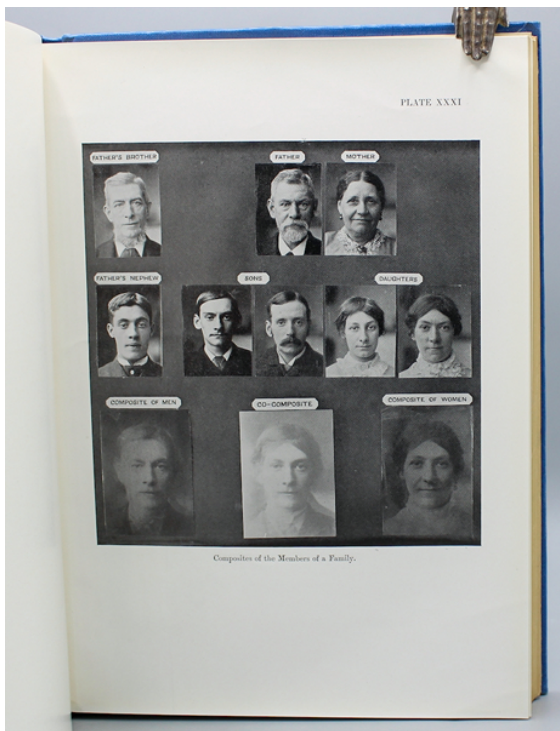
Galton is famous for having simplified the method of identification by fingerprinting, revolutionizing the system in his own day, and producing a taxonomy that is basically the one in use today. Throughout his work runs the common theme that all experience and its variations can be quantified, and his taxonomies are numerous. This is the only full treatment of Galton's scientific and personal life. Karl Pearson, a genius of amazing heights himself and a close personal friend of Galton, wanted this biography to be a monument to Galton's achievement rather than a popular account of his life. It begins with a full comparison with his ancestors, especially the Darwins, and proceeds through a complete exposition of his work. It is noteworthy that the plates include, for example, all the illustrations from *Finger Prints* (1893), along with numerous other facsimiles from other works, and a fascinatingly complete photographic record of his life. The Dictionary of Scientific Biography calls it "one of the most elaborate and comprehensive works of its kind in this [the twentieth] century."

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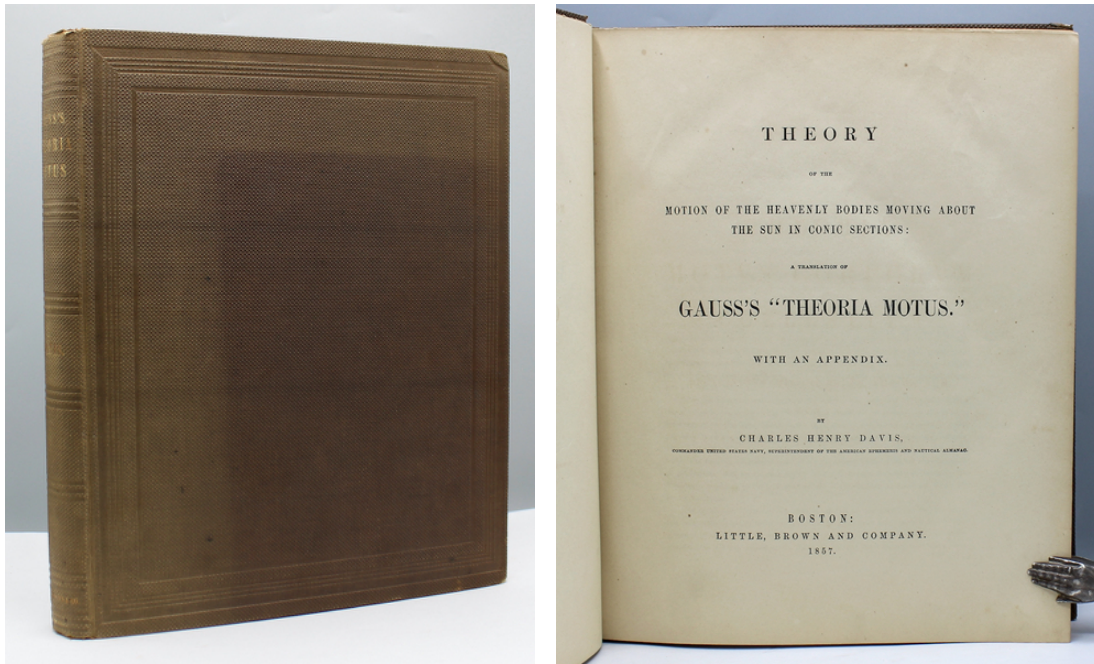
20. GAUSS, Carl Friedrich. *Theory of the Heavenly Bodies Moving About the Sun in Conic Sections: A Translation of Gauss's "Theoria Motus."* With an Appendix. By Charles Henry Davis...Boston: Little, Brown, 1857.

Quarto. xvii, [3, blank], 326, 39 (tables), [1, list of constants].

Publisher's brown cloth, partially faded. Covers and spine blocked in blind, spine lettered in gilt. Corners lightly worn, old donor's inscription on a preliminary blank. An unusually fine copy, largely unopened.

$1,500

First edition in English of Gauss' chief work on celestial mechanics, in which he introduced the principle of curvilinear triangulation and the four formulae in spherical trigonometry known as "Gauss's Analogies," by which he was able to accurately calculate and predict orbit location. With eight engraved plates of diagrams.

Gauss's (1777 - 1855) work originally appeared in 1809. It is here translated by Charles Henry Davis (1809 - 1877), Commander and later Rear Admiral in the United States Navy and Superintendent of the American Ephemeris and Nautical Almanac. Davis notes in the preface that only parts of Gauss's great work had been
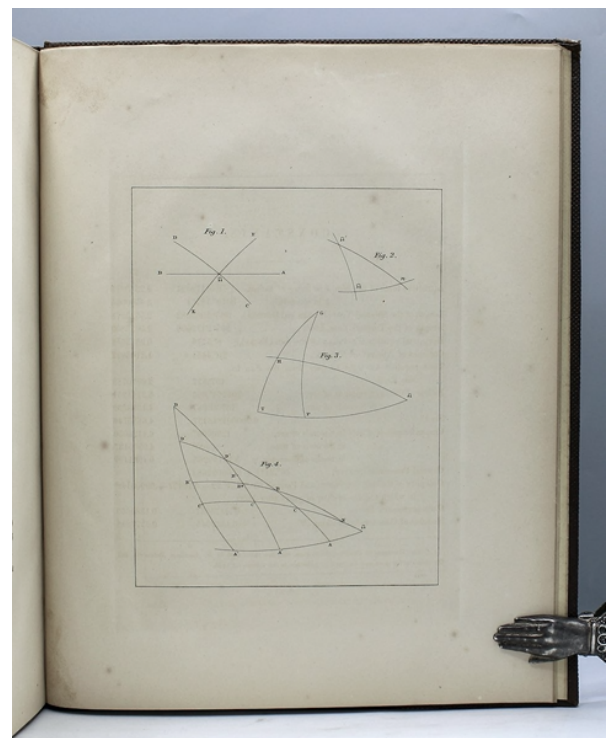
previously translated, and he felt it would bee helpful in his work on the American Ephemeris to undertake a complete translation.

For discussions of the first edition, see Norman 879, *Printing and the Mind of Man*, 257n. Dibner, *Heralds*, 144n, Houzeau and Lancaster 11897.

21. GOEDARTIUS, Johannes. *De insectis, In Methodum Redactus; cum notularum additione.* Operâ M. Lister, è Regiâ Societate Londinensi... Item appendicis ad Historiam Animalium Angliæ...London: Excudebat R.E. sumptibus S. Smith... 1685.

Octavo. [7], [1, blank], 356, [4], 45 pp. With twenty-one fine engraved folding plates, displaying 150 examples of insects in various stages of their development and thirty-five examples of marine life. Separate title-page for the appendix.

Modern quarter black morocco over marbled boards, gilt spine. Top corner of title-page restored, a couple of tears in folding plates neatly repaired. A bit of soiling in text. Otherwise a very good, clean copy.

$850

First edition with this title, with additions.

Goedart (1617 - 1668) was born in Middelburg, Netherlands. He had very little formal education, but his interest in art, particularly watercolor, led him to careful, scientific observations of local and regional insect populations. Although he was not a classifier and believed that certain larvae were the product of spontaneous generation, he eventually became a respected authority in entomology. This his only book, originally entitled *Metamorphosis Naturalis,* was first published in two parts between 1662 and 1667, with a third part appearing posthumously. In it the author details his various
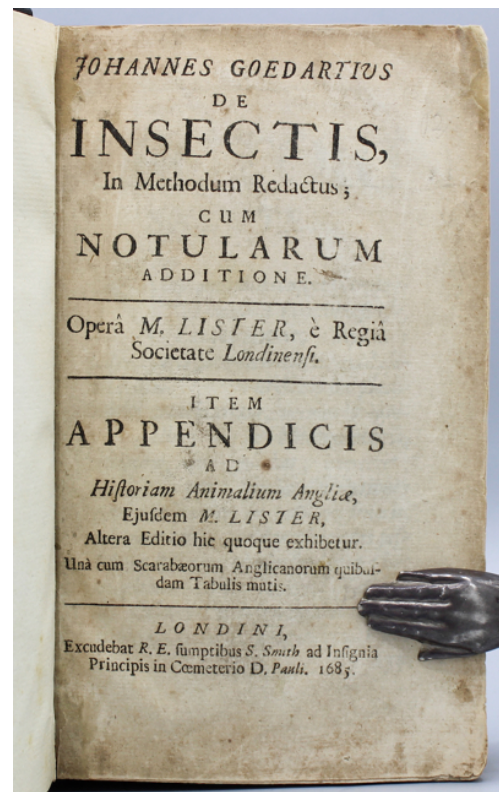
experiments with insects, noting their developmental histories from larvae to adult and skillfully diagrams their appearance at significant stages. Martin Lister (1639 - 1712) edited this edition for the Royal Society, and supplied the appendix on marine life. (See DSB).

Wing G-1002. B.M.N.H. II, 659. Nissen 1606.
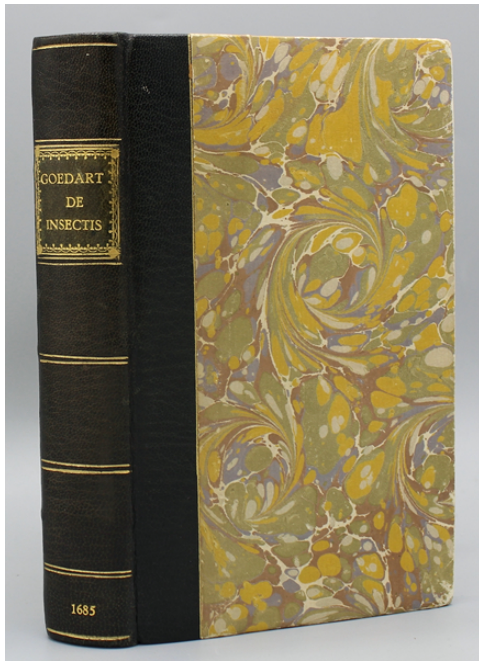
Documenting Photometric Data for 14,000 Stars,
By the Harvard Computers Member Who Discovered a Minor Planet

22. HARWOOD, Margaret. "Bond Zones of Faint Equatorial Stars in the Zone One Degree North of the Equator." [In] *Annals of the Astronomical Observatory of Harvard College.* Volume LXXV – Part I. Cambridge, Mass.: Published by the Observatory, 1913.

Quarto. [vi], 205 pp. Article is complete as issued.

Original light blue printed paper wrappers. Some light dampstaining to front wrapper along spine. Inconspicuous embossed labels of Pomona College to front wrapper and title-page. Lower wrapper lost. Spine somewhat creased and chipped. A bit of light foxing to fore-edge. A very good, clean copy of an important work by the Harvard Computers member who discovered the minor planet 886 Washingtonia.

$375

First edition.

Margaret Harwood (1885 – 1979) was the first director of the Maria Mitchell Observatory; a Fellow of the Royal Astronomical Society; and a member of the Harvard Computers alongside important woman astronomers like Annie J. Cannon, Antonia Maury, Williamina Fleming, Florence Cushman, and Henrietta Swan Leavitt. Harwood specialized in photometry, a technique used to measure the varying light of stars and planets, and focused particularly on the minor planet 433 Eros. The present work documents the photometric data from 14,000 stars that Harwood analyzed.

She was also the first woman to gain access to Mount Wilson Observatory, the largest observatory at the time, and the first woman to receive an honorary doctorate from Oxford. One of Harwood's most notable discoveries was that of 886 Washingtonia, a minor planet orbiting the sun, though Harwood was denied credit for the discovery because it was believed to be inappropriate for women to be in the scientific spotlight. Harwood became the director of the Maria Mitchell Observatory in 1916, about a year before her discovery of 886 Washingtonia, and remained in her position until her retirement in 1957. She was the first woman to serve as the director of an independent astronomical observatory. In 1960, a trio of Dutch astronomers discovered an asteroid between Mars and Jupiter and named it 7040 Harwood in recognition of her considerable contribution to the field of astronomy.

The Linda Hall Library website. "Scientist of the Day: Margaret Harwood." March 19, 2020.

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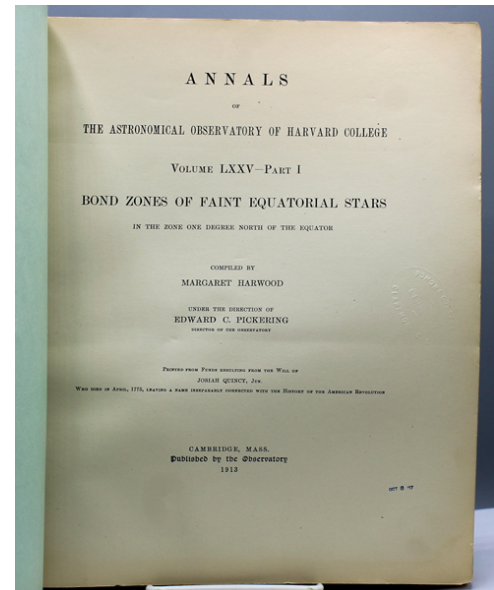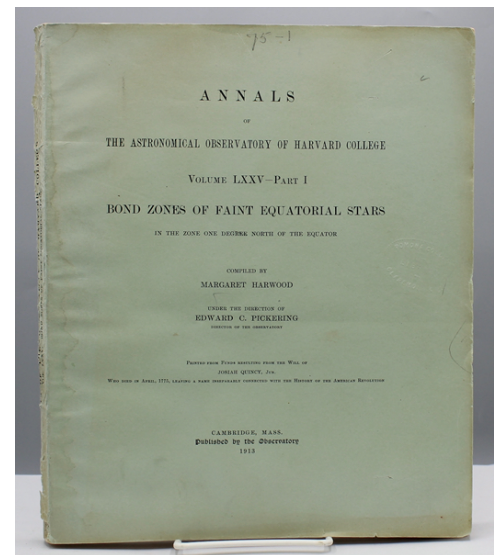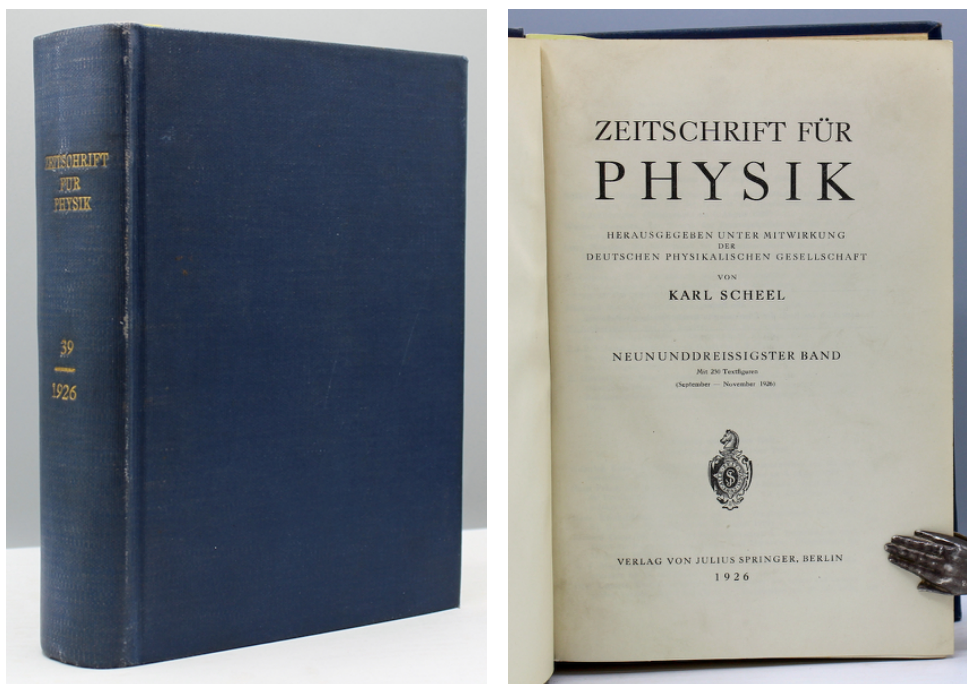
Nobel Laureate J. H. Van Vleck's Copy

23. HEISENBERG, Werner. "Über die Spektra von Atomsystemen mit zwei Elektronen." Contained in *Zeitschrift für Physik,* Vol. 39, Berlin, Julius Springer, 26 October, 1926, pp. 499-518.

Contemporary blue buckram, with title, issue, and year in gilt on spine. Octavo. With the pencil signature of Nobel Laureate John H. Van Vleck. Very good.

$750

All attempts to explain the helium spectra using the old quantum mechanics of Bohr and Sommerfeld had failed. Incorporating both Pauli's exclusion principle and spin into Schrödinger's two-electron wave function, Heisenberg was finally able to derive a good approximation to the emission spectrum of helium. This result marks the second great triumph of wave mechanics after Schrödinger's treatment of hydrogen. In the course of this derivation, Heisenberg hit upon a new insight and established the principle of "exchange interaction"—a force generated solely by the exchange of positions of two totally indistinguishable quantum particles—which turned out to have much wider implications in both solid-state and nuclear physics. Van Vleck won the 1977 Nobel Prize in physics for his "fundamental theoretical investigations of the electronic structure of magnetic and disordered systems."

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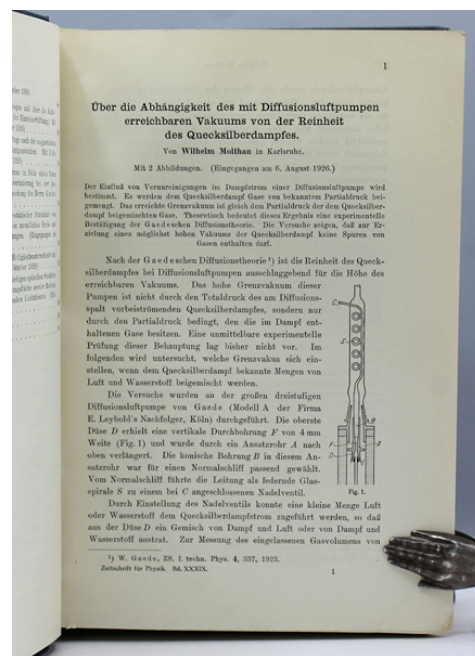
Scarce Article on Stellar Spectra by a Member of the Harvard Computers

24. [HINKLEY, Anna L.] "Color Equation of Various Star Catalogues." [In:] *Annals of Harvard College Observatory.* Vol. 76, No. 2. [Cambridge, Massachusetts: Astronomical Observatory of Harvard College, 1914.]

Quarto. pp. 11-18. With one plate.

Printed paper self-wrappers, sewn, unbound as issued including final blank. Some separation between leaves at spine fold. A bit of foxing to edge of plate and facing page. Some light offsetting from tables in text. A very good copy of this scarce article.

$250

First edition. Extract from the *Annals of Harvard College Observatory.* This article was published in 1914 but is often misdated because it was later reissued featuring a title-page dated 1916. It is also often misattributed to Edward C. Pickering, though the text of the present work explains that it was written by Anna Hinkley (p. 11).

In the present work, Anna L. Hinkley presents an equation that compares the results of visual observations of early astronomers with the technological observations of her contemporaries. Hinkley explains that early astronomers rarely documented the colors of stars and did not have the benefit of later innovations in measuring the spectra of stars, but the data that they did document during their observations can be used to determine how bright different kinds of stars appear to the human eye. The data of early astronomers can also be supplemented with Hinkley's color equation data to better understand what those astronomers were observing at the time.

"Color Equation of Various Star Catalogues" is an interesting supplement to other publications documenting stellar spectra, which allow astronomers to determine astronomical distances by how bright stars appears from Earth. Fellow Harvard Computers member Annie Jump Cannon (1863 – 1941) published numerous articles on stellar spectra, including "Spectra Having Bright Lines," which Cannon published just months after Hinkley published the present work.

We could not find much information on Anna L. Hinkley in the sources available to us. She was a member of the Harvard Computers alongside important woman astronomers like Cannon, Antonia Maury, Williamina Fleming, Florence Cushman, and Henrietta Swan Leavitt.

OCLC records three copies (the Naval Observatory, Harvard, Ohio State).

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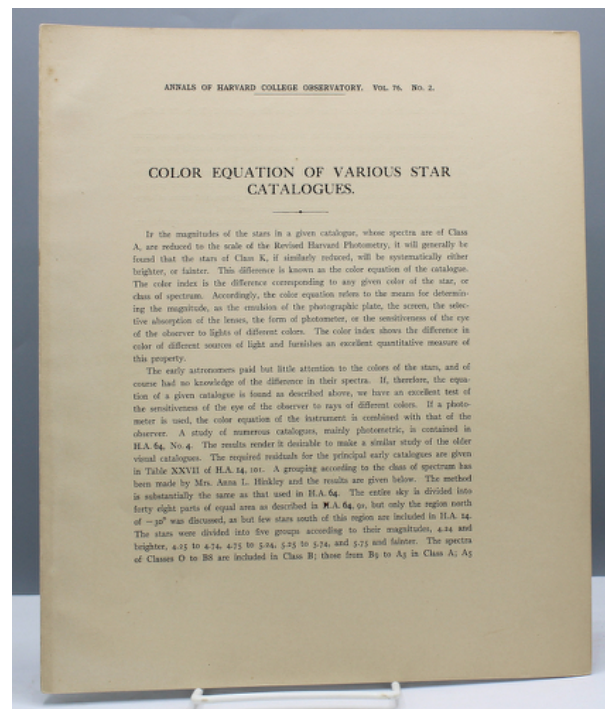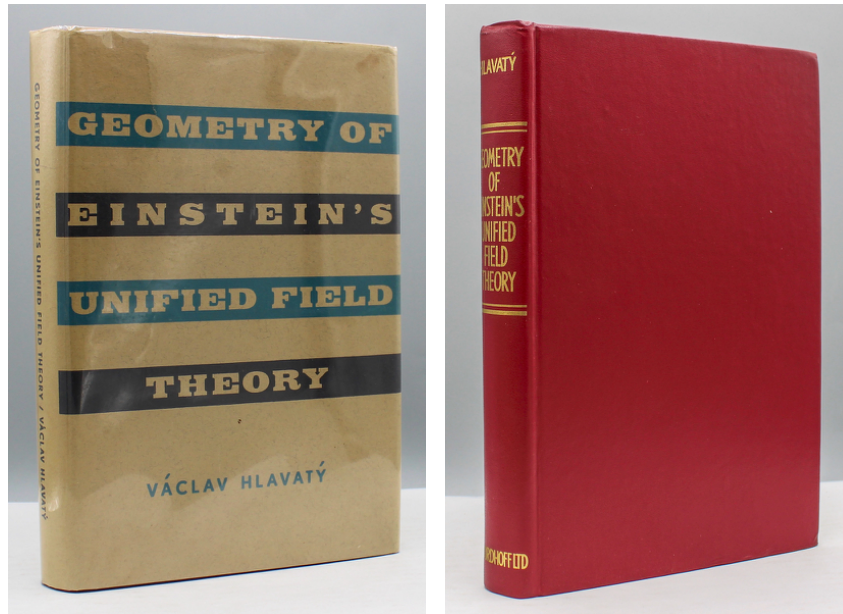
25. HLAVATY, Václav. *Geometry of Einstein's Unified Field Theory.* Groningen: P. Noordhoff Ltd., [1957].

Octavo. xxxii, 341 pp.

Red cloth with gilt spine. Jacket has a two-inch closed tear, reinforced with archival tape on verso and a bit of soiling, but is generally quite attractive. A fine, bright copy in very good dust jacket.

$1,500

First edition of a monumental work in twentieth-century mathematics, in which Václav Hlavatý (1894-1969) solved previously unsolvable differential equations of unified gravitational and eletromagnetic field, providing a definite proof for Einstein's theory of relativity.

Hlavatý, a native of Louny, Bohemia was a professor at Charles University before and after the second World War. After the Communist coup in 1948, he sought exile in the United States. He spent most of his career in America at Indiana University, where he held the title, Distinguished Service Professor of Mathematics.

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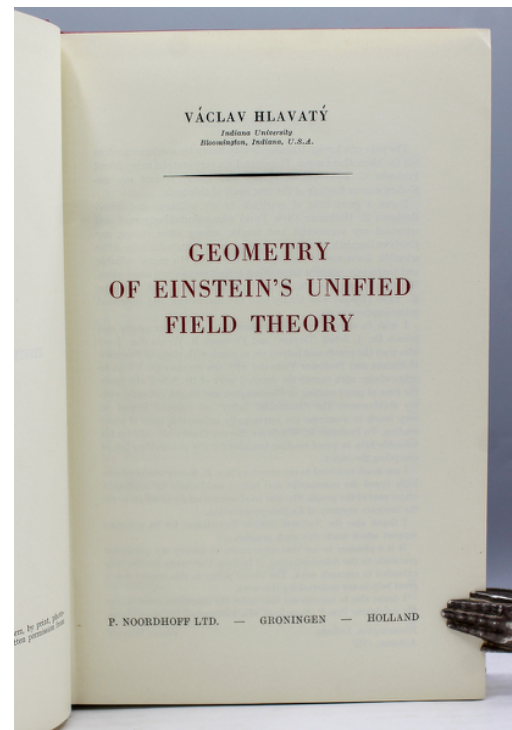
Chemistry Text for Young Learners

26. JOYCE, J[eremiah]. *Dialogues in Chemistry, Intended for the Instruction and Entertainment of Young People, in which the First Principles of that Science are Fully Explained.* To Which are Added Questions and Other Exercises for the Examination of Pupils. London: Printed for J. Johnson, 1809.

Two volumes, twelvemo. [10], 288; [4], 300, [21, index], [3, ads] pp. With eight plates (two in each volume) and tables and equations throughout. Dedicated to chemist Humphrey Davy.

Cotemporary tree calf. Gilt-ruled spine with red morocco labels. Some cracking at hinges, but binding remains sound. Clean throughout aside from some foxing to first and last few leaves. A very good, attractive set.

$950

Second edition, corrected, with additions. First edition published in 1807. All editions are scarce in commerce.

Jeremiah Joyce (1763 - 1816) was a Unitarian minister, writer, and political radical. In his opposition to the war against revolutionary France, became involved with Thomas Hardy and John Horne Tooke of the London Corresponding Society. He was arrested at the same time as Hardy's and Horne Tooke's treason trials, though was soon acquitted and released. Joyce earned most of his
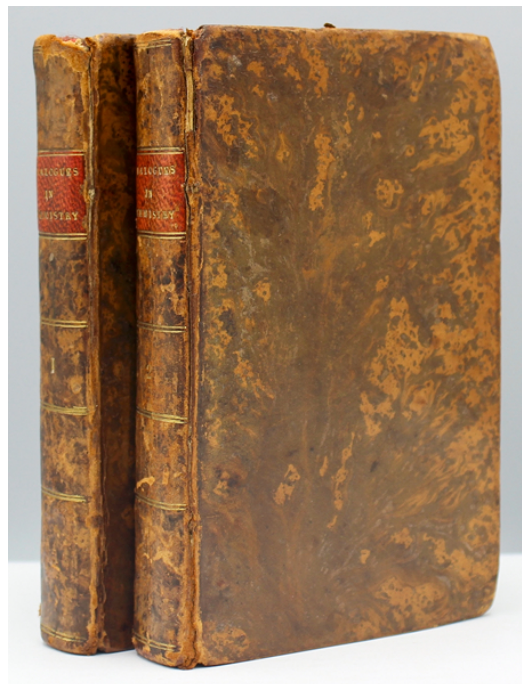
income from his literary output, publishing scientific, mathematical, and religious works (often under the pseudonym "J.J."). His major work was the six-volume series *Scientific Dialogues* (1800-1805), plus *A Companion to the Scientific Dialogues* (1809); the popular series went through various revised editions up until his death. He also wrote *Letters on Natural and Experimental Philosophy* (1810), another science text for young readers.
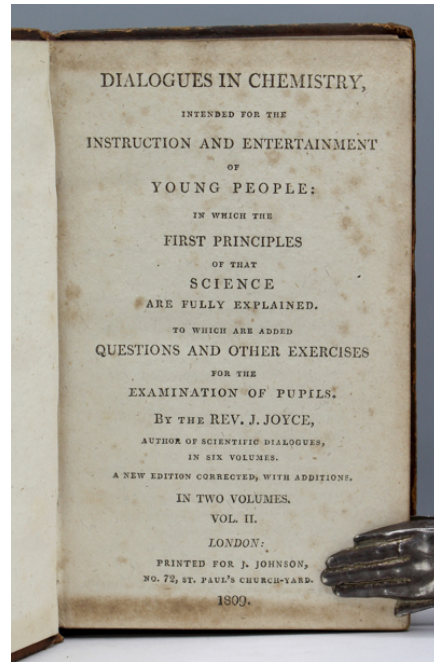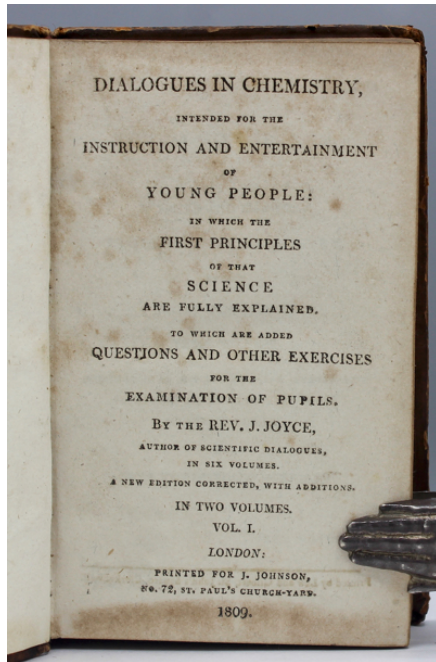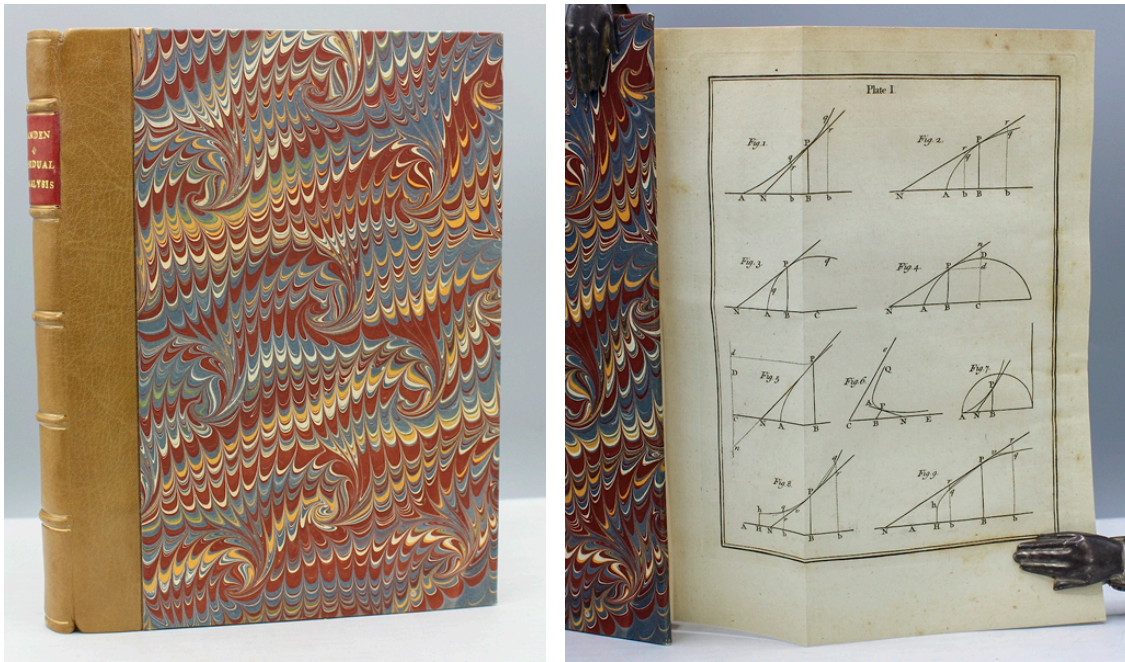
27. LANDEN, John. *The Residual Analysis; A New Branch of the Algebraic Art, Of very extensive Use, both in Pure Mathematics, and Natural Philosophy.* Book I [all published]. London: Printed for the Author; and sold by L. Hawes…[et al.], 1764.

Quarto. viii, "218" [i.e., 128] pp. Five engraved folding plates. With list of subscribers.

Recent tan calf over marbled boards, Gilt-ruled spine with crimson morocco label. A little light foxing. A very good copy of a scarce book.

$2,000

First edition.

John Landen (1719-1790) was the most notable British mathematician in the second half of the eighteenth century. At the time when British mathematics was held back by inadequate notation, an unfortunate consequence of the Newton-Leibniz dispute, he was the only Englishman to score major advances in mathematics and in the art of computation.

In this, his most important work, he attempted to replace the fluxional calculus with an analytic method "founded entirely on the anciently received principles of algebra." A second volume was planned, but it never appeared. According to Lacroix, this was the first attempt to reduce the infinitesimal calculus to "purely mathematical notions" (Oxford DNB). Landen's
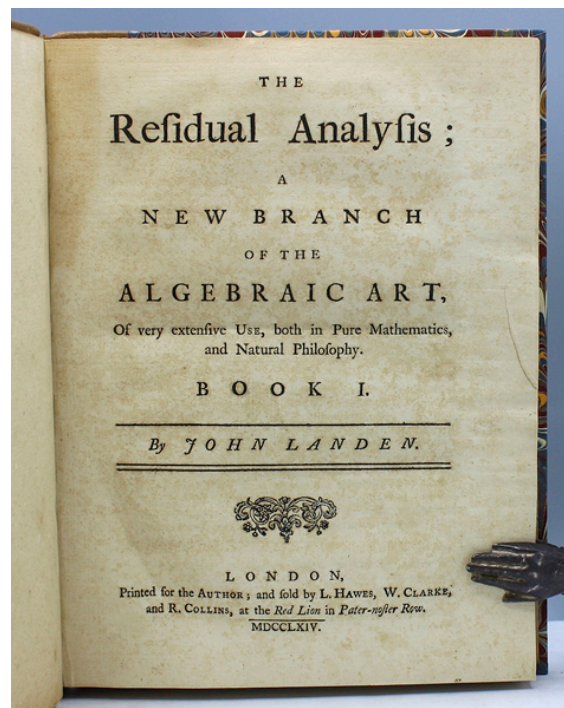
writings served as the starting point for investigations by Euler, Lagrange, and Legendre. He also developed the theorem known by his name for expressing the length of a hyperbolic arc in terms of the lengths of arcs in two ellipses.

ESTC lists nine copies in North America.

Wallis, *Biobibliography of British Mathematics*, 754LAN64.
Smith, History of Mathematics, p. 459. Cf. DSB.
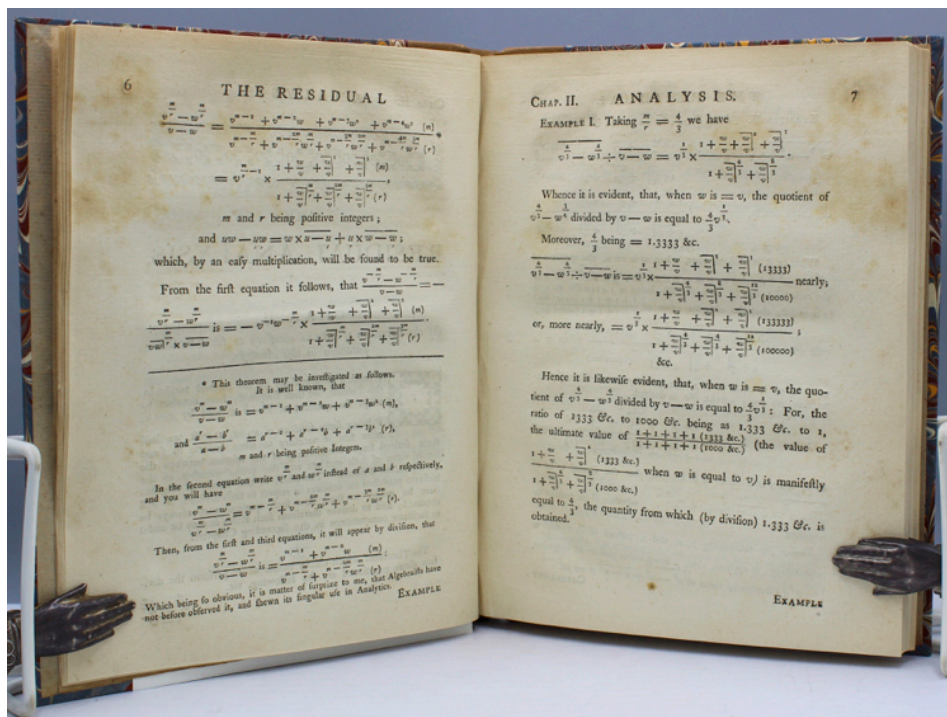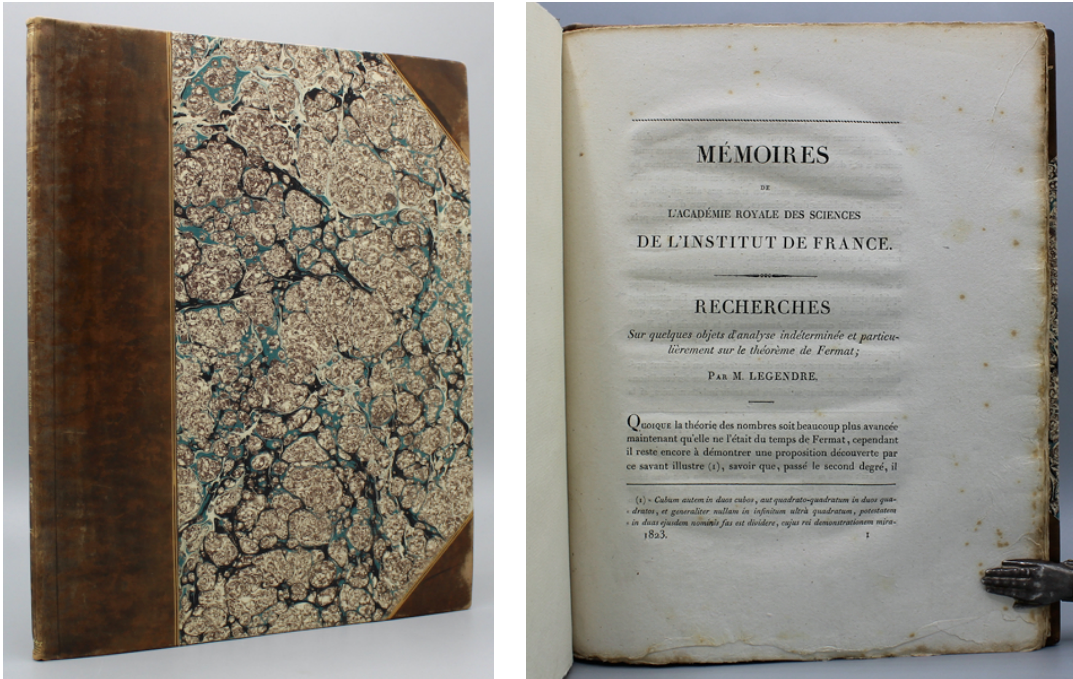
First Step Toward Proving Fermat's Last Theorem

28. LEGENDRE, A.M. "Recherches sur quelques objets d'analyse indeterminée et particulièrement sur le theorème de Fermat." From *Mémoires de l'Académie de France,* Volume 6 (1823), pp. 1-60.

Quarter calf over marbled boards, uncut. A very good copy.

$750

Legendre's treatise "contains a beautiful demonstration of the impossibility of an integral solution of the equation $x^5 + y^5 = z^5$, followed by an examination of more complicated cases of the theorem" (DSB).

Legendre's proof, for $n=5$, was the first major advance after Fermat's own proof for $n=4$ and Euler's incorrect proof for $n=3$. It excited great interest among the mathematicians of the time, and many efforts were made to extend it to other values of n, many resulting in errors. Thus began the race on the most famous problem in mathematics, which remained unsolved for over 325 years until its solution two years ago.

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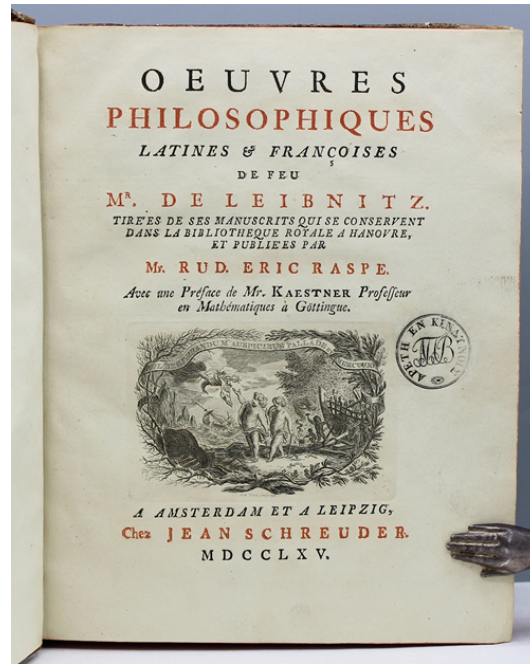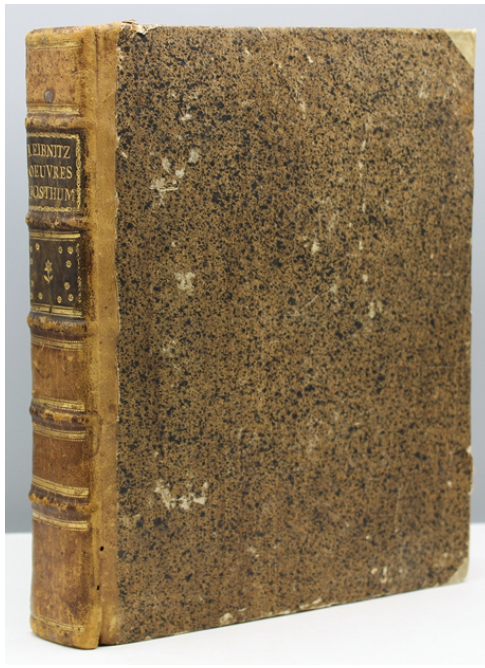
29. LEIBNIZ, Gottfried Wilhelm von. *Oeuvres philosophiques Latines & Françoises... Tirées des ses manuscrits qui se conservent dans la Bibliotheque Royale a Hanovre, et publieées par Mr. Rud. Eric Raspe. Ave une préface de Mr. Kaestner...*Amsterdam: Chez Jean Schreuder, 1765.

Quarto. [4], xvi, [4], 540, [16] pp. Title printed in red and black with engraved vignette by O. de Fries. Decorative woodcut head- and tail-pieces and initials.

Contemporary quarter sheep over sprinkled boards with vellum tips. Spine ruled in gilt in compartments with two olive morocco gilt labels. Edges stained red. A superb copy.

$4,500

First collected edition of Leibniz's works and first edition of his "Nouveaux essais sur l'entendement humain" (pp. [1]-496).

"Leibniz was moved by the publication in 1704 of Coste's French translation of Locke's Essay on Human Understanding to lay his thoughts in detail alongside those of Locke. Leibniz' New Essays (Nouveaux Essais sur l'entendement humain) was not a systematic criticism of Locke's philosophy. It contains occasional discussions of Locke's views, but in general Leibniz expounded his own views, without giving reasons, on the points raised by Locke. (Attig 482n. Brunet III, 950. Graesse IV, 152. Quérard V, 119. Yolton C1765-4.)

✦ ✦ ✦
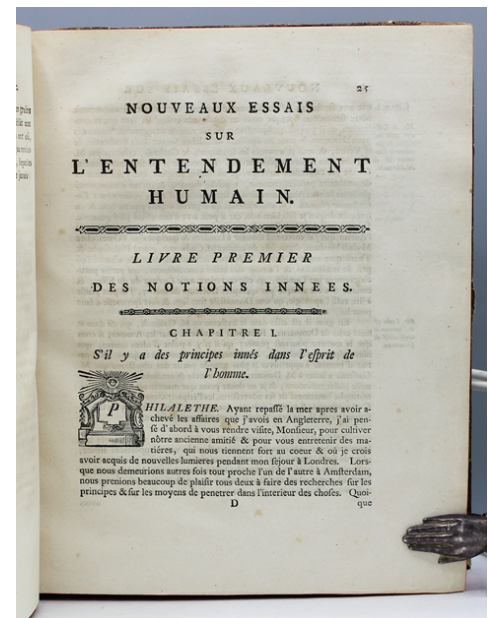
The First Work to State that Snails Reproduced Sexually,
and One of the Earliest Works to Draw Attention to the
Fractal Designs of Shells

30. LESSER, Friedrich Christian. *Testaceo-Theologia*…Leipzig: Verlegts Michael Blochberger, 1744.

Octavo. [6], 984, [80] pp. Frontisportrait of the author amongst his books. Illustrated with twenty-two copper engraved plates of shells.

Contemporary full vellum with title labeled in manuscript on upper spine, edges stained blue. Binding slightly soiled. Two small indentations on front cover. Very minor foxing. Small rubber stamp of Dwight W. Taylor to upper margin of title-page. A very good, clean copy.

$950

First edition of the first work to state that snails reproduced sexually, as opposed to being derived from slime and scum, which was commonly believed by academics at that time; it is also an early work to note the fractal designs of snail shells, which were not studied in depth until the nineteenth-century, as well as an early work on shells in general and on their role in art and commerce.
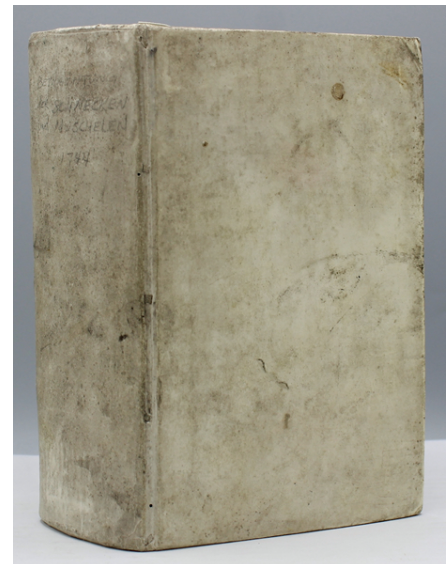
Friedrich Christian Lesser (1692 - 1754) was a German theologian born at Nordhausen, who completed his education at the University of Leipsic. He initially intended to study medicine and his

works, which include *Lithotheologia* (1735) and *Insecto-theology* (1740), sought to blend religion with natural history.

Dwight Willard Taylor (1932 - 2006) was an American malacologist, paleontologist, and a researcher of mollusks. He was responsible for the naming and describing of 132 new taxa of gastropods. Taylor was also instrumental in the founding of the journal *Malacologia*.

Nissen 2459.
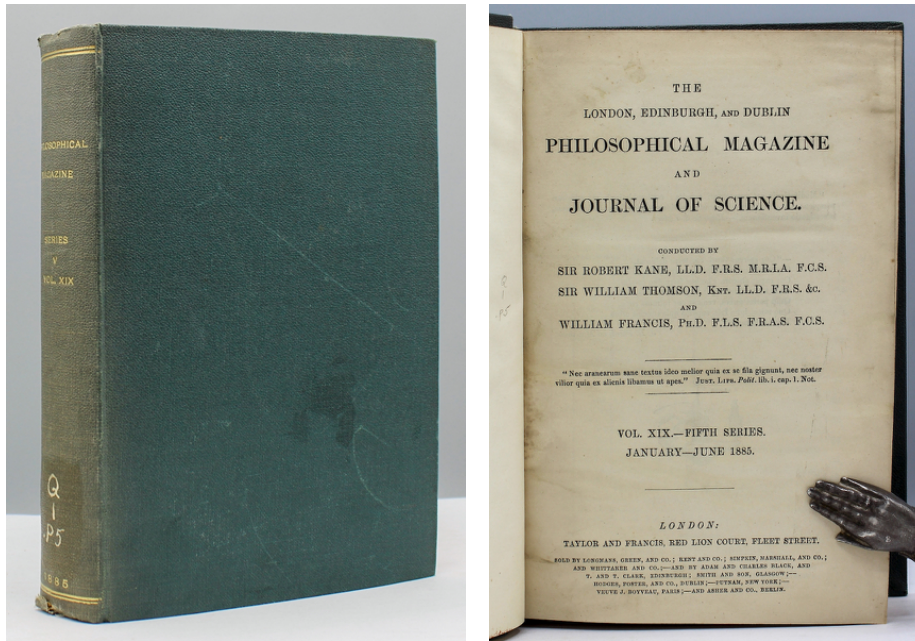
31. MACFARLANE, A[lexander]. "The Logical Spectrum." In *Philosophical Magazine,* Volume 19, 1885, p. 286.

Complete volume, in green cloth. Library stamps and bookplates. Otherwise very good.

$950

In the years following Venn's announcement of his diagrams (*Philosophical Magazine,* 1880) it became clear that, although they offer graphical vividness, the diagrams suffer from an inherent limitation; at most five variables can be represented by intersecting continuous regions. One of the earliest attempts to overcome this limitation was that of Alexander Macfarlane, a professor of physics at the University of Texas, who invented what today is called a "logic tree" or "decision tree." His tree, called "logical spectrum" allows a systematic way of enumerating all logical possibilities for any number of variables. "The system was first explained in an article titled 'The Logical Spectrum,' *Philosophical Magazine,* Volume 19, 1885, p. 182. Five years later, Macfarlane showed how easily his diagram solved an involved problem posed by Boole on p. 146 of his Laws of Thought" (Martin Gardner, *Logic Machines and Diagrams,* p. 45). Today logic trees are used in almost every data-processing application, e.g., database management, address decoding, game playing, automated theorem proving, and computer vision.

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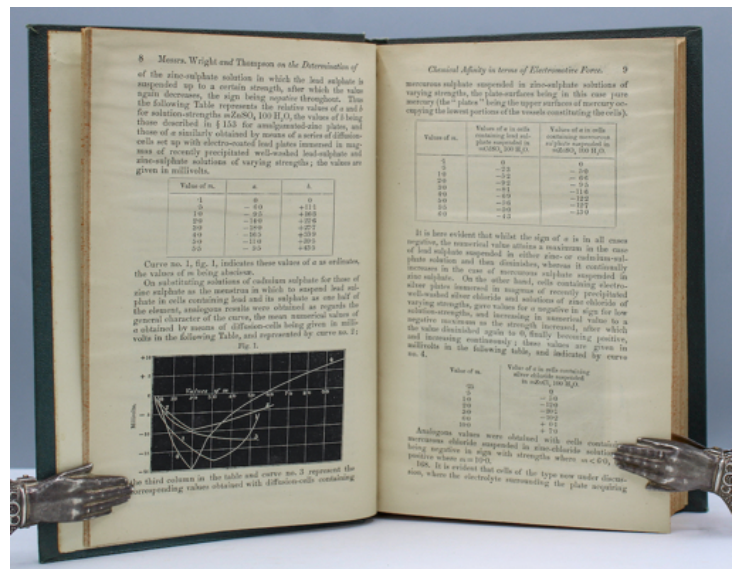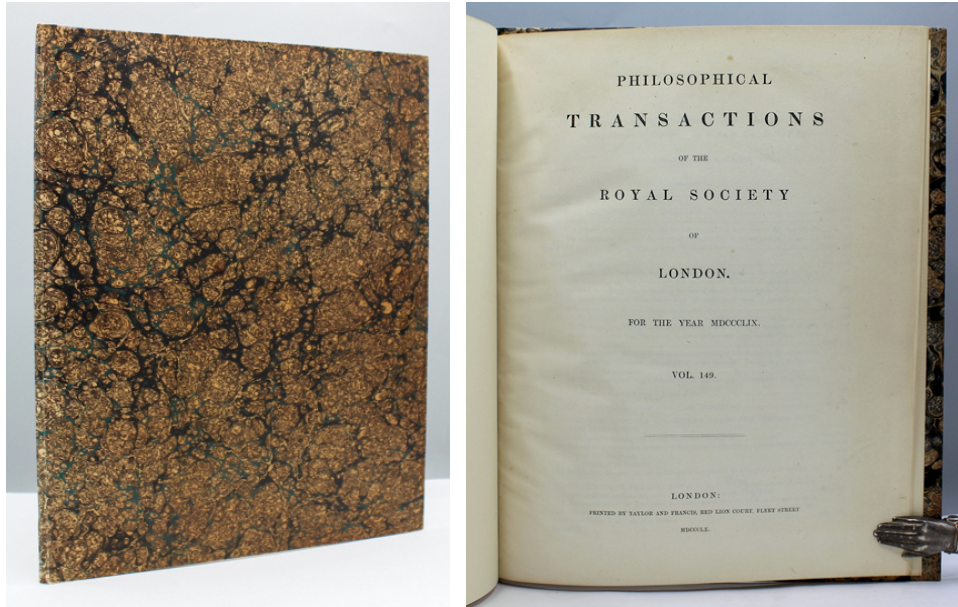
32. MAXWELL, J. Clerk "On the Theory of Compound Colours, and the Relations of the Colours of the Spectrum." Communicated by Prof. Stokes. Read March 22, 1860. In: The Philosophical Transactions of the Royal Society of London, 1860.
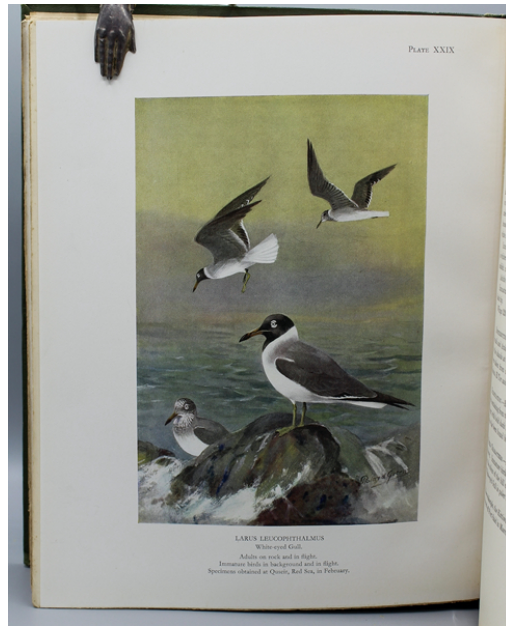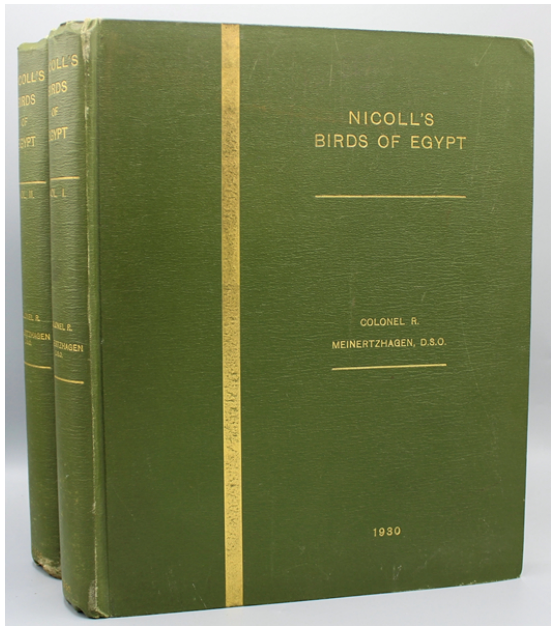
Quarto. [2], pp. 57-84. Two plates. The extracted paper, with the original title-page to the volume bound in.

Modern boards. Plates foxed. Pencil numerals on verso of the title. Very good.

$750

The definitive article by Maxwell on his theory of color vision, according to which mixtures of three primary colors are sufficient to account for all perceived hues.

33. MEINERTZHAGEN, Richard. *Nicoll's Birds of Egypt.* Published under the authority of the Egyptian Government. London: Hugh Rees Ltd., 1930.

Two volumes, folio. xvi, 348; [4], [349]-700 pp. With frontisportrait and thirty-seven plates, including thirty-one in color, and several photogravures. Also, with three folding color maps and eighty-eight text illustrations. With various appendices, bibliography, and index.

Original green cloth with front covers and spines stamped in gilt. Binding extremities lightly rubbed, small gouge and light discoloration at foot of Volume II, endpapers lightly foxed. A very good, clean set.

$750

First edition.

The project of writing an ornithological history of Egypt was begun by Michael J. Nicoll, the Assistant Director of the Zoological Gardens of Giza, who died before he could complete the task. It was continued by Colonel Richard Meinertzhagen (1878 - 1967), a troubled man who at once championed the cause of an independent Jewish state in Israel and was thought to be a Nazi sympathizer. As a naturalist, Meinertzhagen came under fire for stealing other people's specimens and fabricating data to go with them. Despite Meinertzhagen's reputation, the present work remains a classic of illustrated natural history texts.

Anker 363. Nissen IVB, 675 under Nicoll.

✦ ◆ ✦
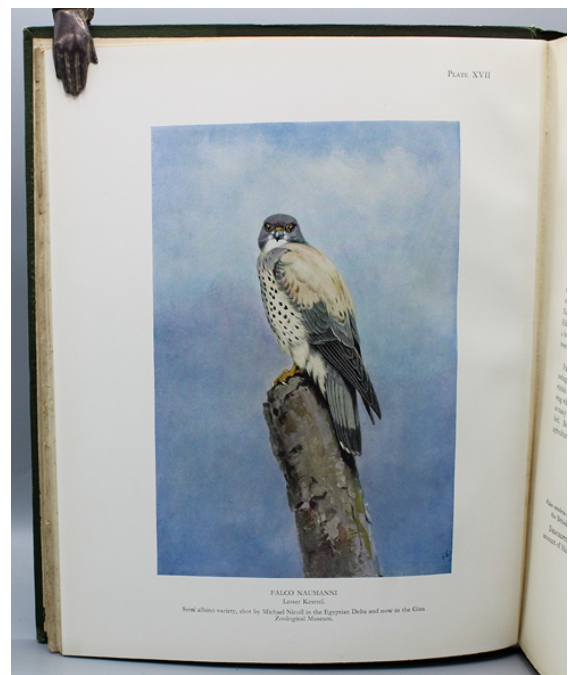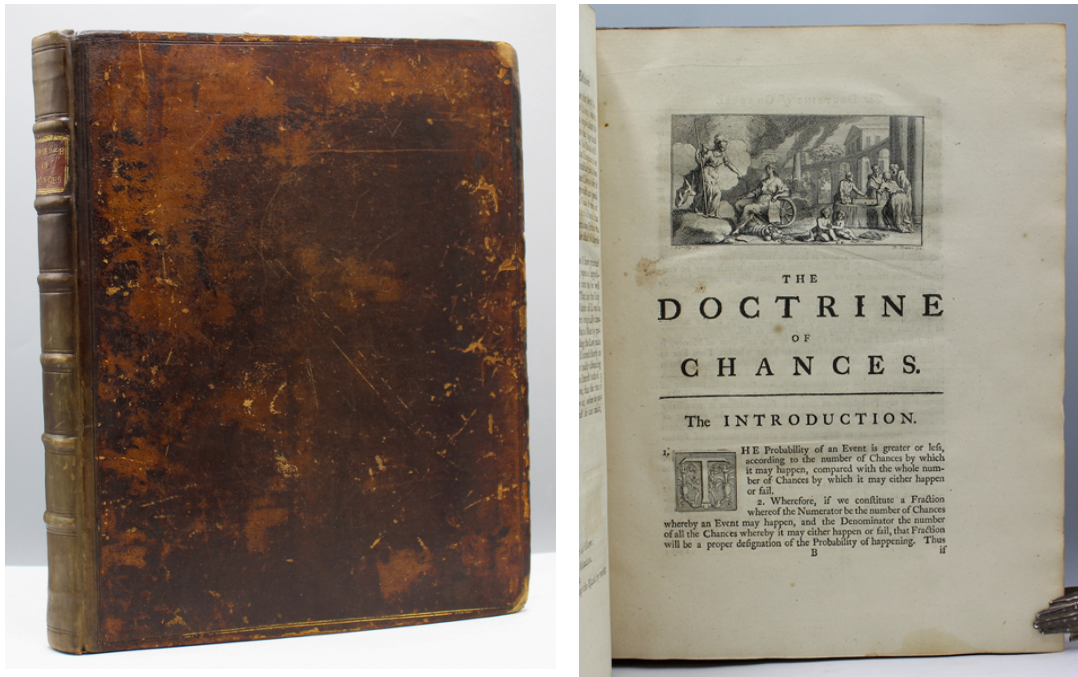
34. MOIVRE, Abraham de. *The Doctrine of Chances*…London: Printed for the author, 1738.

Quarto. [4], xiv, 256 pp. Woodcut ornament on title-page, decorative headbands, tail-pieces and initial letters.

Contemporary calf, rebacked, gilt brown morocco label. Covers a bit rubbed Very good.

$3,000

The second edition, substantially expanded from the 1718 first edition, with more than eighty pages of added text and revision. This is likely the first issue. There appear to be two separate issues of this work. Our copy collates as ESTC 006059086, without the final errata and table of contents. This is De Moivre's (1667 - 1754) most important book on probability. The work is essentially a gambler's manual, "giving a systematic presentation of the arithmetic principles upon which are based the solution of problems concerning the advantage of players and the size of wager which may be lain in a wide variety of games of chance" (Walker, p. 12). The second edition includes de Moivre's work on the normal approximation of the binomial probability distribution, his most memorable discovery. Indeed this work would hardly be known today if it had not gone into a second edition. A third edition appeared as well, but it is virtually a reprint of the second. (D.S.B. Stigler, pp. 70-88. 16331:17211.)

✦ ◆ ✦
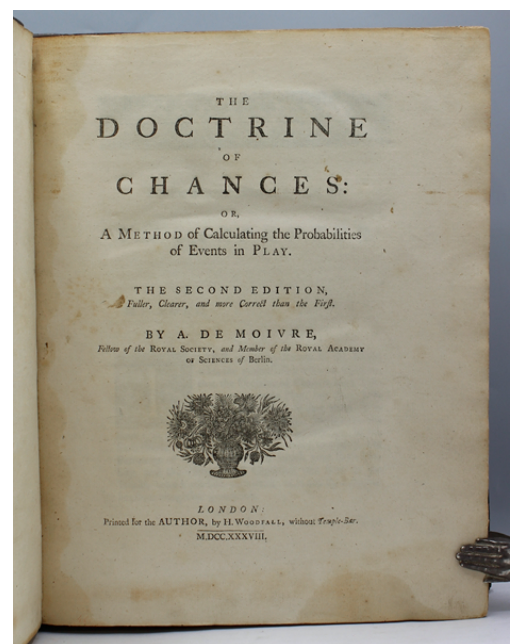
35. MUENSTER, Sebastian. *Rudimenta Mathematica. Haec in Duos Digeruntur Libros, Quorum prior Geometriae Tradit Principia seu prima elementa, una cum rerum & variarum figuraru[m] dimensionibus*...Basel: [H. Petrus. 1551].

Two parts in one, folio. [12], 242, [2] pp. Lavishly illustrated. The text of the first part deals with geometry largely as applied to surveying and ballistics. The second part starting at p. 69 is an extensive treatise on sundials and horology. Some of the woodcuts are attributed to Hans Holbein the Younger. With the blank leaf A6 and the errata leaf, with woodcut illustration meant to correct the cut on p. 145. Lacking the double-page folding woodcut, which is supplied in good facsimile on old paper. Large woodcut on title-page. showing surveyors at work, numerous woodcuts in text, woodcut printer's device on the verso of the errata leaf.

Contemporary vellum boards, title in manuscript on spine, later silk ties. Boards soiled and discolored, endpapers browned, some toning to title-page and text, old faded dampstain at inner margin in some sections. Old armorial library bookplate (Bibliotec. Collegii Valkend). Overall a good, clean copy.

$5,000

First edition of Muenster's final published work.

Sebastian Muenster (1488 - 1552) was a German cartographer, cosmographer, and Christian Hebraist. Born in Ingelheim near Mainz, he entered the Franciscan order in 1505,
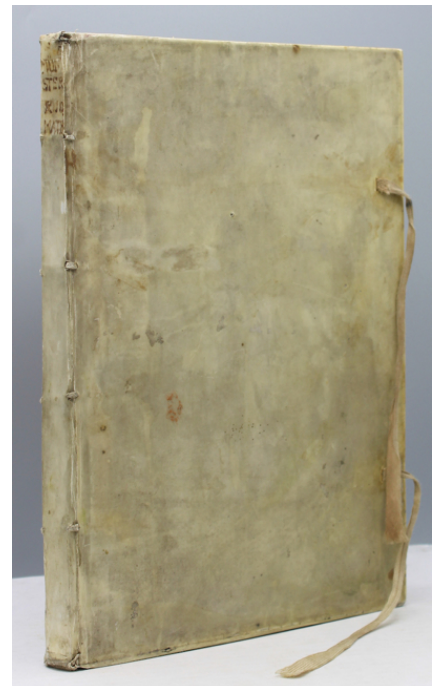
but left it for the Lutheran Church in order to take an appointment at the Reformed Church-dominated University of Basel in 1529. A professor of Hebrew and a disciple of Elias Levita, he became the first German to produce an edition of the Hebrew Bible in 1534-5. His Bible was accompanied by a Latin translation and contained many annotations. His *Cosmographia* (1544), the earliest German-language description of the world, was one of the most successful books of its time, going through twenty-four editions in 100 years. It played an important role in reviving geography in sixteenth-century Europe.

Adams M1939. Zinner 2022. Houzeau and Lancaster 11364. Burmeister, 54.

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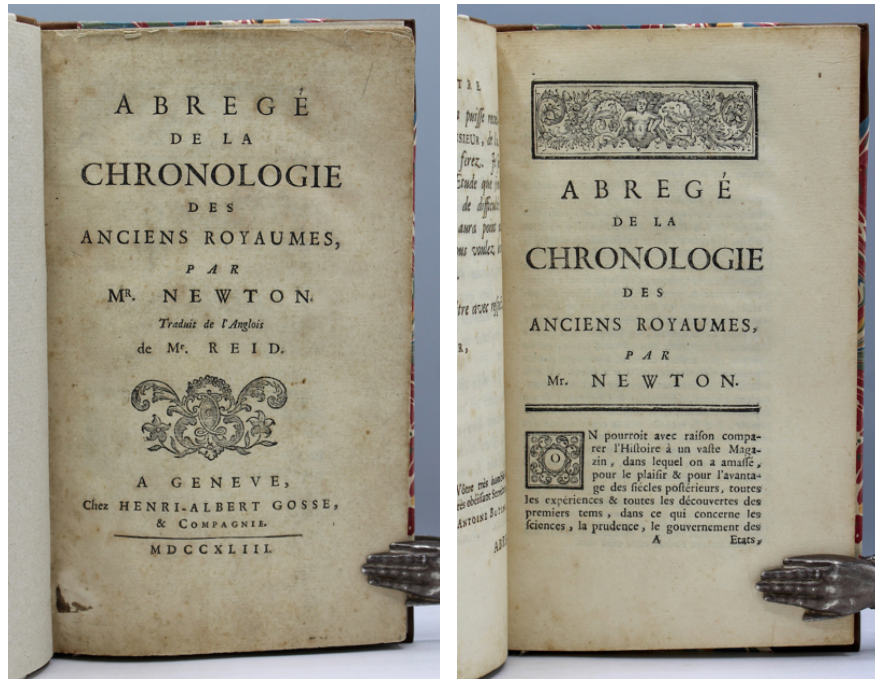
36. [NEWTON, Isaac]. REID, [Andrew]. *Abregé de la Chronologie anciens royaumes.* Traduit de l'Anglois de Mr. Reid [par Bustini]. Geneve: Chez Henri-Albert Gosse & Compagnie, 1743.

Octavo. viii, 124 pp.

Modern antique-style calf over marbled boards, gilt spine. A little light foxing, title-page has some minor chips and one small stain. Still, a very good copy of a scarce work.

$750

First French edition of Reid's Abstract of Sir Isaac Newton's *Chronology of Ancient Kingdoms,* which first appeared in 1732. Another French abridgement of this Newton work was published in 1725, appearing at the end of Volume VII or *Prideaux's Histoire des Juifs* (1725), but that was unauthorized and was the work of another translator.

OCLC lists seven copies of this work, five in North America—including two copies at Berkeley and copies at the University of Chicago, Kent State, and the Burndy Library.

Babson, second supplement, 041. Gray 322.

✦ ◆ ✦
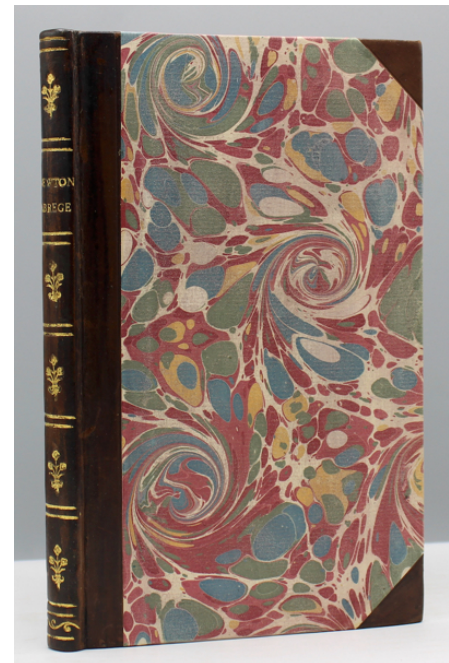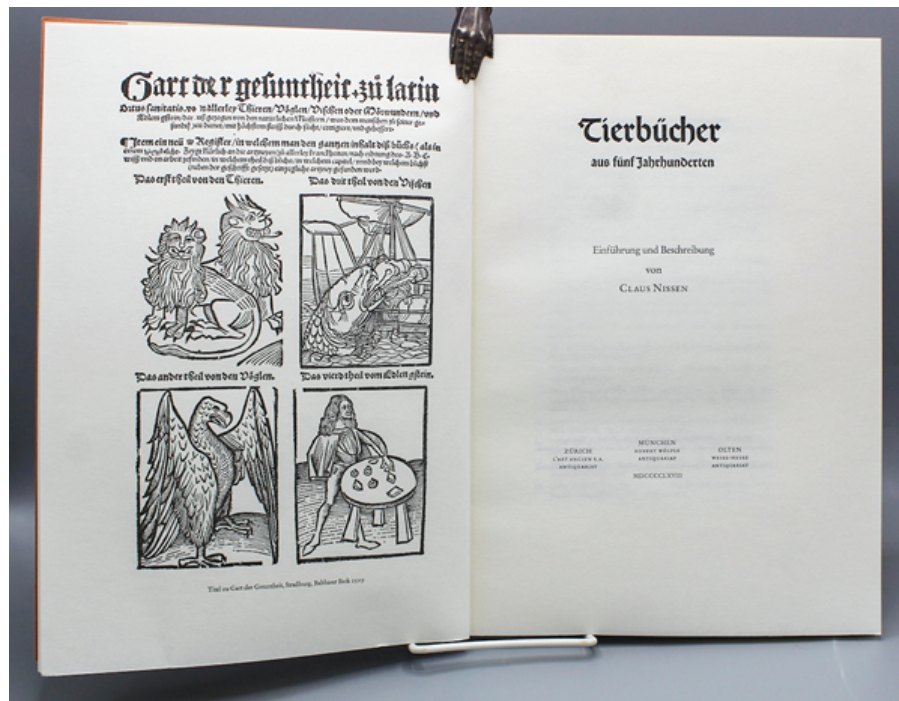
With Sixty Leaves from Illustrated Zoological Texts,
Including Two Incunable Leaves

37. NISSEN, Claus. *Tierbücher aus fünf Jahrhunderten.* Zürich: L'Art Ancien S.A.,Antiquariat; München: Robert Wölfle, Antiquariat; Olten: Weiss-Hesse, Antiquariat, 1968.

Large folio, 19½ x 14¼ in. Illustrated zoological leaves from sixty books with engravings, woodcuts, and lithographs of a variety of animals, including two incunable leaves and others, some of which have been hand-colored, each matted, fully labeled, and laid into a linen slipcase.

This item is accompanied by a quarto text volume, 108, [+1, colophon] pp., with errata slip. It has black-lettered orange wrappers and is placed in a pocket on the inside of the case. Occasional minor foxing, light toning and offsetting to leaves. A fine set of leaves in a very lightly foxed case.

$6,500

One of 200 sets. According to the colophon in the text volume, 100 of the copies were in German and 100 were in English, though a search of OCLC mentions only German language copies. OCLC reports six in North America (Cornell University, The California Academy of Sciences, Harvard, National Library of Medicine in Maryland, The University of Wisconsin, and Noble and Greenough School in Massachusetts), all of which seem to be in German.

The incunable leaves are from *Ortus Sanitatis* (Jacob Meydenbach, Mainz, 1491) and *Ortus Sanitatis* (Johann Prüß um, Straßburg, 1497 - 1499). Other works represented include Plinius' *Bücher und Schrifften von Natur...*(1598), Albin's *A Natural History of Birds* (1731 - 38), Pennant's *British Zoology* (1776), Bewick's *The Figures of British land Birds* (1800), Edward's *A Natural History of Birds* (1802 - 1805), and Audubon's *The Birds of America* (1840).
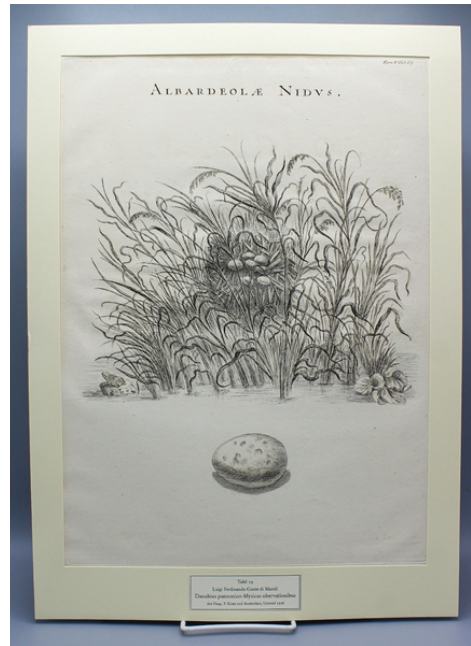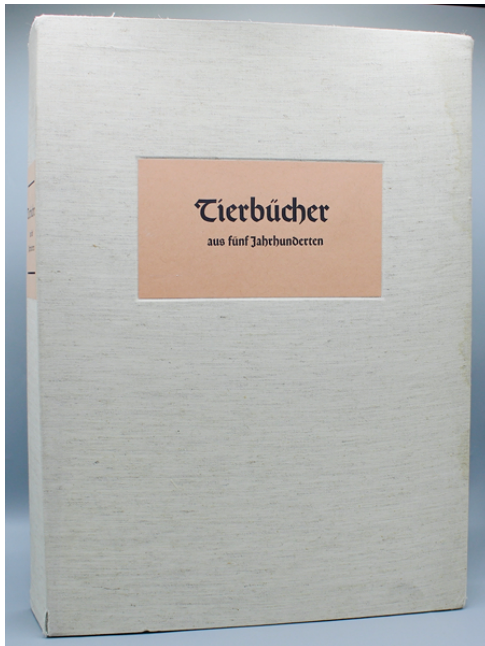
Claus Nissen (1901 - 1975) was a bibliographer and writer on natural history. His books *Die Botanische Buchillustration* (1951 - 1952), *Die zoologische Buchillustration* (1969), and *Kräuterbücher aus funf Jahrhunderten* (1956) are classics in their fields.

✦ ✦ ✦
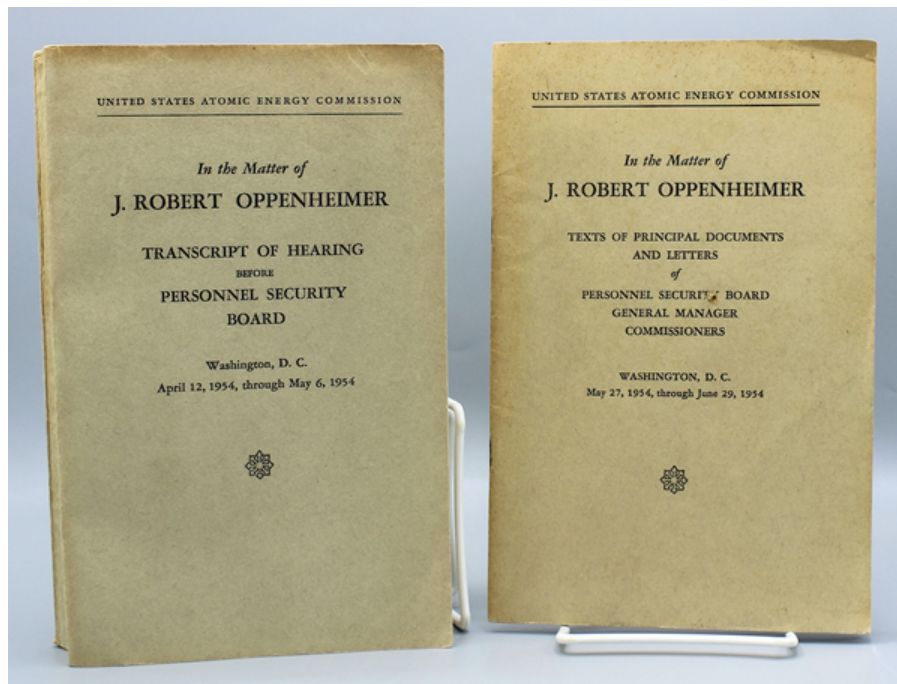
Two Crucial Records of Oppenheimer's Trial: "A Seminal Document of the Early Cold War"
And a Collection of Evidence Presented Against Him

38. [OPPENHEIMER, J. Robert.] *In the Matter of J. Robert Oppenheimer. Transcript of Hearing Before Personnel Security Board…*April 12, 1954, through May 6, 1954. Washington, D.C.: United States Atomic Energy Commission, United States Government Printing Office, 1954.

5¾ x 9 in. 993 pp.

Original tan paper wrappers. Minor toning to wrappers and some creasing to spine. Otherwise, a fine, clean copy, scarce in commerce.

First edition of the official AEC transcript of its 1954 hearing, which included over thirty hours of testimony by Oppenheimer, Edward Teller, George Kennan, and many others. The hearing resulted in Oppenheimer being stripped of his security clearance and transformed him from "the father of the atomic bomb" into the martyred "American Prometheus." The present item was published in violation of the AEC's promise to keep the hearing confidential, and became "a seminal document of the early Cold War," (Bird & Sherwin, *American Prometheus,* p. 425).

[with:]

[OPPENHEIMER, J. Robert.] *In the Matter of J. Robert Oppenheimer. Texts of Principal Documents and Letters of Personnel Security Board General Manager Commissioners…*May 27, 1954, through June 29, 1954. Washington: United States Atomic Energy Commission, U.S. Government Printing Office, 1954.

5¾ x 9 in. 67 pp.

Original tan paper wrappers. Minor foxing. Otherwise, a fine copy, scarce in commerce.

First edition of this collection of documents and correspondence that were used in Oppenheimer's trial, together in print for the first time. When the present item was published, Oppenheimer's lawyer noted that this printing was the first time he and Oppenheimer had seen these documents, and thus had been denied an opportunity to submit comments on the material. Though these documents were used at the time to target Oppenheimer, in the decades since, this often-overlooked publication has ensured continuing debate over the validity of the trial, Oppenheimer's culpability, and the Cold War in general.

$750

In the aftermath of the bombings of Hiroshima and Nagasaki, Oppenheimer became the "principal spokesman for a broader public understanding of atomic science and technology," (ANB). At that time, Oppenheimer was directing the Institute for Advanced Study at Princeton, and serving as the chair of the General Advisory Committee of the Atomic Energy Commission. He greatly opposed the manufacture of the hydrogen bomb, which he saw as an instrument of genocide. When President Eisenhower invited Lewis Strauss to chair the AEC, Strauss accepted on the condition that Oppenheimer's security clearance be revoked. Strauss then accused Oppenheimer of disloyalty and presented charges against him in December of 1952. As a part of the investigation of Oppenheimer, Strauss arranged for the FBI to tap Oppenheimer's phones, in a clear violation of Oppenheimer's rights. In all, Strauss, J. Edgard Hoover, and Joseph McCarty had their roles in building a case against Oppenheimer.

The trial, recorded in the present transcript and collection of documents, resulted in Oppenheimer being stripped of his security clearance and ousted from AEC. The AEC had deemed him "a loyal citizen who was nevertheless a security risk." Upon hearing the verdict, "Einstein, disgusted, quipped that henceforth the AEC should be known as the Atomic Extermination Conspiracy," (Bird & Sherwin, p. 546). Oppenheimer's trial is now remembered as a landmark moment in the early Cold War, in the history of atomic science, and in the McCarthy era.

American National Biography.
Kai Bird and Martin J. Sherwin. *American Prometheus: The Triumph and Tragedy of J. Robert Oppenheimer* (2007).
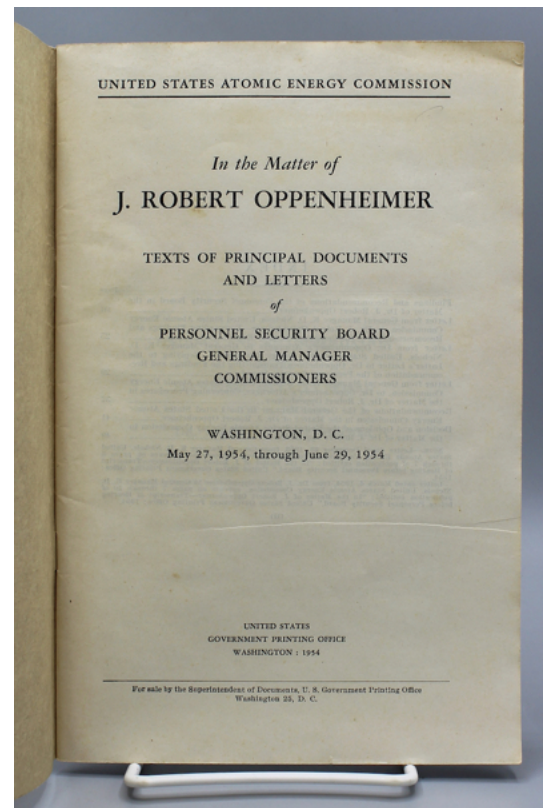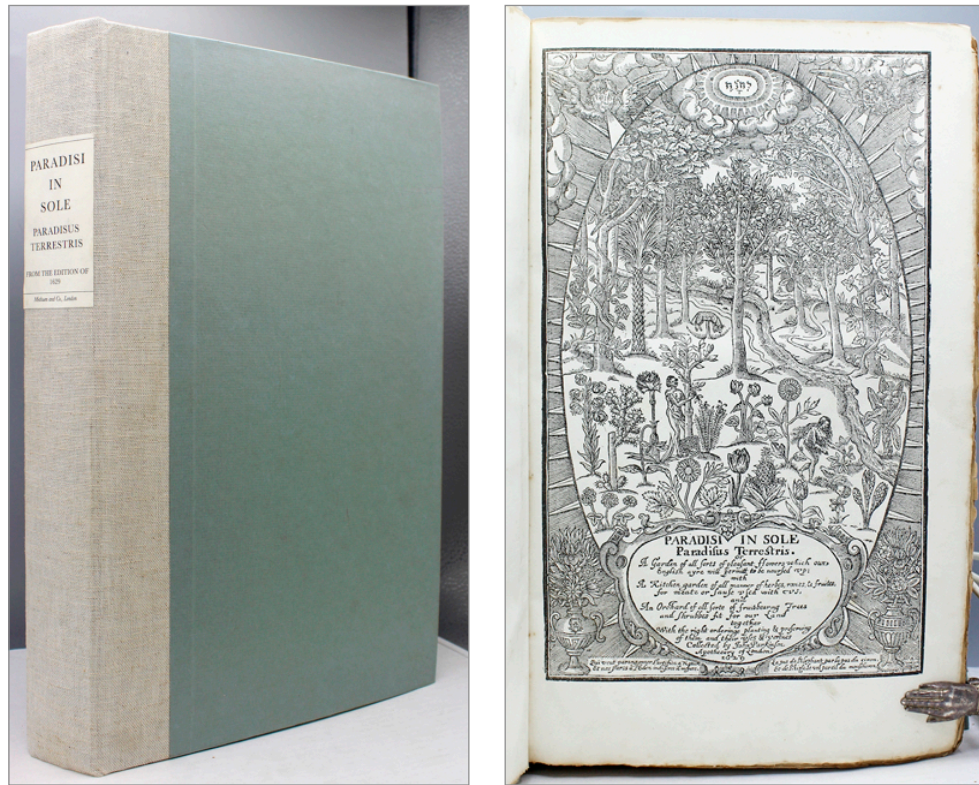
Fine Facsimile of "the Earliest Important Treatise on Horticulture
Published in England" (Blanche Henrey)

39. PARKINSON, John. *Paradisi in Sole Paradisus Terrestris.* Faithfully Reprinted from the Edition of 1629. London: Methuen & Co., 1904.

     Folio. [16], 612, 16 (index and table) pp. Reproduces the text and illustrations, including the engraved title-page, portrait of Parkinson, garden diagrams, and numerous botanical plates.

     Gray cloth spine with printed paper label over blue-green boards. Front and rear boards have very minor soiling. Light foxing. Library ink stamp to margins of about fifteen pages. Pages untrimmed. A very good, untrimmed good copy.

                                                      $1,250

     A remarkably fine facsimile of the first major horticultural work printed in English.

     John Parkinson (1567-1650) was an English apothecary, herbalist, and an eminent gardener. He kept a garden at Long Acre in Covent Garden. He was one of the five apothecaries who were consulted by the College of Physicians during the compilation of the first *Pharmacopoeia Londinensis*. He was the apothecary to James I, botanist to Charles I, and a founding member of the Worshipful Society of Apothecaries in 1617. He is known for the present work as well as *Theatrum Botanicum* (*The Botanical Theater*, 1640). After his death, Parkinson's name was commemorated by Plumier in the Central American genus of leguminous trees *Parkinsonia*.
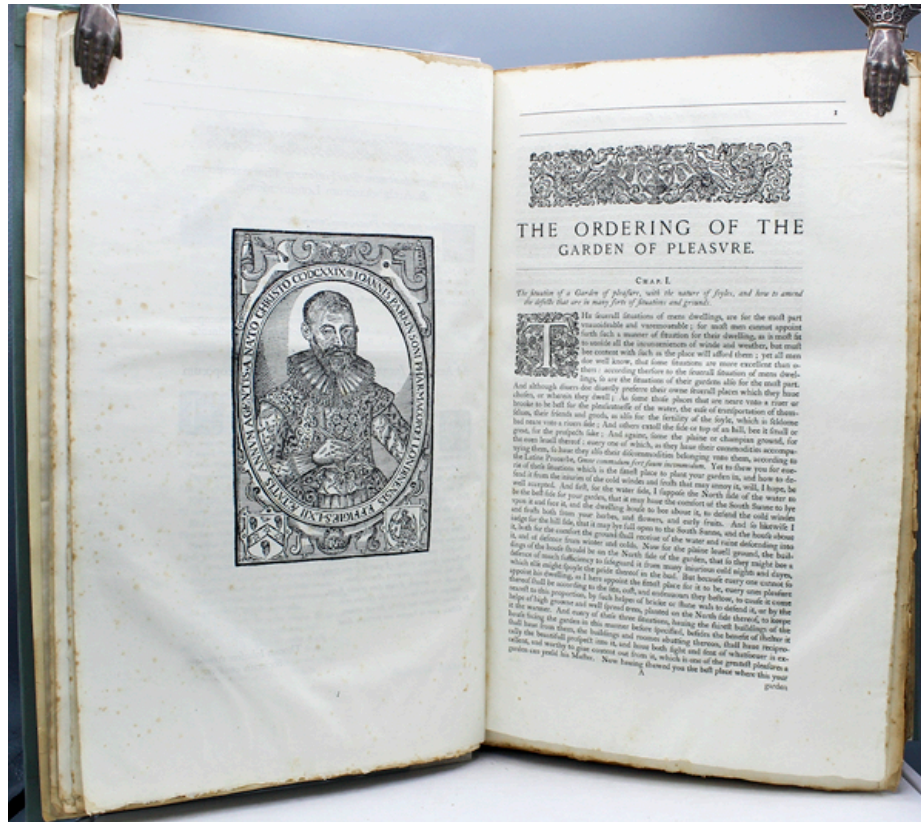
Paradisi, the first work published on English gardening, lists nearly 1,000 plants, with many of the entries giving evidence of cross-breeding. It describes the proper cultivation of plants and is divided into three sections: the flower garden, the kitchen garden, and the orchard garden. At the beginning of each section, Parkinson provides instructions on the "ordering" of each type of garden and advises the reader on various topics, including the layout of gardens, tools, soil, and grafting. In the introduction,   states that the sees the botanical world as an expression of divine creation; he believed that, through gardens, mankind could recapture something of Eden.

Henrey, 282; Hunt 215 (for the original edition).
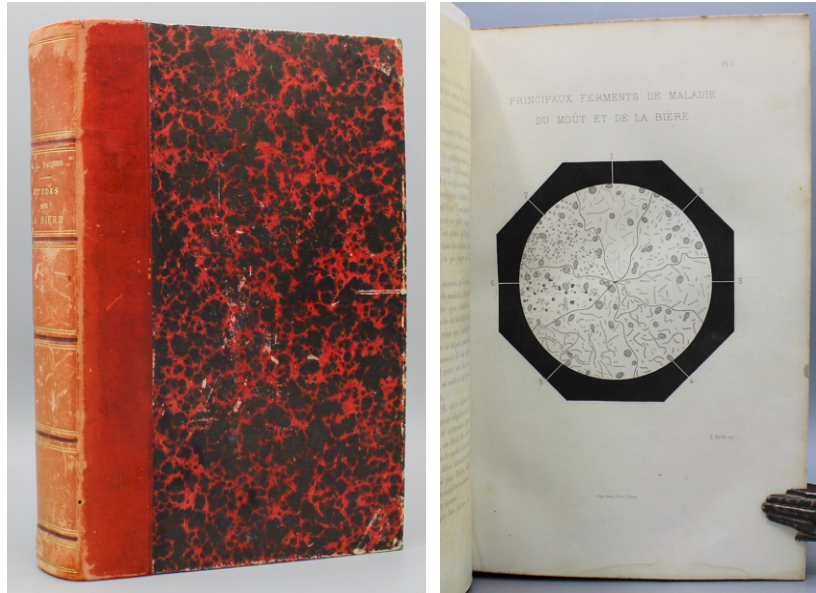
Inscribed by Pasteur to His Nephew

40. PASTEUR, Louis. *Etudes sur la biere, ses maladies, causes qui les provoquent, procédé pour la rendre inaltérable, avec une théorie nouvelle de la fermentation.* Paris: Gauthier-Villars, 1876.

Octavo. viii, 387, [4, ads] pp. Twelve lithographic plates, woodcuts in text. A little light foxing. Inscribed on the half-title to Pasteur's nephew, J. Vichot, with "affectionate remembrances, L. Pasteur." Though lacking the ads, which are an indication of state, this book has the scarce ads for Pasteur's *Etudes sur la maladie des vers a soie* (1870) at the rear.

Contemporary or slightly later quarter red calf over marbled boards, rubbed at extremities. This book has been cut down slightly for binding, and portions of several letters in the inscription are shaved. Otherwise very good.

$3,000

First edition of Pasteur's groundbreaking book on fermentation.

In this work, Pasteur "described a new and perfected method of preparing pure yeast [and] emphasized that yeast occasionally required small quantities of oxygen in order to retain its 'youth' and its capacity to germinate in oxygen-free environments. Having now achieved a new appreciation for the importance of oxygen in brewing, and especially the advantages of aerated wort, he insisted only that air should be carefully limited and freed of foreign germs rather than entirely eliminated" (DSB).
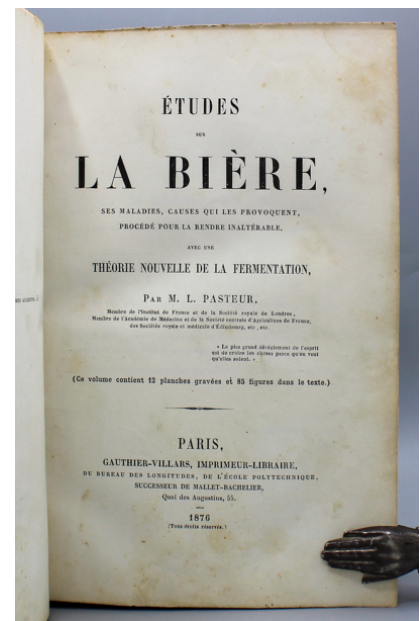
Garrison and Morton 2485. *Heirs of Hippocrates* 1898. Norman 1658. Osler 1550.

✦ ◆ ✦

A Study of Newton by a Friend and Editor,
Also a Beautiful Book, With Engravings by John Pine

41. [PEMBERTON, Henry]. *A View of Sir Isaac Newton's Philosophy.* London: S. Palmer, 1728.

Large quarto. [50, including a subscriber's list], 407 pp. Title page with large copper engraved vignette. Twelve folding engraved plates (containing 163 illustrations); numerous engraved large head and tail pieces; historiated letters. Engravings by John Pine.

Contemporary full calf ruled in gilt, rebacked with calf spine label also lettered in gilt. Edges sprinkled red. Binding extremities rubbed with some wear and scuffing to covers. Light foxing. Light offsetting from engravings, which are lightly foxed with some having a few small stains. Occasional minor ink and pencil marginalia. Ink initials and red ink stamp on verso of title page. A very good, large copy.

$2,000

First edition.

"Dr. Pemberton studied under Boerhaave, prepared the fifth London Pharmacopoeia and was invited by Newton to edit the third (1726) edition of the *Principia*. This study of Newton's philosophy is interesting as being the account of a close friend. The preface contains the author's recollections of Newton,
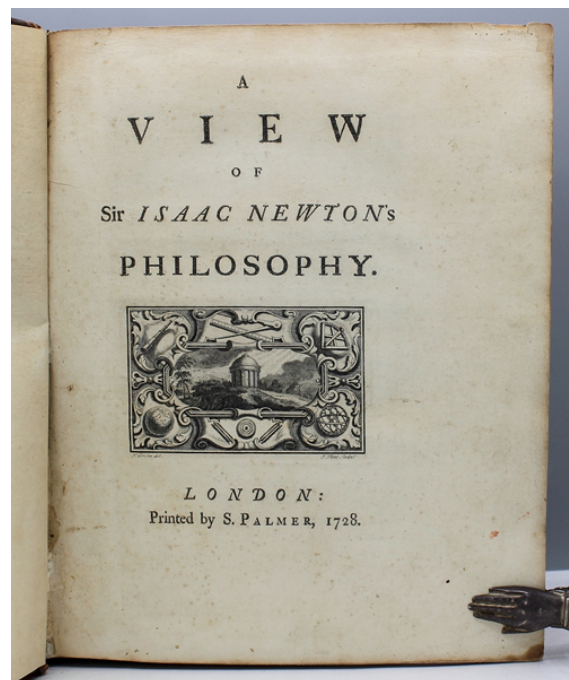
especially in his old age. There is also a poem on Sir Isaac by Richard Glover (poet and M.P., 1712-1785) written in his 16th year; the author's introduction on Newton's method of reasoning in philosophy; and a long list of subscribers" (Babson).
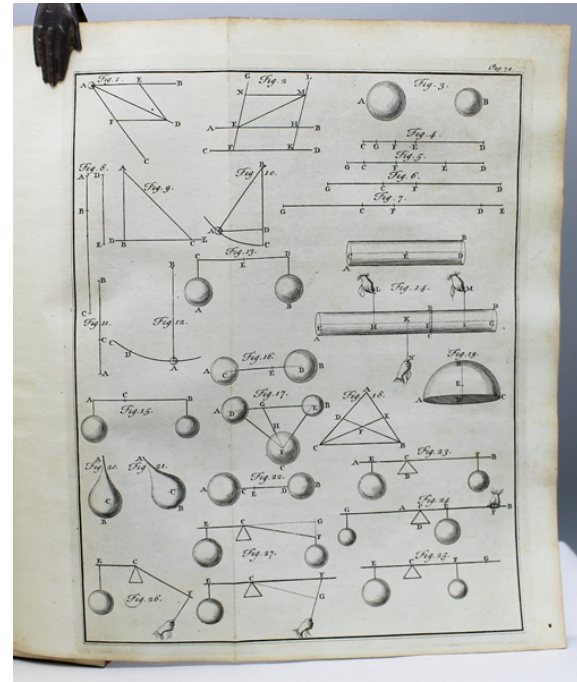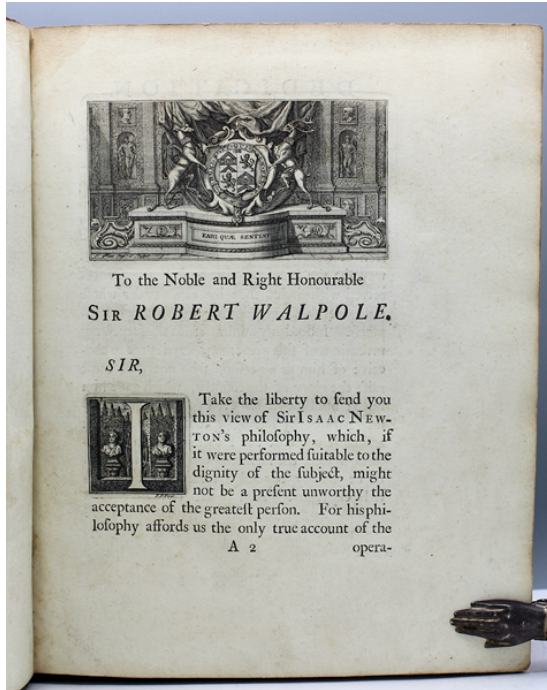
John Pine (1690 - 1756) "...was our best native engineer during the first half of the century. His Horace...possesses the delightful unity that such [engraved] books always have. Its strokes may well have influenced Baskerville and Bodoni in their type and design. Its vignettes make it one of the few English books that can be compared with French work of the time for delicacy and finish." (Bland, *History of Book Illustration*, p. 216).

Babson 98. Gray 132.
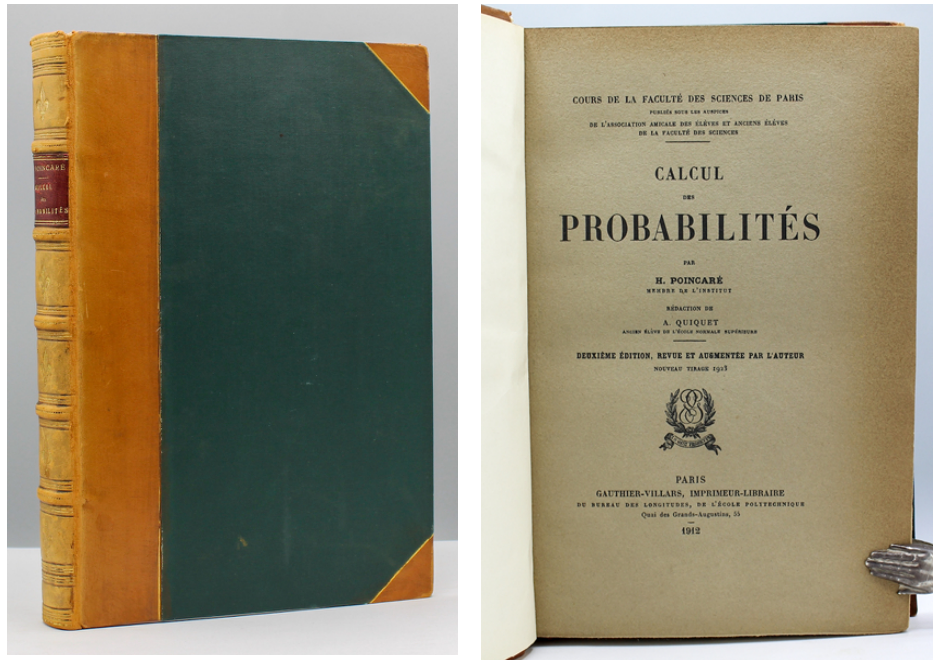
A Classic of Probability Theory

42. POINCARÉ, Henry. *Calcul des probabilités.* Paris: 1912.

Octavo. 333 pp.

Contemporary half calf. Spine richly gilt-decorated, red label. Very fine copy, with the original printed wrappers bound in, including the original printed spine.

$350

Second edition.

Henry Poincaré (1854-1912) was one of the most versatile mathematicians, physicists, and philosophers of the pre-modern era. He came extremely close to announcing the special theory of relativity just months before Einstein. In this treatise on probability theory, Poincaré introduces the foundation of modern ergodic theory, and expands on Gauss's law of large numbers. Whereas Gauss (in *Theoria Motus*) proved the normal law of error by assuming that the probability of a certain deviation depends only on the magnitude of the deviation, Poincaré relaxes this assumption and shows that a law much more general than the Gaussian distribution may be deduced. (See Whittaker, *The Calculus of Observations*, p. 218.)

✦ ◆ ✦

43. QUETELET, Lambert Adolphe Jacques. *Lettres à Son Altesse Royale le Duc regnant de Saxe-Coburg et Gotha sur la théorie des probabilités, appliquée aux science morales et politiques.* Brussels: M. Haney, 1846.

Large octavo. [6], iv, 450 pp.

Original printed wrappers. Affixed to the bottom portion of the front wrappers is a printed slip for the Paris publisher, Jules Renouard, who apparently acquired part of the edition. Wrappers partially browned, spine split in several places, but a very good copy, in its original state, in a full morocco clamshell slipcase.

$2,500

First edition of "Quetelet's best researches on the application of probability to the physical and social sciences," (Cajori).

Quetelet (1796 - 1874) was a Belgian astronomer, mathematician, statistician and sociologist. He founded and directed the Brussels Observatory. He became interested in the ˙young science of probability and statistics as an astronomer to explain measurement errors, but became one of the first to see its applications to the social sciences. He understood the complexities of social phenomena and became interested in using what he called "social physics" as a tool to explain crime rates, marital rates, suicide rates, etc. In 1835, he published *Sur l'homme et le développement des ses faculties, essai d'une physique sociale,* which made him famous throughout Europe. These letters to the Grand Duke of Saxe Coburg and Gotha are an important sequel to that work. Cajori calls them "Quetelet's best researches on the application of probability to the physical and social sciences" and notes: "He laid emphasis on the 'law of large numbers,' which was advanced also by the Frenchman S.D. Poisson and discussed by the German W. Lexis (1877), the Scandinavians H. Westergaard and Carl Charlier, and the Russian *Pafnuti Liwowich Chebichev* (1821 - 1894) of the University of Petrograd."   Quetelet's work was enormously influential to Francis Galton, who expanded upon it in *Hereditary Genius.*

Cajori, *History of Mathematics*, p. 380.
Stigler, *History of Statistics*, p. 392. Goldsmiths' 36193.
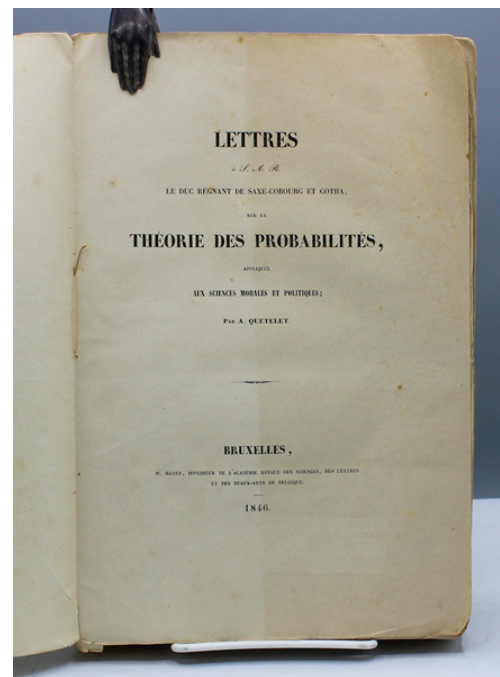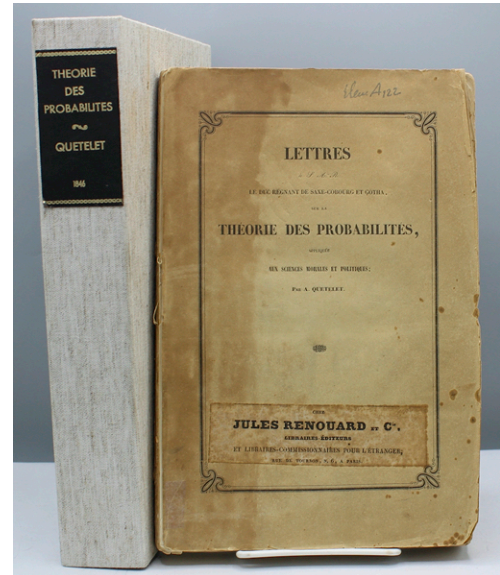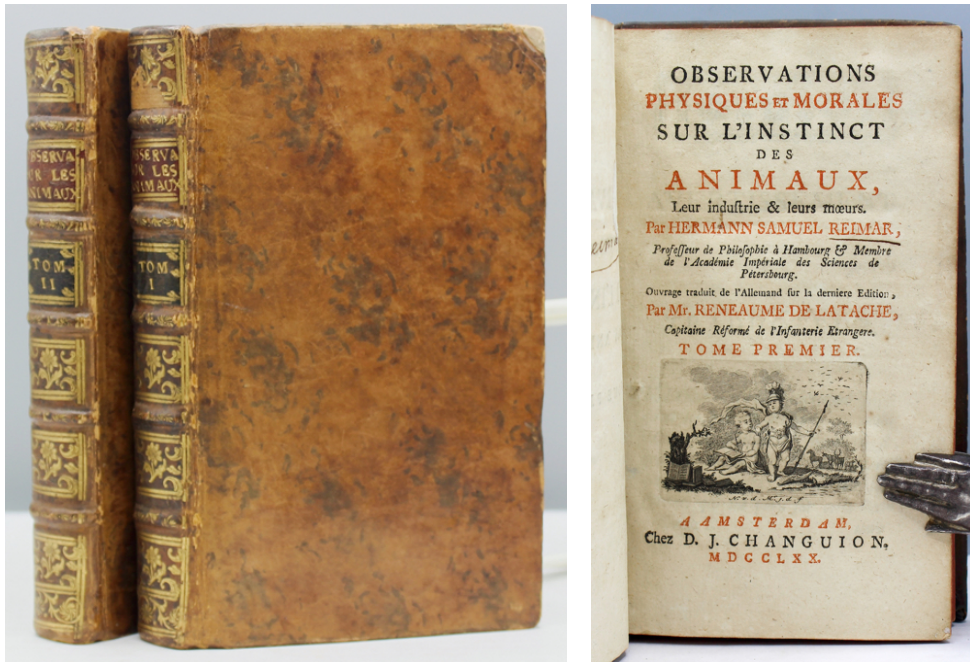
44. REIMARUS, Hermann Samuel. *Observations physiques et morales sur l'Instinct des animaux, leur industrie & leurs moeurs*...Ouvrage traduit de l'Allemand sur la derniere Edition, Par Mr. Reneaume de Latache. Amsterdam: Chez D. J. Changuion, 1770.

Two volumes, twelvemo. [4]. [lvi], 288; [4], 373 pp. Engraved title-page vignettes; titles printed in black and red. Half-titles preserved.

Contemporary mottled calf, gilt spines with burgundy and black labels, edges stained red. Corners rubbed. A very good set.

$750

First edition in French of *Allgemeine Betrachtungen über die Triebe der Thiere* (1760), one of the earliest texts on instinct theory. In what may be his most important work, Reimarus (1694 - 1768) discusses animal psychology and attempts to classify the instincts of animals.

Reimarus studied philosophy and theology at Jena. His philosophical outlook was based upon the ideas of Christian Wolff, though he dissented from Wolff in his views of philosophical methodology, stressing the moral aim of philosophy. His best-known work, *Wolfenbuttel Fragments,* was published posthumously by Lessing in 1777.
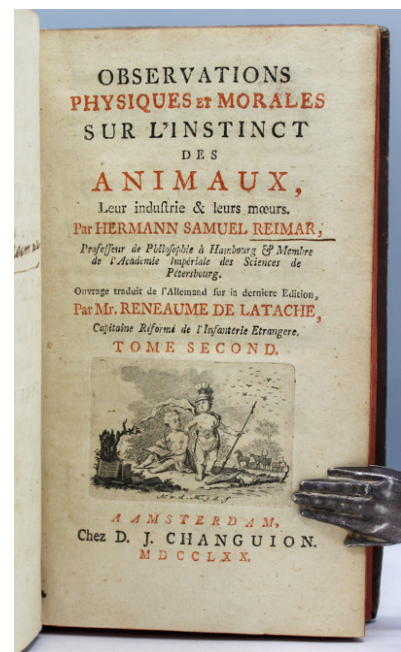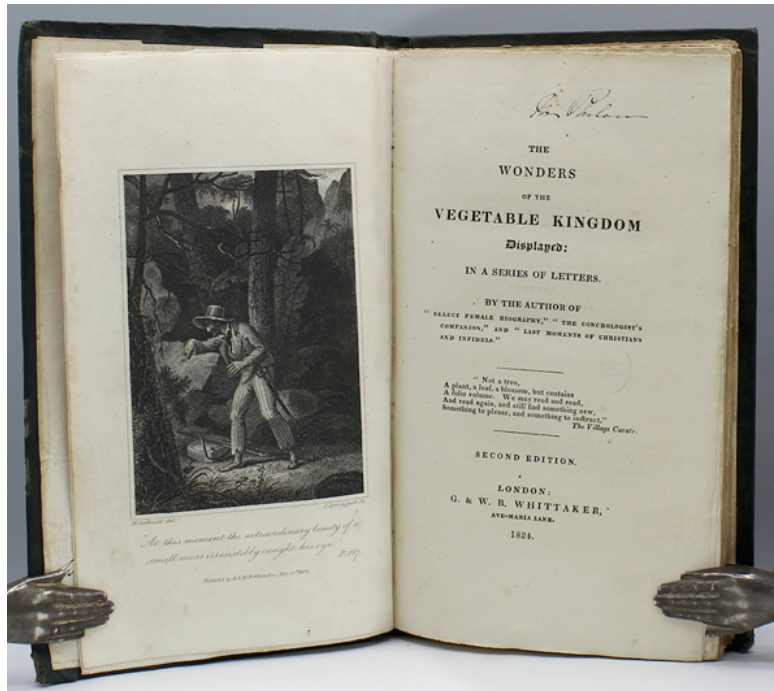
Multidisciplinary Approach to Botany
By a Quaker Woman Writer

45. [ROBERTS, Mary.] *The Wonders of the Vegetable Kingdom Displayed.* London: G. & W.B. Whittaker, 1824.

Twelvemo. 4 [publisher's ads], viii, 242, [2] pp. With a frontispiece.

Contemporary blue cloth with printed paper spine label. Spine toned, and some spotting to cloth. Prize bookplate (Ursuline Convent, St. Mary's near Waterford, dated 1833) to front pastedown, awarding the book to a Miss Phelan. Early ink stamp (St. John's College Library, Waterford) to first leaf of ads. Clean throughout aside from some dampstaining to a few leaves. A very good, fresh copy of an uncommon work.

$500

Second edition of a work on botany for young readers. With chapters on the structure of a tree, sap vessels, the formation and function of leaves, names and functions of roots, descriptions of different kinds of flowers, and the dissemination of seeds. Mary Roberts (1788 – 1864), who also wrote works of history and theology, takes a broad approach to her discussion of botany: the present work covers the political and economic history of farming; details the use of plants in medicine, spirituality, dyeing and tanning, and trade; and ties in other scientific fields including
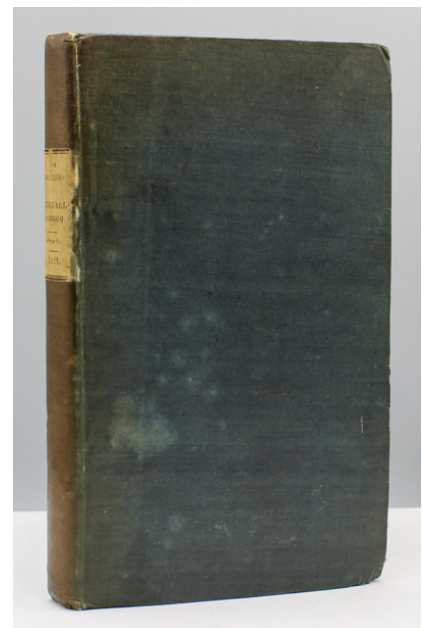
astronomy and geography. Though this work was intended for youth, the complexity of the scientific principles indicates an audience of older teens rather than children.

Roberts was a Quaker author whose ancestors included the botanist Thomas Lawson (1630 – 1691) and the humorist John Roberts (1623 – 1684). Growing up in the countryside, Roberts developed an interest in natural history, which served as the basis for her best-known work, *Annals of My Village* (1831), which described daily rural life in the village of Sheepscombe and provided valuable insights into natural history. She also wrote *The Conchologist's Companion* (1824), *Ruins and Old Trees Associated with Remarkable Events in English History* (1843), and *Select Female Biography* (1821), the latter of which surveys historical women who were "some of the brightest rays of moral and intellectual excellence." Her final work, *Popular History of the Mollusca*, was published in 1851.

The Feminist Companion to Literature in English, p. 910.
Oxford DNB.
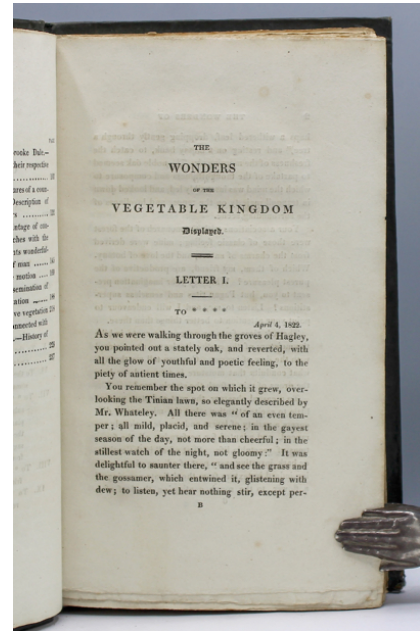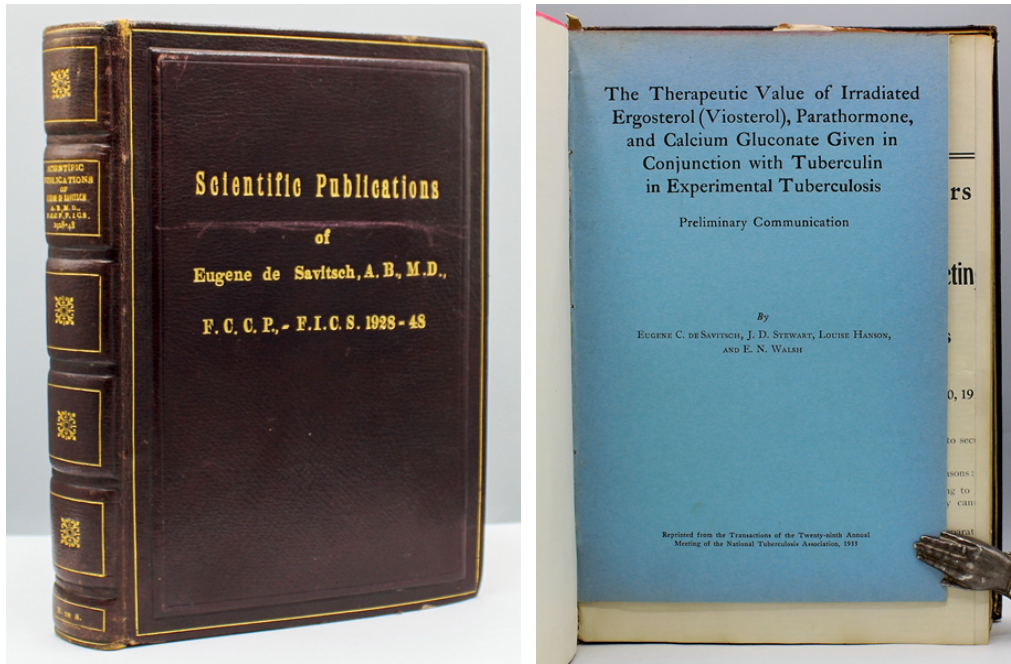
The Author's Copy, with His Bookplate

**46.** SAVITSCH, Eugene de. [Offprints, and a few related items, 1928-1948].

About thirty-five items, bound in one volume, the author's own copy set of his offprints, with a few abstracts and news articles taped in.

Full maroon morocco by L. de Palhares of Lisbon. Covers and spine decoratively stamped in gilt and blind. Bookplate of the author on front pastedown. Light shelfwear. A very good copy.

$850

Savitsch (1902-?) was a doctor and sexologist. Born in St. Petersburg, his family fled to Japan on the outbreak of the Russian Revolution. He later moved to America, where he struggled with poverty and tuberculosis, but became a doctor. After graduating from the University of Chicago, he studied at the Pasteur Institute and the Bunge Institute in Antwerp. At the latter, he did field work on sleeping sickness in the Belgian Congo. Much of his early work was done in the area of tuberculosis, and many of the articles here are on that subject. He later distinguished himself in the area of transgender studies, publishing *Homosexuality, Transvestism and Change of Sex* in (1958). He published an autobiography, *In Search of Complications*, in 1937.

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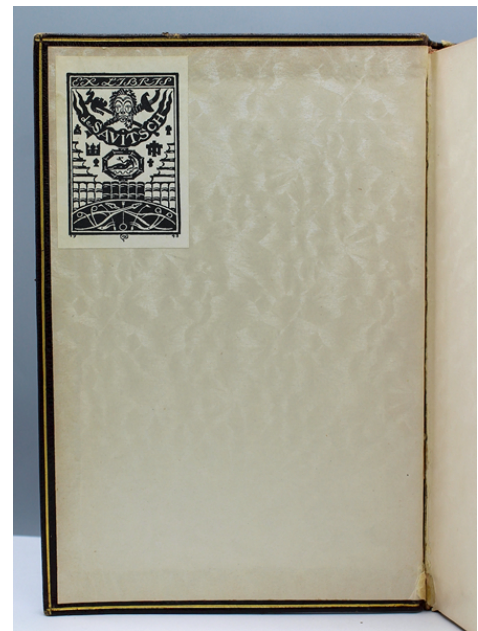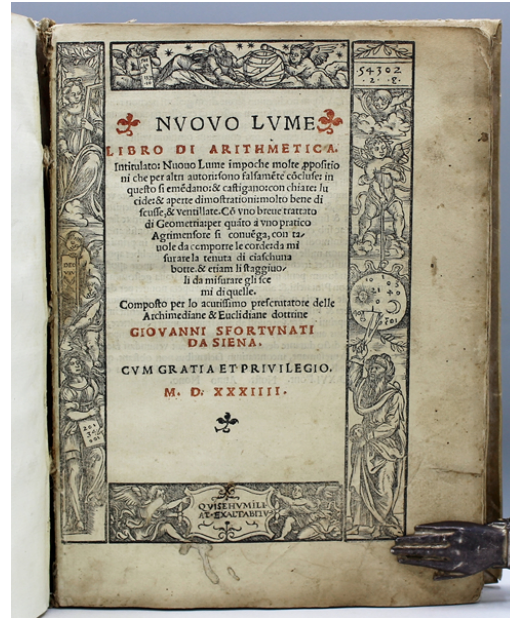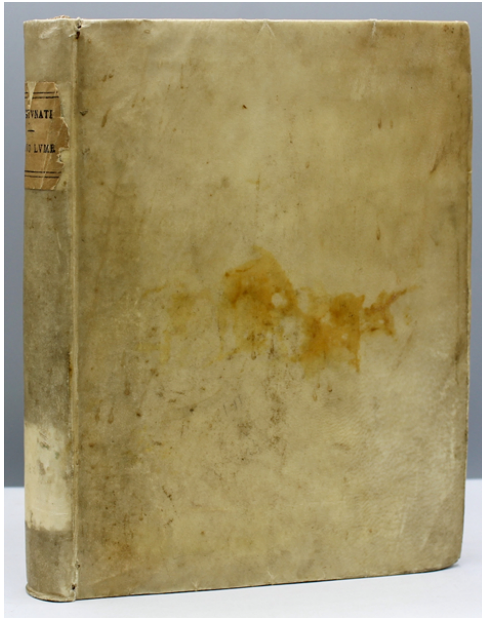
47. SFORTUNATI, Giovanni. *Nuovo Lume: Libro di Arithmetica*…Con uno Breve Trattato di Geometria…Composto per lo Acutissimo Prescrutatore delle Archimediane & Euclidiane Dottrine. [Venice: Nicolo di Aristotile detto Zoppino,], 1534.

Quarto. ff. 129, [1]. Complete with the final blank.

Contemporary limp vellum, modern paper spine label, later front endpapers. Title a bit soiled, lower margins of first three leaves with repaired worming, lower outer corner of some leaves with an old, faded dampstain. a few light brown stains. Still, a very good copy of a rare book.

$7,500

First edition of this treatise on arithmetic for merchants. Sfortunati, whose dates are not recorded, was a Siena-born teacher of arithmetic who worked through much of Italy and Sicily. His book, which went into at least six more editions by the year 1568, was influential, being one of the main sources for Tartaglia's *General trattato de' numeri et misure,* which has been called the best treatise on arithmetic to appear in the sixteenth century. Title within a woodcut border, divided into four panels. Title printed in black and red. Text with many mathematical calculations printed in the outer margins.

Riccardi emphasizes the rarity of the first edition: "Questa prima ediz. e rarissima" (II, 453). The last copies of the

first edition to appear at auction came up in the 1980s. OCLC notes nine copies of this edition in North America (the Huntington Library, the Burndy Library (at the Huntington), Oklahoma, Wisconsin, Columbia, the Smithsonian, the U.S. Naval Observatory, Mount Angel Abbey Library in Oregon, Lehigh University).
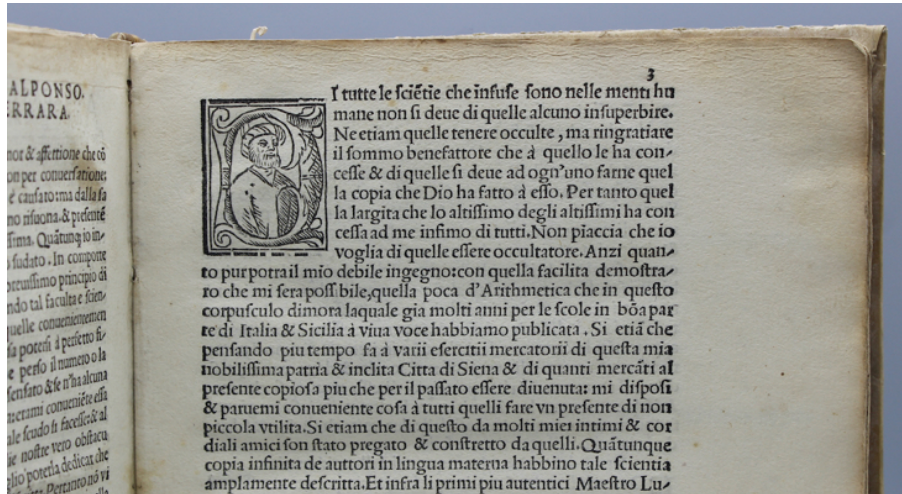
Sfortunati wrote his treatise along the lines followed by Borghi and Feliciano, and in his preface he acknowledges his indebtedness to them and to "Maestro Luca dal Borgo dell' ordine di Santo Francesco" and to the operetta di Filippo Caladri Cittadino Fiorentino. Like these authors, he was a popular writer, as the seven editions of his book go to prove. His work is fairly complete as to the operations with integers and fractions, and is satisfactory as to the examples illustrating the Italian business life of the sixteenth century (Smith, *Rara Arithmetica*, p. 174).

Adams S1039. De Morgan, *Arithmetical books*, p. 16. Stillwell 234. Tomash S90.

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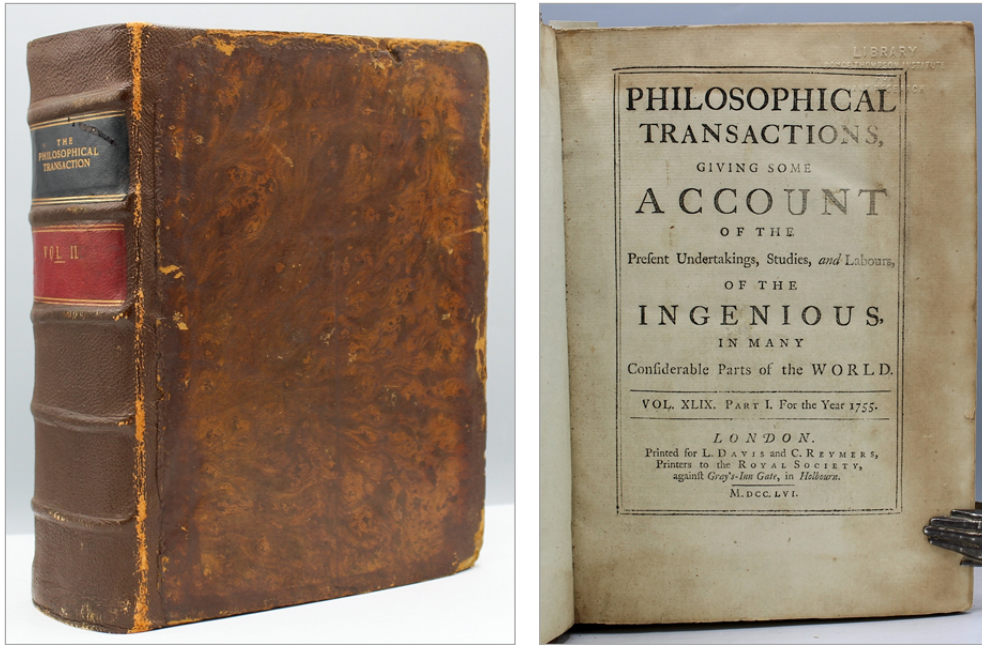
48. SIMPSON, Thomas. "A Letter to the Right Honourable George, Earl of Macclesfield, President of the Royal Society, as to the Advantage of taking the Mean of a Number of Observations in Practical Astronomy." In *Philosophical Transactions,* Volume 49, pp. 82-93, 1755.

The original volume, in contemporary full calf, firmly rebacked, with black and red leather labels. No offprints are known to exist.

$2,000

"The practice of taking the average of a number of observations is rooted in antiquities. However, a mathematical proof that the average is nearer to the truth than any single observation is here presented for the first time. Simpson was the first to characterize the errors in observations as independent events, taking positive and negative values with equal probabilities, and the first to provide a mathematical expression for the probability that the error in the mean result will lie between assigned limits," (Todhunter, p. 309).

This paper, which was criticized by Reverend Thomas Bayes, and accordingly revised and reprinted in Simpson's *Miscellaneous Tracts* (1757), is considered a milestone in statistical inference; a forerunner of Legendre-Gauss's *Least Squares,* and "the earliest statistical advice from a mathematician to experimental science" (Stigler, p. 93). In modern terms, we can view this paper as the earliest formal treatment of any data-processing practice. Thomas Simpson (1710 - 1761) is best known for the "Simpson's Rule" of computing the area under a curve using quadratic approximation.

Todhunter, *History of Probability,* p. 211, 309.
Keynes, *A Treatise on Probability,* p. 210, 455.
Stigler, *History of Statistics,* pp. 88-98.

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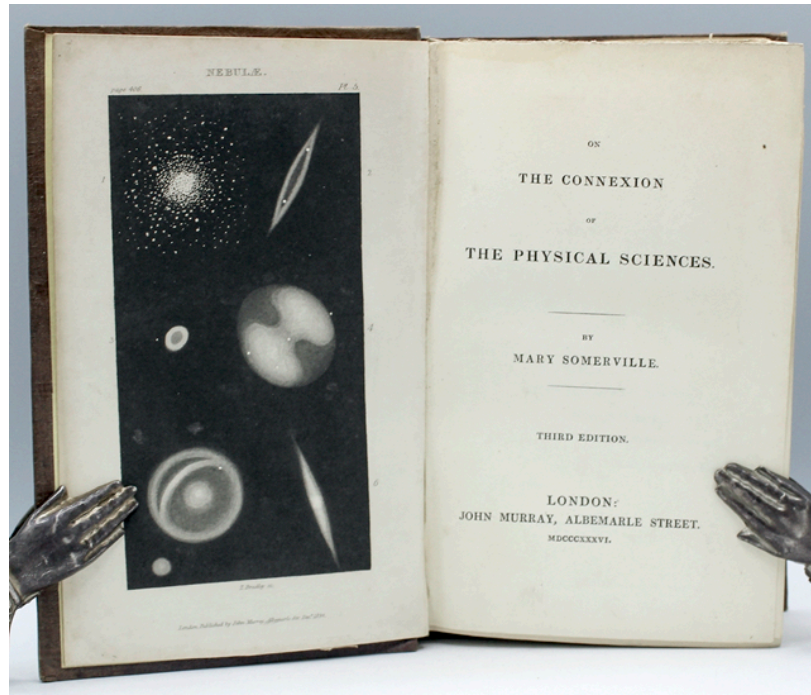
"No Woman of Science Until Marie Curie was as Widely Recognized in Her Own Time"

49. SOMERVILLE, [Mary]. *On the Connexion of the Physical Sciences.* London: John Murray, 1834.

Small octavo. [viii], 458 pp. With mathematical diagrams on ten pages (in appendix). Dedicated to Queen Adelaide.

Contemporary half calf over marbled boards. Gilt-ruled spine with green morocco spine label. Red speckled edges. Modern bookplate to front pastedown. Some foxing and toning throughout but overall a very good, tight copy of an important textbook by a pioneering science writer and one of the first two women to become a member of the Royal Astronomical Society.

$850

First edition. Later editions were published as *On the Connection of the Physical Sciences.*

Mary Somerville (1780 - 1872) consulted with leading scientists including Brougham, Faraday, Lyell, Whewell, Ampère, and Becquerel in the writing of the present work. The work "was an up-to-date account of what would later be classed as astronomy and traditional physics, with, in addition, sections on meteorology and physical geography… Supplemented with concise introductions to the technical material, it presented all in straightforward prose backed by mathematical notes. It was immensely popular…Subsequent
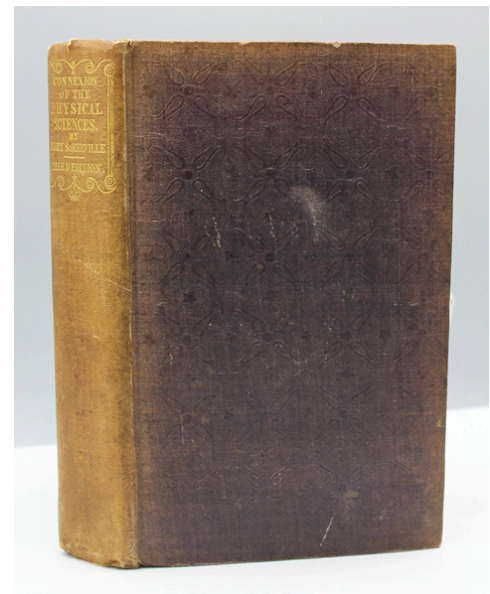
editions, incorporating the most recent research findings, came out in 1835, 1836, and 1837. Soon an established scientific classic and best-seller, it functioned for a time as an annual progress report for physical science," (Oxford DNB).
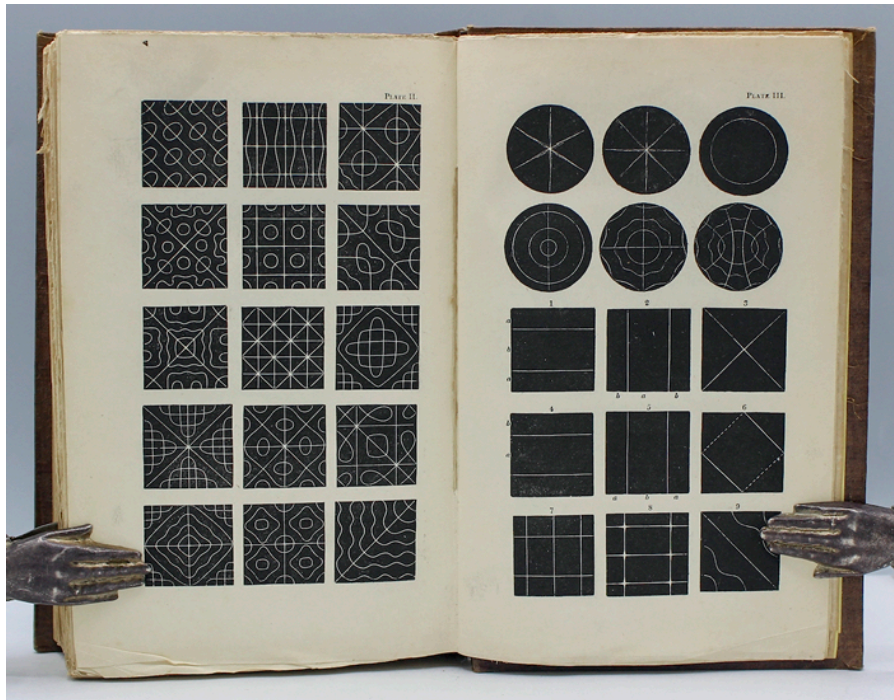
"Perhaps no woman of science until Marie Curie was as widely recognized in her own time" as Mary Somerville, a science writer, mathematics expositor, and one of the first two women to become a member of the Royal Astronomical Society (Oxford DNB). Her other works include an extremely popular translation of *Mécanique Céleste* by Pierre-Simon Laplace, as well as *The Mechanism of the Heavens* (1831), which was adopted by Cambridge as an advanced mathematics textbook in 1837. She was also the author of *Physical Geography* (1851), which was the first English-language geography textbook and required reading in many university courses.

✦ ◆ ✦
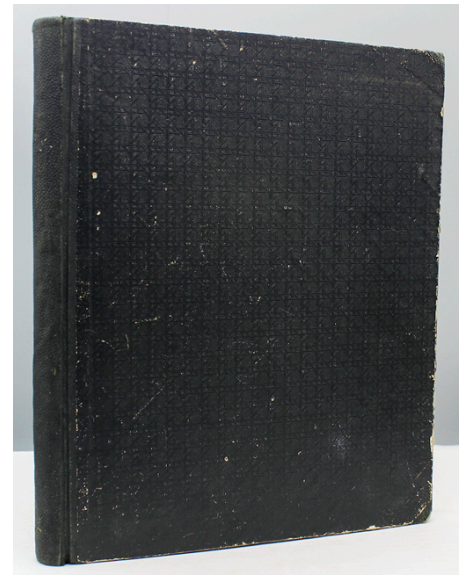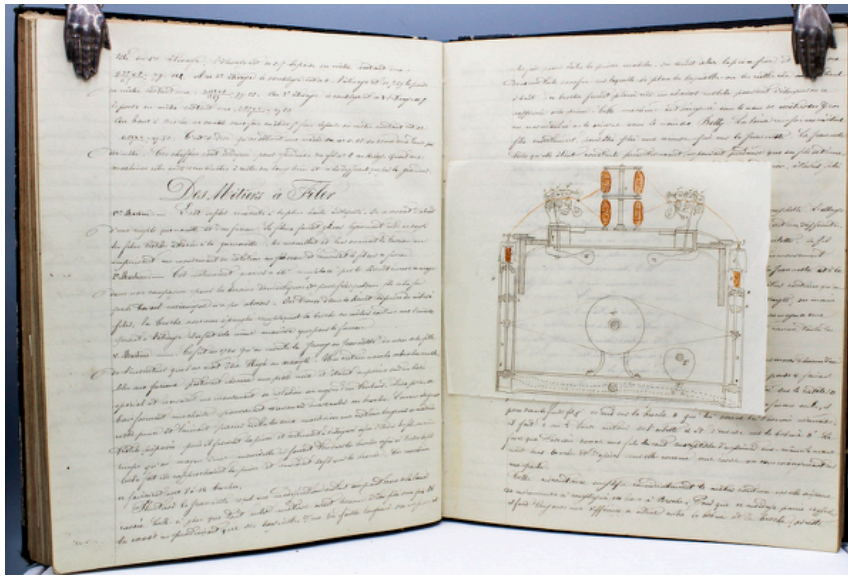
50. [TEXTILES.] *Cours de Filature.* [-*Cours de Tissage*]. [n.p., France: n.d., ca. 1850].

Manuscript on paper, quarto. [204] pp., densely written in dark brown ink, on faintly lined paper, with numerous carefully drawn illustrations of machinery used in spinning, carding and weaving, together with some weaving patterns. The text illustrations are sometimes heightened in colors, and a few small illustrations are pasted in. In addition, there are some nine onlays of sketches of machinery on india paper.

Original clothbacked boards. Some light edgewear, additional notes on front pastedown. Very good condition.

$2,500

A fascinating manual of the state of these crafts at the time, with comments on methods of production and the nature of the current industry. Discusses the spinning jenny, the Heilmann cotton combing machine, worsted wool, kinds of bobbins and spindles, etc.
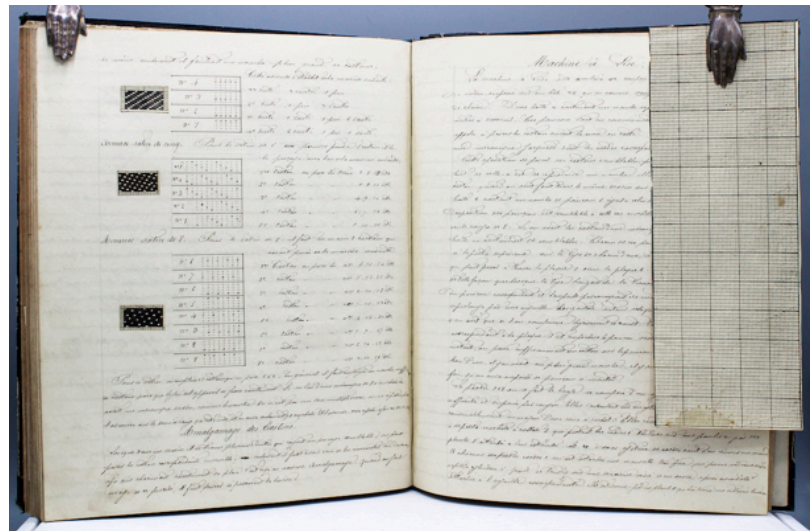
51. TRONA, Gaetano. P*rimi elementi dell'arithmetica ragionata*. Divisi in due parte.Turin: Davico e Picco, 1812.

Twelvemo. [2], 38, pp. 43-94. Two engraved folding plates, woodcut figures and tables in text. Despite the irregular pagination, apparently complete.

Contemporary paste-paper wrappers. Authenticating signature of Domenico Scotto on title-page verso. Two ownership signatures, one dated 1813, and one dated 1901. A very good copy.

$950

First edition.

A comprehensive guide to arithmetic, arranged in 203 sections. The first part explains the basics of numbers and how to write and pronounce them. The second part gives a brief introduction to metric measurements, and their corresponding regional forms of weights and measures, with sample calculations. The author goes on to discuss the revolutionary calendar and the organization for the day into ten hours instead of twenty-four. Even the circle is divided into metric units.

Trona published one other book on arithmetic entitled *Arithmetica ragionata* (1830).

No copies listed in OCLC or KVK.

Not in Riccardi.
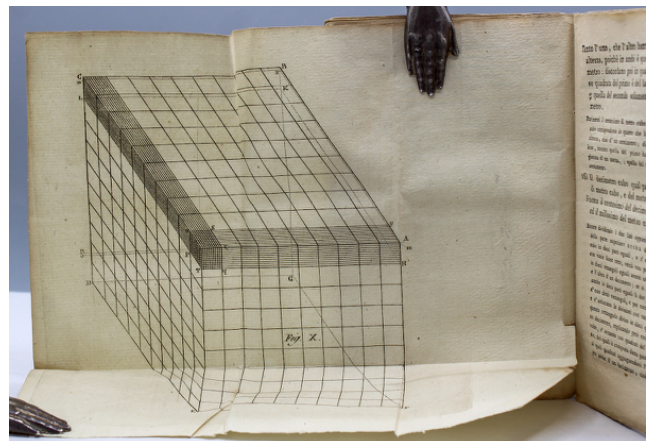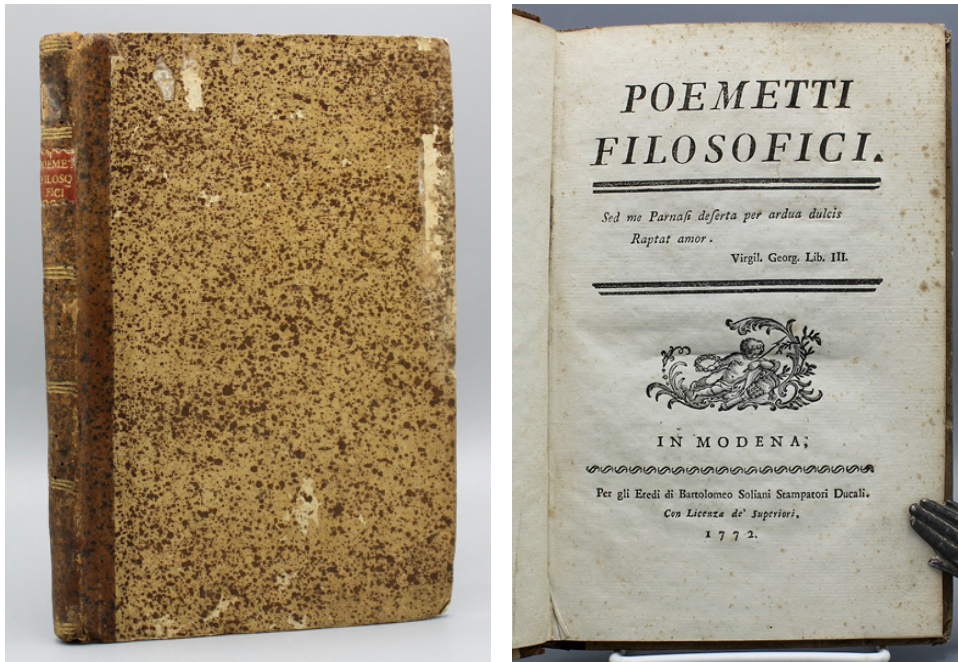
52. [VICINI, Giovanni Battista.] *Poemetti filosofici.* Modena: Eredi di Bartolomeo Soliani, 1772.

Octavo. 91, [3] pp. Wood-engraved head- and tail-pieces.

Contemporary speckled sheep over speckled boards, gilt flat spine with reddish-brown paste-paper lettering piece. With early twentieth-century stamp Fratelli Campori on front free endpaper. A few wormholes, front cover a little rubbed. Occasional light foxing. Very good.

$1,250

First edition.

Giovanni Battista Vicini (1709 - 1782), poet and translator, was called by Baretti "uno dei magni poetastri d'Italia." He produced several collections of poems, both sacred and secular. He worked at the Ducal court in Modena and dedicated this work to Ipolito Giuliano Bellincini-Bagnesi, chamberlain to Duke Francesco III. The title indicates that the poems contained here are of a scientific nature. One of the longer poems is on the botany and use of trees, entitled "La favela, ed il canto degli arbori et dei fiori," which is both on the subjects of agriculture and natural history. Another poem, "I colori" deals with Newton's color theory, in particular his diffraction of sunlight with a prism.
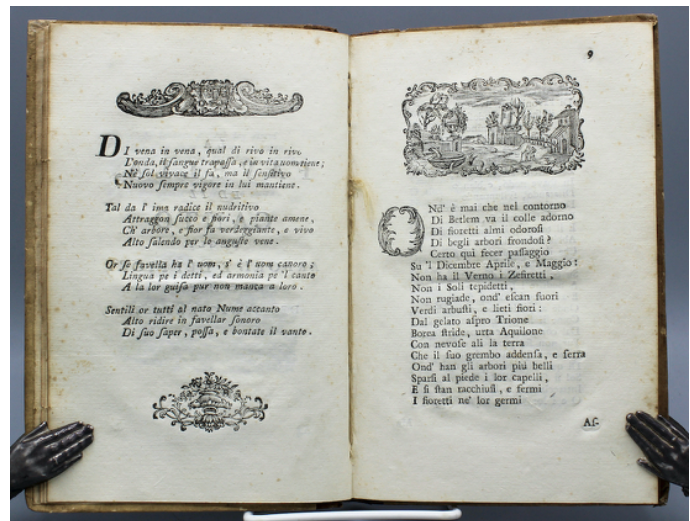
OCLC locates only one copy, at the British Library.

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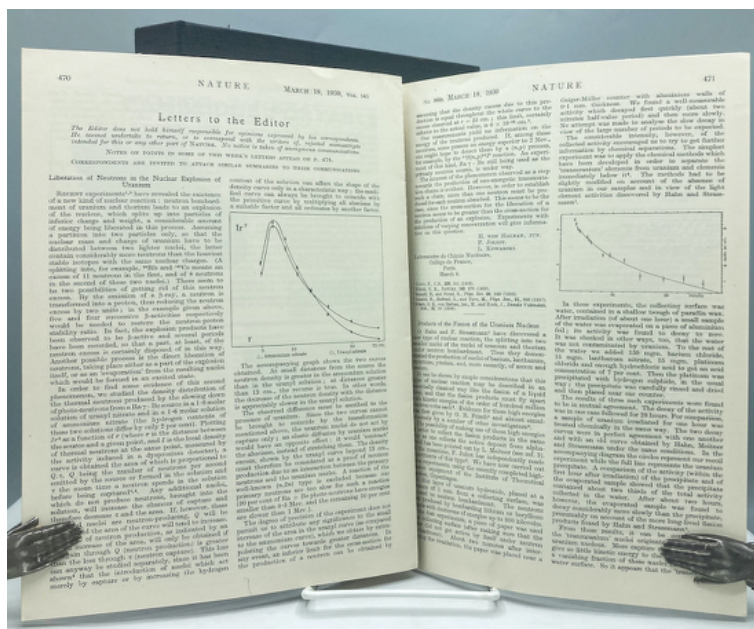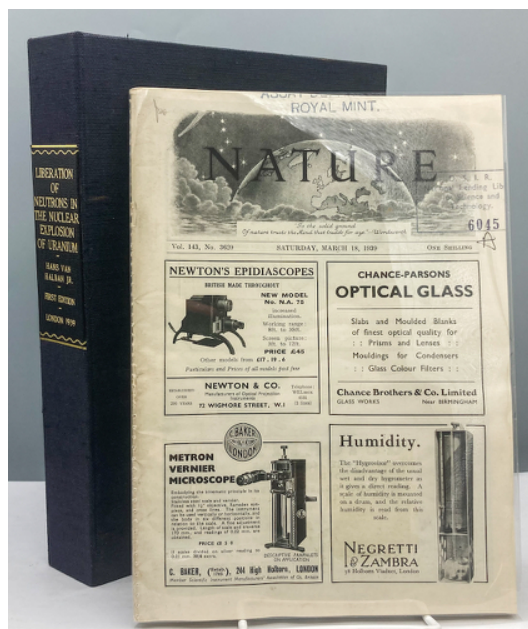
53. VON HALBAN, Hans, Jr., Fredric Joliot and Lew Kowarki. "Liberation of Neutrons in the Nuclear Explosion of Uranium." In *Nature,* Volume 143, no. 3620. London: Macmillan & Co., Ltd., March 18, 1939.

Quarto. cxi-cxvi, 447-468, i-iv, 469-490, cxvii-cxxii pp. With figures, tables, and photographic reproductions.

Printed wrappers, with some light soiling. Former owner's blue ink stamps and small manuscript: "A" at head and upper outer margin of front wrapper. Former owner's leather bookplate on box. A very good copy, in custom-made clamshell box.

$1,250

"Joliot was incontestably the first, in collaboration with Hans von Halban and Lew Kowarski, to prove that the fission of uranium atoms is accompanied or followed by an emission of neutrons… and subsequently that the fission of a uranium atom induced by one neutron produces, on the average, an emission of several neutrons (*Dictionary of Scientific Biography,* VII). In this important article, published six years prior to the detonation of the atomic bombs over Hiroshima and Nagasaki, "Halban, Joliot and Kowarski established the theoretical possibility of a self-perpetuating reaction chain…[though at the time] the only practical use suggested for it was implied in the Fermi patent for producing radioactive isotopes, which had been a continued blessing to medical and physiological research" (*Printing and the Mind of Man,* 422d).

This issue of *Nature* also includes Lise Meitner and O.R. Frisch's seminal article, "Products of the Fission of the Uranium Nucleus." Meitner and Frisch played an important role in the development of nuclear fission, and included among their works are *Printing and the Mind of Man* 422b and 422c.