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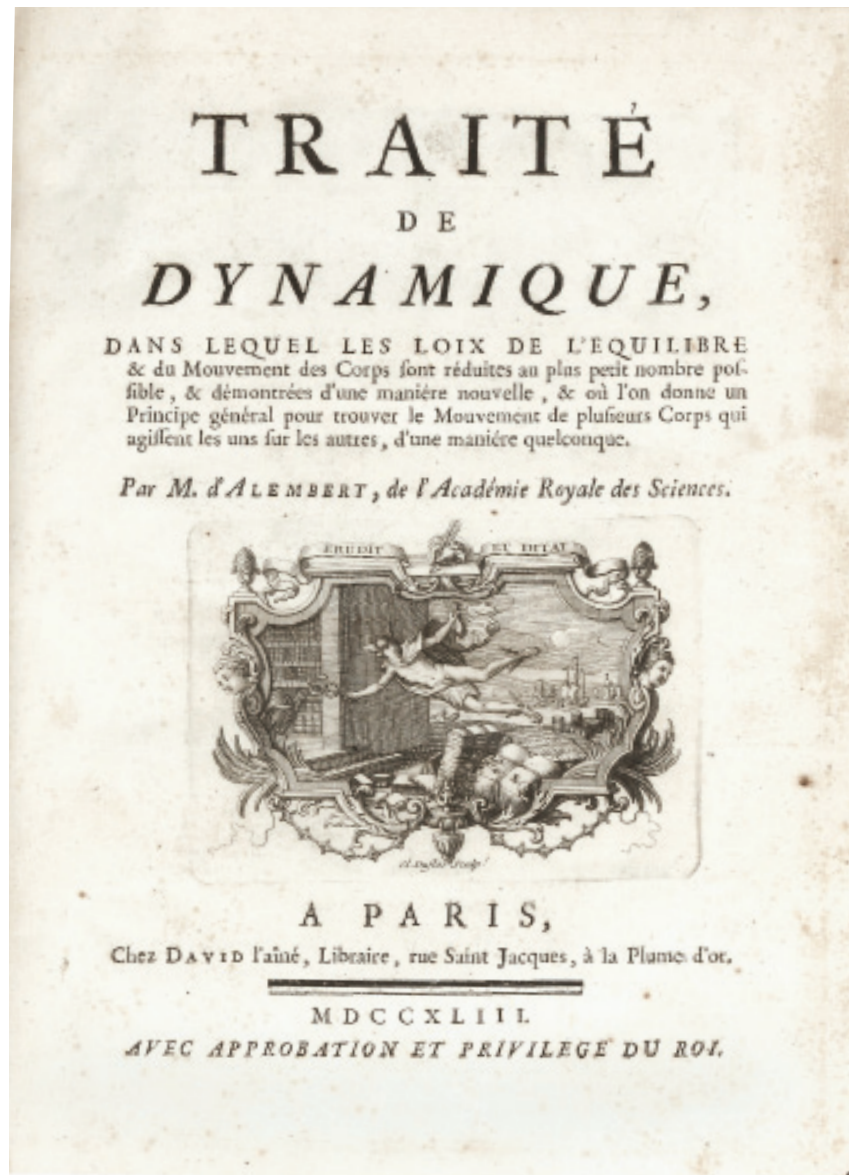
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D'Alembert's Masterpiece on Dynamics

- I. ALEMBERT, JEAN LE ROND D'. *Traité de Dynamique, dans lequel les Loix de l'Equilibre & du mouvement des Corps sont réduites au plus petit nombre possible, & démontrées d'une manière nouvelle, & où l'on donne un Principe général pour trouver le Mouvement de plusieurs Corps qui agissent les uns sur les autres, d'une manière quelconque.* Engraved vignette on title & four folding engraved plates. 2 p.l., xxvi, [2], 186, [2] pp. 4to, cont. marbled calf (extremities a trifle worn, preliminary leaves a bit discolored), spine gilt, red morocco lettering piece on spine. Paris: David l'aîné, 1743.

\$17,500.00

First edition, and a fine copy, of d'Alembert's masterpiece on dynamics; this has become a scarce book on the market. "The *Traité de dynamique*, which has become the most famous of his scientific works, is significant in many ways. First, it is clear that d'Alembert recognized that a scientific revolution had occurred, and he thought that he was doing the job of formalizing the new science of mechanics. . . . The *Traité* also contained the first statement of what is known as d'Alembert's principle. D'Alembert was, furthermore, in the tradition that attempted to develop mechanics without using the notion of force. Finally, it was long afterward said (rather simplistically) that in this work he resolved the famous *vis viva* controversy, a statement with just enough truth in it to be plausible."—D.S.B., I, p. 111—(& see pp. 111-13 for a full account of the work).

Fine copy. From the library of Marchese Giulio Stanga Carlo Trecco (d. 1832), amateur mathematician and physicist who formed a large collection of scientific instruments, with his shelfmark label at head of spine.

¶ *En Français dans le Texte* 147. *Printing & the Mind of Man* 195. Roberts & Trent, *Bibliotheca Mechanica*, p. 7—"A landmark in the history of mechanics."

“The First General Use of Partial Differential Equations
in Mathematical Physics”

2. ALEMBERT, JEAN LE ROND D'. *Reflexions sur la Cause Generale des Vents. Pièce qui a remporté le Prix proposé par l'Académie Royale des Sciences de Berlin, pour l'année 1746*. Engraved vignette on title, one engraved headpiece, & two folding engraved plates. 4 pl., xxviii, 194, 138 pp. 4to, cont. mottled calf (head of spine with a small chip, several signatures browned or foxed), spine gilt, red morocco lettering piece on spine. Paris: David l'aîné, 1747. \$4500.00

First edition (?). This and the Berlin edition of the same year (with Latin text only) are both variously claimed as the true first edition, and it is perhaps logical to suppose that a prize-winning essay should appear first under the imprint of the prize-giver. However, the imprimatur of the French *Académie des Sciences* was granted on 6 September 1746, and the Paris edition was on sale in November of that year (see d'Alembert's letter of 6 January 1747 to Euler). The text of the Paris edition comprises the Latin original of the prize submission, together with its French translation with “various more or less considerable additions” (*Avertissement*).

Very good copy of a very rare edition. From the library of Marchese Giulio Stanga Carlo Trecco (d. 1832), amateur mathematician and physicist who formed a large collection of scientific instruments, with his shelfmark label at head of spine.

¶ See Roberts & Trent, *Bibliotheca Mechanica*, p. 8 for the Berlin edition.



“A Masterly Work”

4. ALEMBERT, JEAN LE ROND D'. *Recherches sur la Précession des Equinoxes, et sur la Nutation de l'Axe de la Terre, dans le Système Newtonien*. Four folding engraved plates. xxxviii, [2], 184 pp. 4to, cont. mottled calf, spine gilt, red morocco lettering piece on spine. Paris: David l'aîné, 1749. \$6500.00

First edition of one of Alembert's most important books. "During the late 1740's, d'Alembert, Clairaut, and Euler were all working on the famous three-body problem, with varying success. D'Alembert's interest in celestial mechanics thus led him, in 1749, to publish a masterly work, the *Recherches sur la Précession des Equinoxes* ... The precession of the equinoxes, a problem previously attacked by Clairaut, was very difficult. D'Alembert's method was similar to Clairaut's but he employed more terms in his integration of the equation of motion and arrived at a solution more in accord with the observed motion of the earth. He was rightly proud of his book."—D.S.B., I, p. 113.

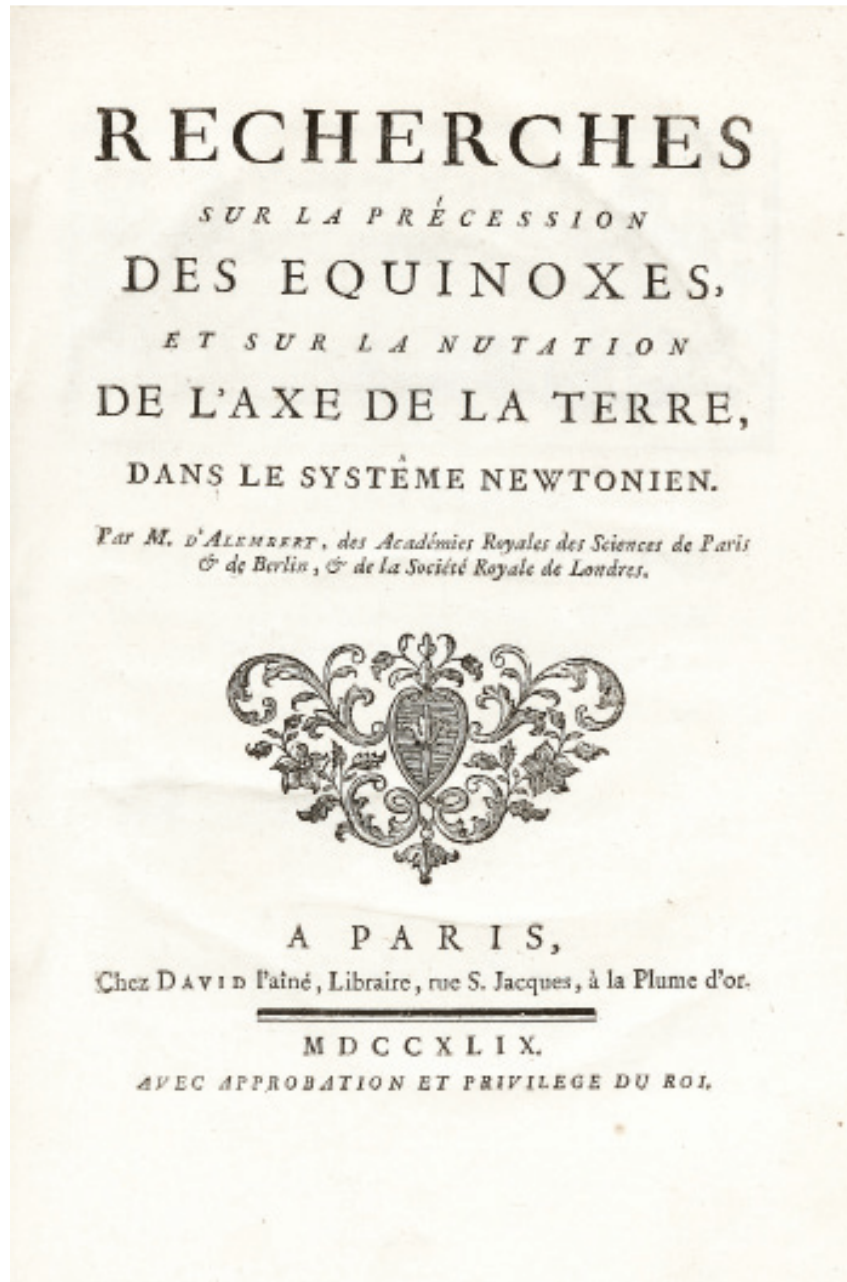
A very fine copy and scarce on the market. From the library of Marchese Giulio Stanga Carlo Trecco (d. 1832), amateur mathematician and physicist who formed a large collection of scientific instruments, with his shelfmark label at head of spine.

¶ Babson 36.

Better Than Clairaut's Method

5. ALEMBERT, JEAN LE ROND D'. *Recherches sur Differens Points importants du Systéme du Monde*. Six folding engraved plates. lxxviii, 260 pp; vi, 290 pp; xlvi, 263 pp. Three vols. 4to, cont. mottled calf (lower cover of Vol. II a little wormed), spines gilt, red morocco lettering pieces on spines. Paris: David, 1754-54-56. \$9500.00

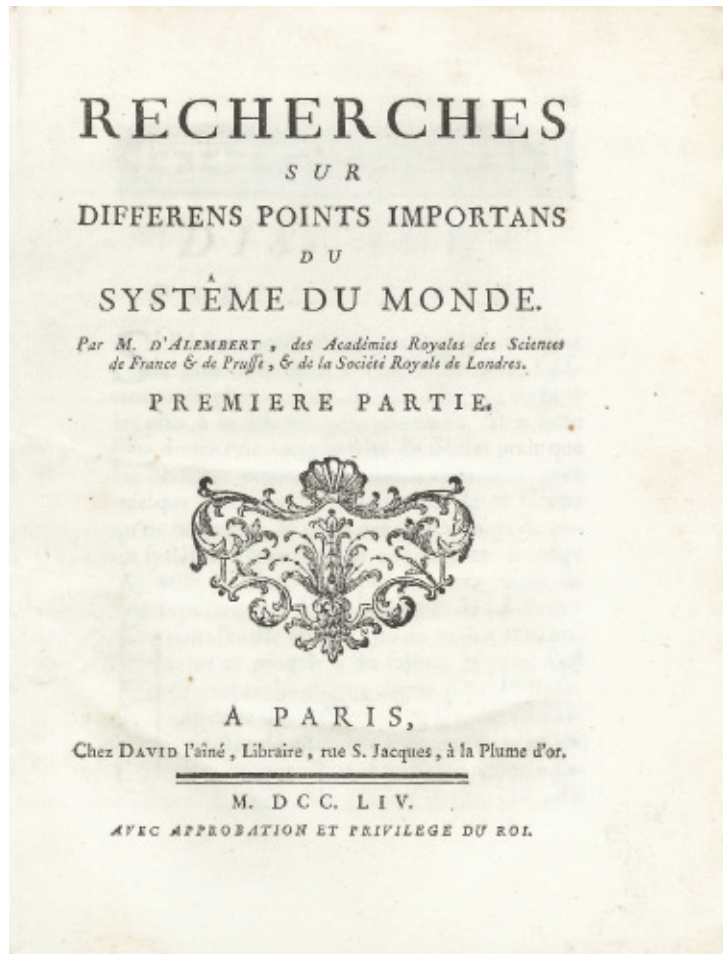
First edition. "Devoted primarily to the motion of the moon (Volume II included a new set of lunar tables), it was written at least partially to guard d'Alembert's claims to originality against those of Clairaut. As was so often the case, d'Alembert's method was mathematically more sound, but Clairaut's method was more easily used by astronomers."—D.S.B., I, p. 114.



Clairaut's anonymous and unfavorable review of the third volume, published in the *Journal des Sçavans*, caused a bitter, famous, and extended controversy which continued until Clairaut's death in 1765.

Fine set. From the library of Marchese Giulio Stanga Carlo Trecco (d. 1832), amateur mathematician and physicist who formed a large collection of scientific instruments, with his shelfmark label at head of spine.

¶ Lalande, p. 453—"On trouve dans le premier volume des recherches savantes sur le problème des trois corps."



Five Uncommon Works by Angeli

6. ANGELI, STEFANO DEGLI. *Considerationi sopra la Forza di alcune Ragioni Fisicomattematiche, addote dal M.R.P. Gio. Battista Riccioli . . . nel suo Almagesto Nuovo & Astronomia Riformata contro il Sistema Copernicano. Espresse in Due Dialoghi . . .* Woodcut diagrams in the text. 4 pl. (final leaf a blank), 134 pp. Small 4to, cont. vellum over boards. Venice: B. Bruni, 1667.

[BOUND WITH]:

—. *Seconde Considerationi sopra la Forza dell'Argomento Fisicomattematico . . . contra il Moto Diurno della Terra . . .* Woodcut diagrams in the text. 4 pl., 111 pp. Small 4to. Padua: M. Bolzetta de Cadorini, 1668.

[BOUND WITH]:

—. *Terze considerationi sopra Una Lettera del . . . Gio: Alfonso Borelli . . . scritta da Questi in replica di alcune Dottrine incidentemente tocche . . .* Woodcut diagrams in the text. 4 pl., 46 pp. Small 4to. Venice: Heirs of Leni, 1668.

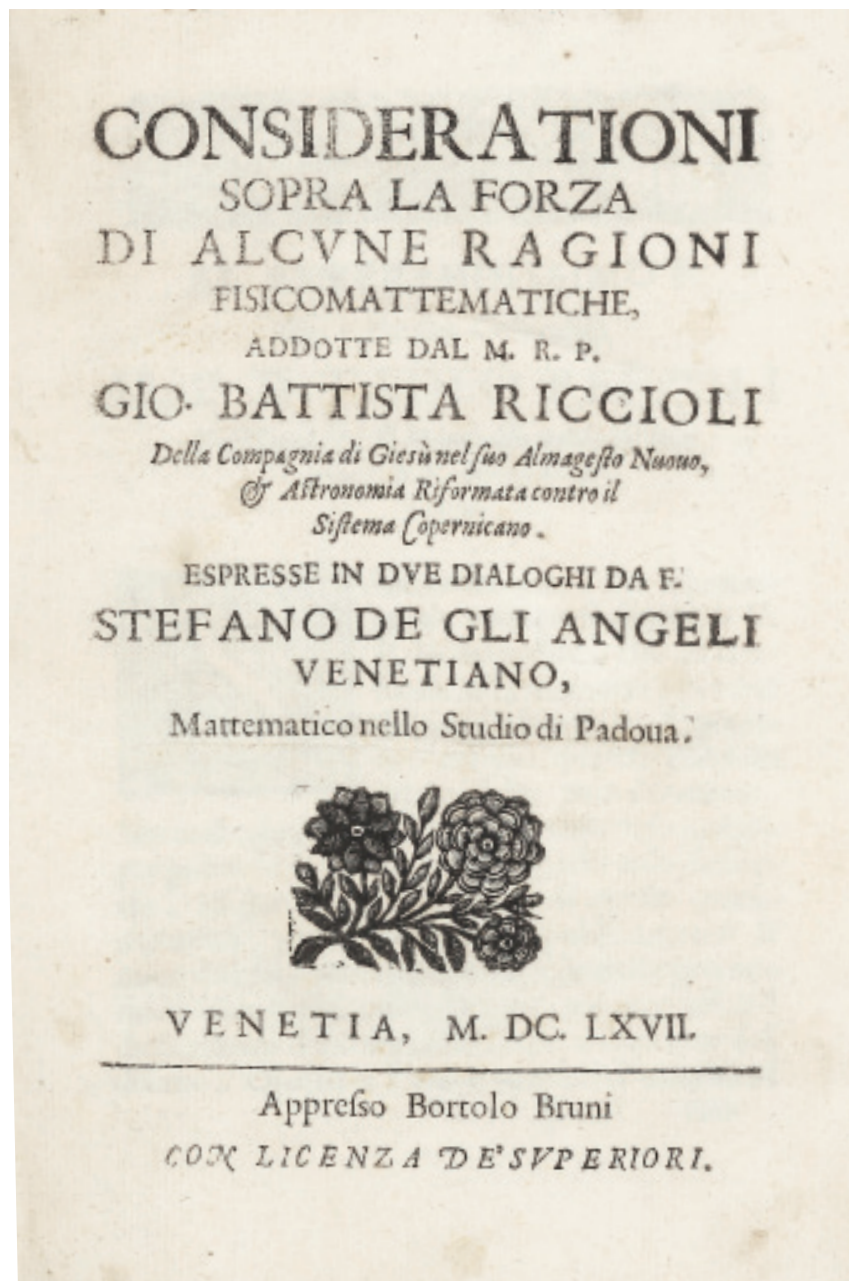
[BOUND WITH]:

—. *Quarte Considerationi sopra la Confermatione d'Una sentenza del Sig. Gio. Alfonso Borelli . . . prodotta da Diego Zerilli contro le Terze Considerationi.* Woodcut diagrams in the text. 4 pl., 87 pp. Small 4to. Padua: M. Cadorin detto Bozetta, 1669.

[BOUND WITH]:

—. *Della Gravità dell' Aria e Fluidi, esercitata Principalmente nelli loro omogenei. Dialogi Primo, e Secondo Fisico-Matematici.* Woodcut diagrams in the text. 2 pl., 79 pp. Small 4to (a few leaves browned). Padua: M. Cadorin, 1671. \$12,500.00

An attractive collection of five of Angeli's scientific writings, all first editions, and including his most important writings on fluids. Angeli (1623-97), studied mathematics under Cavalieri at Bologna and edited his teacher's *Exercitationes Geometricae Sex* (1647). In 1663, Angeli was offered the prestigious professorship of mathematics at the University of Padua, a post that had been held by Galileo, and which Angeli filled until his death. I-IV. These four works, a complete set, written in the style "of dialogues that reflect Galileo's style, form a lively but cautious polemic on



the problems of the Ptolemaic and Copernican cosmological systems. G.B. Riccioli, in his *Almagestum novum*, had formulated some arguments against the Copernican system. Angeli asserted that 'the earth is motionless, but Riccioli's reasons do not prove the point,' and he devoted the first of these studies (1667) to demonstrating that Riccioli's anti-Copernican arguments were without foundation. Angeli replied to Riccioli's arguments with another work in 1668. G.A. Borelli, who later participated in the polemic, rejected Riccioli's arguments, and pointed out that if Angeli's views were correct, falling bodies should follow a vertical trajectory in the hypothesis of the earth's motion as well."—D.S.B., I, pp. 164-65.

v. Angeli's *Della gravità dell'aria e fluidi* "is largely experimental in character. In it he examines the fluid statics, based on Archimedes's principle and on Torricelli's experiments. It also contains theories of capillary attraction."—*ibid.*, p. 165. In Angeli's works on physics, there are many references to Galileo's mechanics, as well as his acceptance of the experimental method.

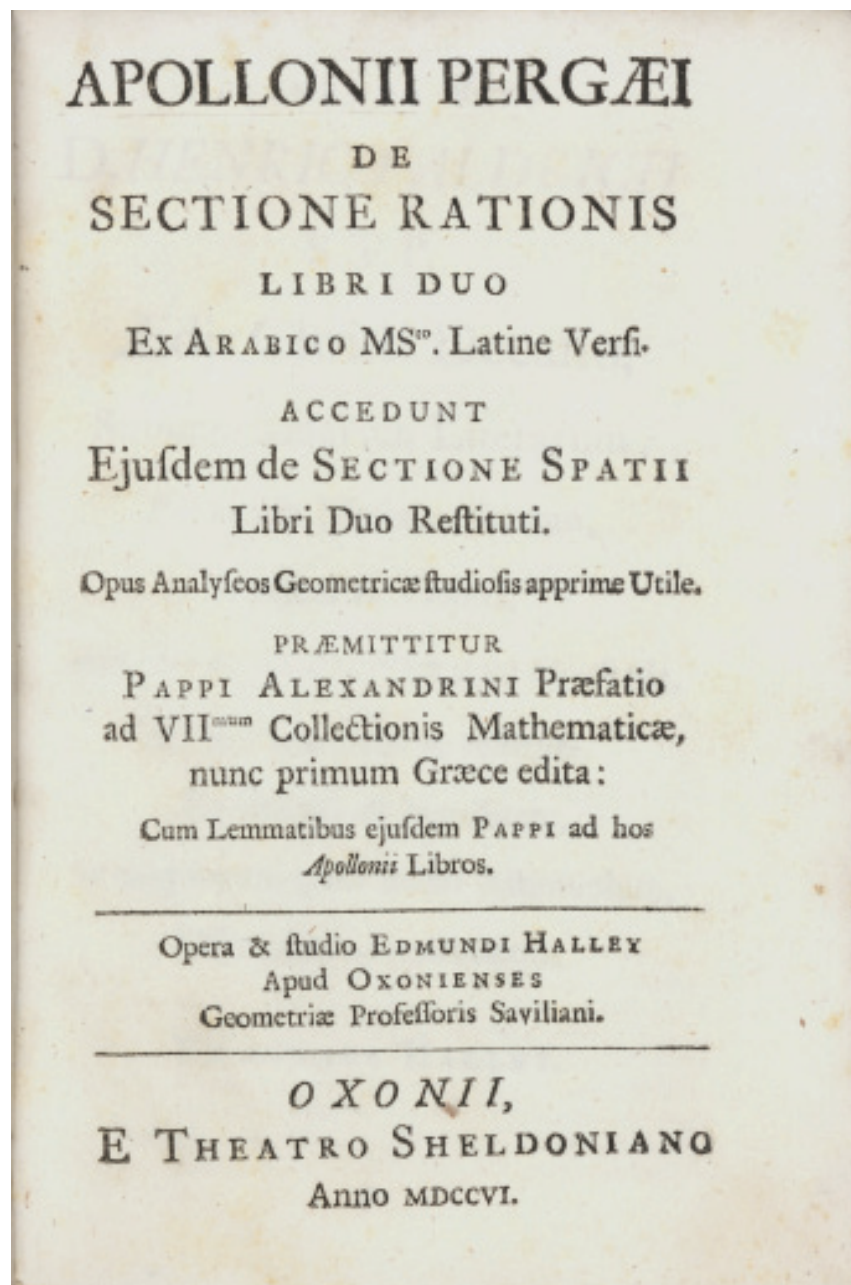
Fine copies. Bookplate of Cassamini-Mussi.

¶ Carli & Favaro 301, 309, 310, 321, & 331. Riccardi, I, 11-15. I. Maffioli, *Out of Galileo. The Science of Waters 1628-1718*, pp. 102, 103-04, & 115n.

Edmund Halley's Edition

7. APOLLONIUS, OF PERGA. *Apollonii Pergaei De Sectione Rationis Libri Duo ex Arabico MSto. Latine Versi. Accedunt eiusdem De sectione Spatii Libri Duo Restituti. Opus Analyseos Geometricae studiosis apprime Utile. Praemittitur Pappi Alexandrini Praefatio ad VIIimum Collectionis Mathematicae nunc primum Graece edita, cum Lemmatibus eiusdem Pappi ad hos Apollonii Libros.* Opera & studio Edmundi Halley ... Numerous woodcuts in the text. Much Greek printing. 5 pl., liii, 168 pp. 8vo, cont. panelled calf, remains of label on spine. Oxford: Sheldonian Theatre, 1706. \$6500.00

First edition of Halley's translation of Apollonius's "cutting off a ratio" from an Arabic manuscript. This text of Apollonius, like Books V-VII of the *Conics*, survives only in Arabic, and in this case the Arabic remains unpublished.



“Much of Halley’s scholarship was exercised upon the works of Apollonius of Perga, one of the greatest mathematicians of antiquity, and indeed of all time, who flourished in the latter part of the third century B.C. One of his minor works, *Sectio rationis* (Cutting-off of a ratio), an exercise in geometrical algebra, was thought to be lost until an Arabic translation of it was found among the Selden manuscripts in the Bodleian and identified by Edward Bernard, the Savillian Professor of Astronomy. Bernard set about translating it into Latin; but the manuscript was very defective and he soon laid the task aside. His successor, David Gregory, made a fair copy of the original for the use of Henry Aldrich, Dean of Christ Church, at whose invitation Halley, upon succeeding Wallis in the Savillian Chair of Geometry, undertook to complete the translation. He had never previously studied Arabic; but, using as a key the few passages translated by Bernard, he eventually made out the meaning of the text. He proceeded to restore the lost companion tract, *Sectio spatii*, following hints from Pappus. He gave his reasons for regarding the works as genuine; and he included in his edition the earliest printed Greek text of Pappus’s preface to the seventh book of his *Synagoge* (Collection).”—Angus Armitage, *Edmond Halley*, p. 160.

Five hundred copies of this book were printed and, by 1713, 122 copies were remaindered.

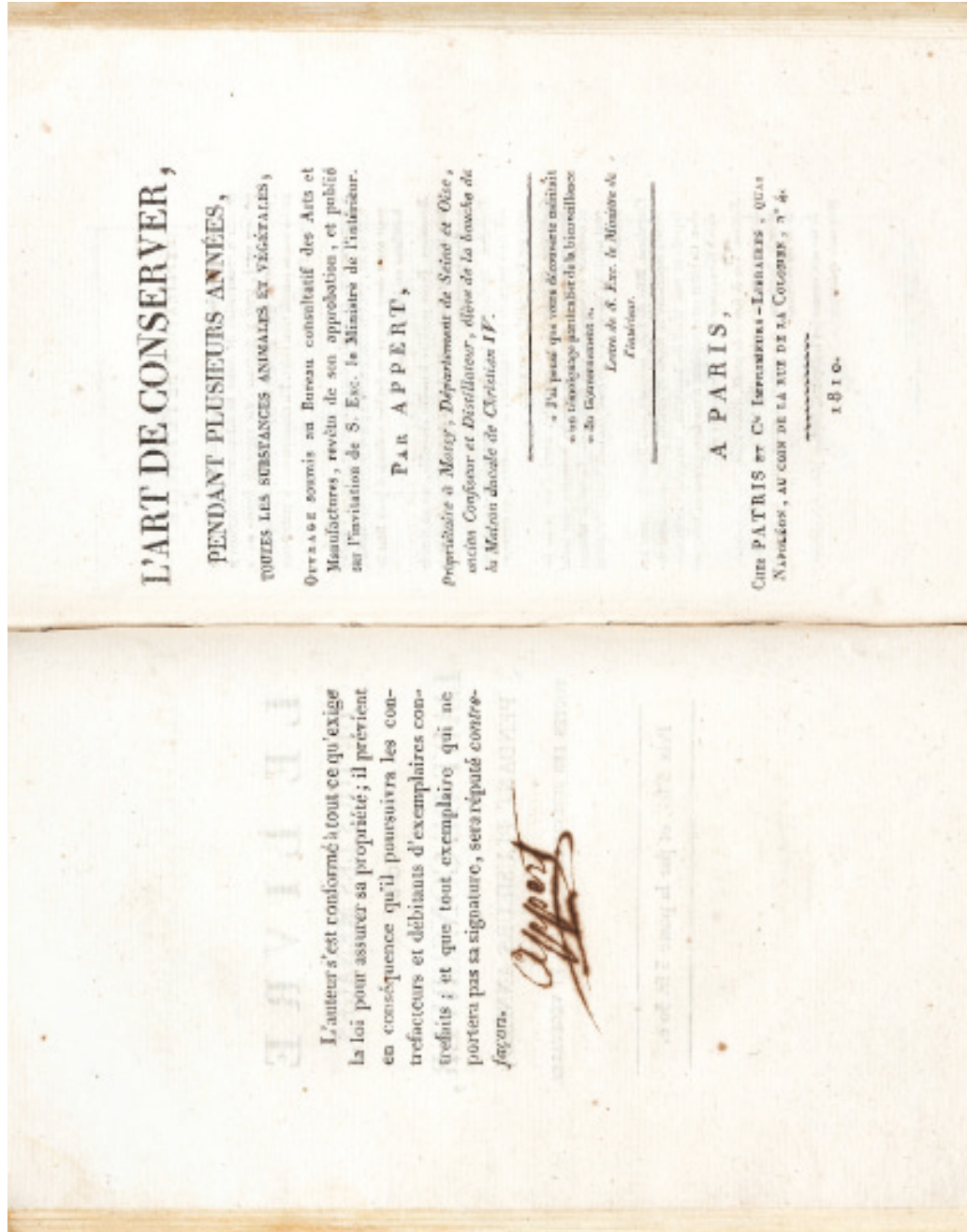
From the library of Jacob Bronowski (1908-74), mathematician, biologist, historian of science, poet, and inventor.

The Foundation of the Canning Industry

8. APPERT, NICOLAS. *L'Art de conserver, pendant plusieurs Années, toutes les Substances animales et végétales*. One folding engraved plate. xxxii, 116 pp. 8vo, cont. red morocco-backed paste-paper boards, flat spine nicely gilt. Paris: Patris, 1810. \$2750.00

First edition. One of the great achievements of the 19th century in respect to food was the successful development of canning. The pioneer in this field was the Frenchman, Nicolas Appert (1750-1841).

In Appert’s process the foodstuff was placed in clean bottles, well corked, and subsequently the bottles were raised to the boiling-point of water. In this way the most perishable material could be kept un-



changed for a long time. With this method Appert demonstrated practically the process of pasteurization, nearly fifty years before its scientific explanation. Appert published his discovery in the present book which served as the foundation of the vast canning industry of today and altered the food habits of man.

Handsome copy with the signature of Appert against counterfeits on the verso of the half-title. Bound in between Farnaud's *Exposé des Améliorations introduites depuis environ Cinquante Ans dans les diverses Branches de l'Économie rurale* (Gap: 1811) and Fontalard's *Principes raisonnés de l'Agriculture* (Paris: 1793).

¶ Bitting, pp. 13-14. Bulloch, *The History of Bacteriology*, pp. 44-45. *En Français dans le Texte* 220.

The Heliocentric System First Stated

9. ARISTARCHUS OF SAMOS. *De Magnitudinibus, et Distantiis Solis, et Lunae, Liber cum Pappi Alexandrini explicationibus quibusdam*. A Federico Commandino Urbinate in Latinum conversus, ac Commentariis illustratus. Woodcut printer's device on title, a fine woodcut initial, & numerous woodcut diagrams (many full-page) in the text. 4 p.l. (the last a blank), 38 leaves. Small 4to, early vellum over boards (some light foxing), handwritten paper label on spine, traces of green silk ties. Pesaro: C. Francischini, 1572. \$37,500.00

First edition of Commandino's translation of the first treatise to put forward the heliocentric hypothesis.

Aristarchus (ca. 310-230 B.C.), "taught the daily rotation of the earth about its axis. He was the first to put forward the heliocentric hypothesis. In order to reconcile the apparent immobility of the fixed stars with the revolution of the earth around the sun, he assumed that the sphere of the fixed stars was incomparably greater than that containing the earth's orbit. That is, the universe conceived by him was incomparably greater than that conceived by his predecessors. In his only extant treatise 'On the sizes and distances of the sun and moon' he gave a scientific method to make these measurements. His results were grossly inaccurate, but the method was sound . . .

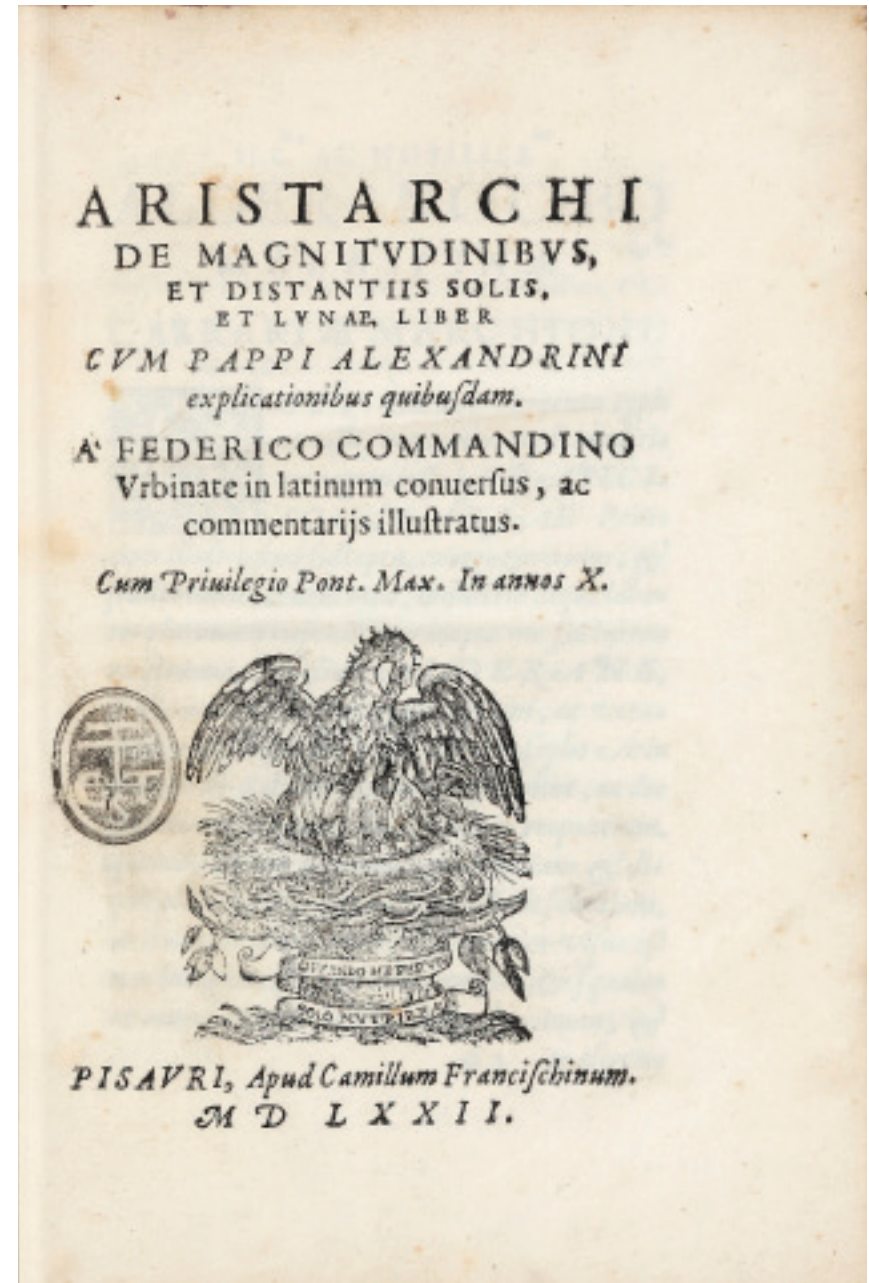
"This treatise is of great mathematical interest because of its con-

taining the calculation of ratios which are in fact trigonometrical ratios.”-Sarton, I, pp. 156-57.

“Aristarchus is celebrated as being the first man to have propounded a heliocentric theory, eighteen centuries before Copernicus . . . It is interesting to note in passing that Copernicus’ disappointment at being anticipated by Aristarchus has recently come to light. Copernicus deliberately suppressed a statement acknowledging his awareness of Aristarchus’ theory . . . *On Sizes and Distances* marks the first attempt to determine astronomical distances and dimensions by mathematical deductions based upon a set of assumptions.”-D.S.B., I, pp. 246-48.

Nice unsophisticated copy. Old stamp on title.

¶ Sparrow, *Milestones of Science*, pp. 2-3 & plate 7.





The Well-Tempered Clavier, Book One
"Unparalleled in the History of Music"

10. BACH, JOHANN SEBASTIAN. *Vingt-Quatre Préludes et Fugues dans tous les tons et demi-tons du mode majeur, et mineur. Pour le Clavecin ou Piano-Forté . . . 1re Suite.* Title & 109 pp. (engraved throughout). Oblong folio, cont. German half-sheep & marbled paper boards (front hinge strengthened, corners a little worn, some minor soiling & foxing). Zurich: J.G. Naiguéli, [1801]. \$7500.00

First edition of *The Well-Tempered Clavier Book One* (BWV 846-869), a landmark in European musical history. It surpassed "in logic, in format and in musical quality, all earlier endeavours of the same kind by other masters . . . [it] represents the culmination of a 20-year process of maturation and stands unparalleled in the history of music."—*New Grove*, Vol. 1, p. 813. The work, however, had to wait almost 80 years to appear in print, when it heralded the great Bach revival of the 1820s led by Mendelssohn. Three editions came out simultaneously: by Naiguéli in Zurich, Hoffmeister & Compo in Leipzig, and N. Simrock in Bonn. During Bach's lifetime less than a dozen editions of his works appeared in print.

Very rare. A very good copy in a folding cloth box.

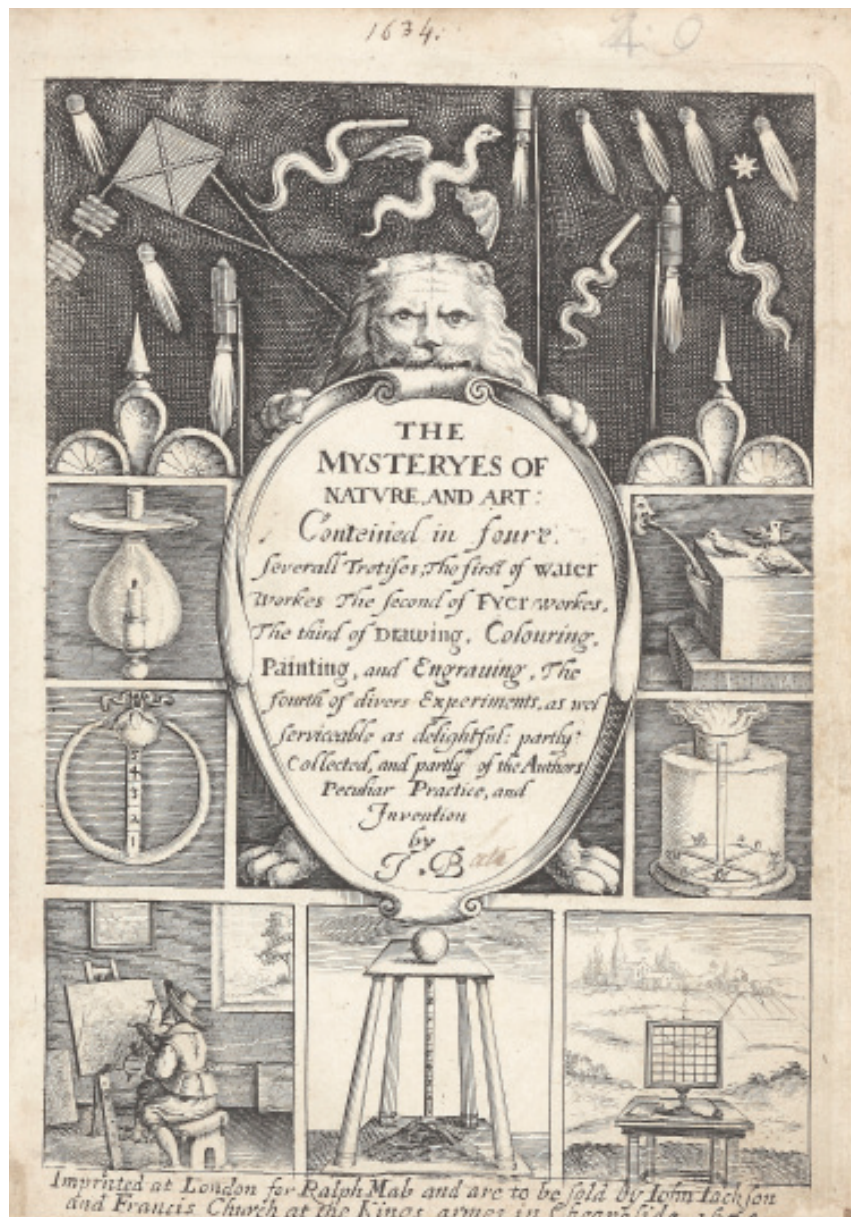
*"The First Comprehensive Illustrated English Book
 on Waterworks & Hydraulic Machinery"*

11. [BATE, JOHN]. *The Mysteryes of Nature, and Art: Contained in foure severall Tretises, the first of Water Workes The second of Fyer workes, The third of Drawing, Colouring, Painting, and Engraving, The fourth of divers Experiments, as wel serviceable as delightful: partly collected, and partly of the Authors Peculiar Practice, and Invention by J.B.* Fine added engraved title (a little cropped at foot), woodcut plate between pp. 14 & 15 in the first part (T4), & numerous woodcuts in the text (two slightly cropped). 5 p.l. (incl. added engraved title), 112, [16], 121-142, [3], 150-192 pp. Small 4to, cont. calf (a little rubbed), red morocco lettering piece on spine. London: R. Mab, 1634. \$16,500.00

First edition and quite uncommon on the market; this is "the first comprehensive illustrated English book on waterworks and hydraulic machinery. It also includes sections on drawing, painting, recipes, and folk remedies, as well as one on fireworks and incendiary devices largely derivative of earlier English and continental works on the subject . . .

"Bate's influence extended to the young Isaac Newton, who owned a copy of *Mysteryes*, copied extracts from Bate's section on drawing, and was probably inspired by his section on waterworks."—ODNB. As a schoolboy, Newton neglected his school work in favor of building mechanical works, including a windmill, a water clock (clepsydras), a cart run by a crank, and an airborne lantern. Many of his contrivances, including those just mentioned, as well as a process for making various colored inks, were found in Bate's *Mysteryes* (see Westfall's biography of Newton *Never at Rest*, p. 61). It was a book which fully engaged the youthful Newton's natural precocious interests. Indeed, his fascination with color and the mixing of colors stemmed from Bate's book.

"All editions, more particularly the first and third, are moderately rare, and are not readily procurable in really nice state [this was written in 1898] . . . The first book contains a good many ingenious devices worked by water power. In particular, there is a weather glass, a water clock, force pumps, and other contrivances. The second book deals with pyrotechny . . . The third book is occupied with drawing and



painting, and an account is given both of mediums and of colours . . . the last book, called 'Extravagants,' is merely a collection of miscellaneous secrets relating chiefly to the metals, and there are a few medical receipts at the end. On the whole the book justifies the demand for it that still exists."—Ferguson, *Bibliographical Notes on Histories of Inventions & Books of Secrets*, Supplement Four, pp. 11-12.

The attractive engraved title depicts eight experiments or effects described in the book. There are about 80 woodcuts in the text, many full-page.

A very nice copy of a fascinating book, preserved in a box.

¶ STC 1577.

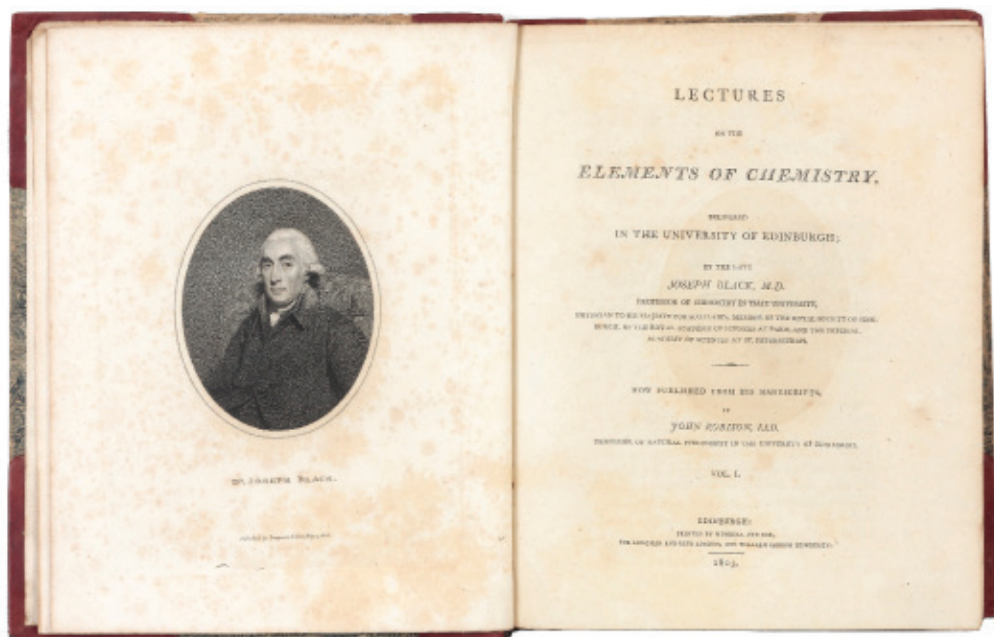
A Fine Set

12. BLACK, JOSEPH. *Lectures on the Elements of Chemistry, delivered in the University of Edinburgh . . .* Now published from his Manuscripts by John Robison. Engraved frontis. port. of Black & 3 engraved plates. lxxvi [i.e., lxxvi], 556 pp.; 1 pl., 762, [4] pp. Two vols. Large 4to, marbled boards (minor foxing at beginning & end of each vol.), attractive modern red calf spines & corners, flat spines gilt. Edinburgh: Mundell & Son, 1803. \$5000.00

First edition and a very handsome set. These two monumental volumes are the only substantial account of the work of the founder of modern quantitative chemistry and discoverer of latent and specific heats. Black (1728-99), began to lecture upon his appointment as professor of medicine and chemistry at the University of Edinburgh in 1766. "His career thenceforward was exclusively that of a teacher . . . His success was conspicuous. During above thirty years he inculcated the elements of chemistry upon enthusiastic and continually growing audiences . . . His lectures thus had a powerful effect in popularizing chemistry."—D.N.B., II, pp. 572-73.

Black's lectures were not printed during his lifetime; they were circulated only in manuscript amongst his students. The present edition was prepared by his pupil, friend, and colleague, John Robison, who has added a long introduction and enriched each volume with notes.

A fine and large set. This copy lacks, as is often the case, the 19-

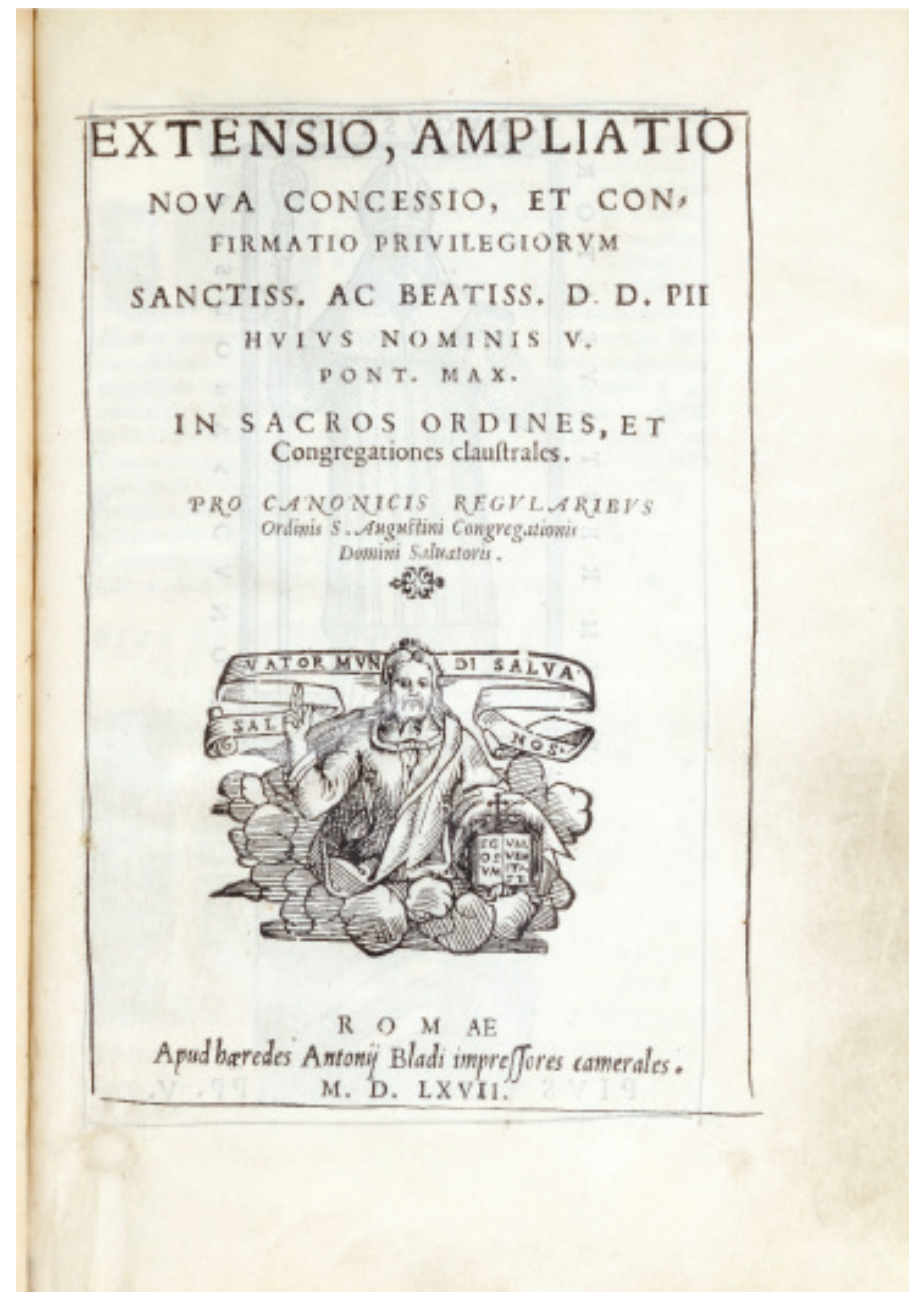


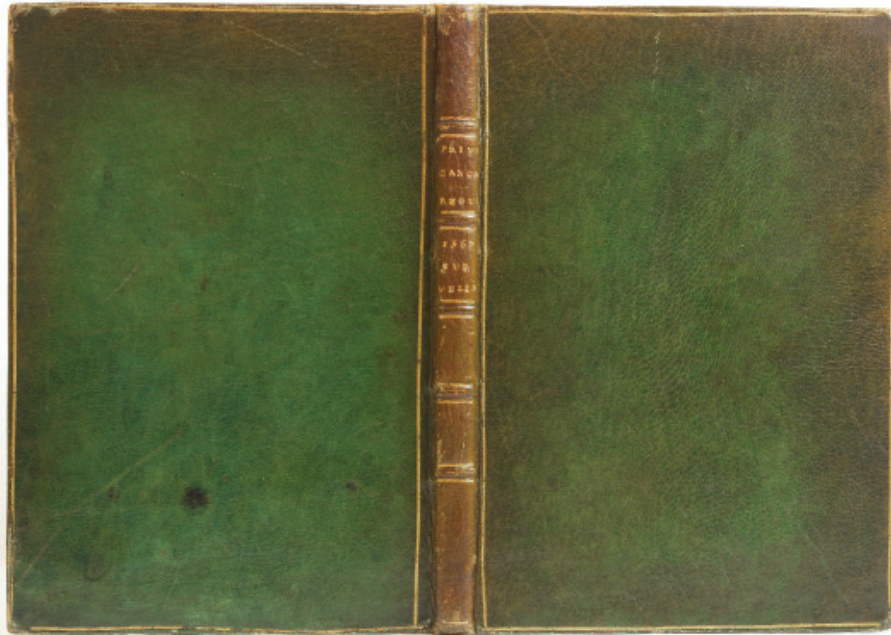
page index (but a photocopy is laid-in). The 4-page “Explanation of the Plates,” which is very often missing, is present.

¶ Cole 158. Duveen, pp. 81-82-(lacking the Index). Partington, III, pp. 130-43.

Probably the MacCarthy-Reagh Copy in Green Morocco;
Printed on Vellum

13. (BLADO). *Extensio, Ampliatio, Nova concessio, et Confirmatio Privilegiorum Sanctiss. ac Beatiss. D.D. Pii huius nominis 5. Pont. Max. in Sacros Ordines, et Congregationes claustrales. Pro Canonicis Regularibus Ordinisi S. Augustini Congregationis domini Salvatoris.* Woodcut vignette on title, woodcut port. of St. Augustine & the woodcut arms of Pius V on verso, & two large & fine woodcut initials. Printed nearly entirely in italics. 12 unnumbered leaves. Small 4to, 18th-cent. green morocco, single gilt fillet round sides, spine gilt, a.e.g. Rome: Heirs of A. Blado, [text dated 16 December] 1567. \$12,500.00





First edition, a fine copy printed on vellum, and very likely the MacCarthy-Reagh copy, which was described in his 1815 sale catalogue (lot 1176) as “m. vert.” This copy bears the official autograph signatures of Cardinal Flavio Orsini and M. Boccarinus, Notary of the Apostolic Chamber, on the final page. Our copy probably passed to Samuel Butler (1774-1839), Bishop of Lichfield and headmaster of Shrewsbury School, who formed a “nearly perfect set of Aldines” (De Ricci, p. 115) and related books and manuscripts. I believe our copy is the one described in the second sale of Butler’s library (1 June 1840 and eight following days) as lot 1593 in “green morocco.”

This book was printed by the widow and sons of Blado (he had died earlier in the year), whose printing house was the official papal printer from 1535 to 1589. This book is almost entirely printed in the italic based on the one designed by Aldus.

This is one of the many decrees issued by Pius V (1504-72), in his efforts to reform the Catholic Church.

Handsome copy, with the bookplate of the Comte Chandon de Briailles with the manuscript note: “rel.: 130. 1931.” Small repair to upper blank margin of final three leaves. Preserved in a box.

¶ Brunet, IV, 681. Fumagalli 460. Van Praet, in his catalogue of the vellum-printed books in the BnF, is mistaken regarding the binding of the MacCarthy-Reagh copy.

An Important Evolutionary Work

14. BONNET, CHARLES. *Traité d’Insectologie; ou Observations sur les Pucerons*. Eight folding engraved plates & 2 folding printed tables. Tables in the text. 2 pl., xxxii, [6], 228 pp.; 6 pl., 232 pp. Two vols. Small 8vo, cont. green morocco, sides decorated in gilt, spines richly gilt, red morocco lettering pieces on spines, a.e.g. Paris: Durand, 1745. \$6500.00

First edition and a very fine and pretty set of this important work which greatly influenced later evolutionary opinion. Copies in contemporary morocco are rare.

“This pioneering work on experimental entomology incorporates Bonnet’s most important discovery — parthenogenetic reproduction — based on his study of aphids. Bonnet used the result of this and other discoveries as a basis for speculation about life on earth. This work



presents in tabular form his version of the 'great chain of being'. Bonnet's concept of the essential continuity of life, a consequence of his discovery and preformationist interpretation of parthenogenesis, was a major force in the shaping of later evolutionary opinion."—Garrison-Morton 308.

A very attractive set.

¶ D.S.B., II, pp. 286-87. Bentley Glass, "Heredity and Variation in the 18th Century Concept of the Species" in *Forerunners of Darwin: 1745-1859*, p. 164—"In the eighteenth century, the theory of 'evolution' was the theory of Charles Bonnet."

"Of Prime Importance for Plant Biology"

15. BONNET, CHARLES. *Recherches sur l'Usage des Feuilles dans les Plantes, et sur quelques autres Sujets relatifs à l'Histoire de la Vegetation*. Engraved vignette on title & 31 folding engraved plates. Title in red & black. vii, [1], 343, [1] pp. Large 4to, cont. calf (corners a little bruised with one having a bit of wear), spine richly gilt, red morocco lettering piece on spine. Göttingen & Leyden: E. Luzac Sons, 1754. \$1500.00

First edition of this important book. "In the *Recherches*, Bonnet grouped five memoirs, all of which were of prime importance for plant biology: He precisely described the characteristics of the nutrition of leaves and of their transpiratory phenomena. Although he did not know the kinds of gases (oxygen and carbon dioxide) produced and absorbed by green leaves exposed to light, Bonnet made very careful observations on their production. For his masterly experimentation, Bonnet should be considered one of the first naturalists to investigate experimentally the question of photosynthesis. He studied the movement of leaves and discovered the epinastic phenomena; he observed



the position of leaves on the axis of the stalk and collected a great many anatomic facts; he returned to experiments on etiolation, on the movement of the sap, and on teratology.”-D.S.B., II, p. 286.

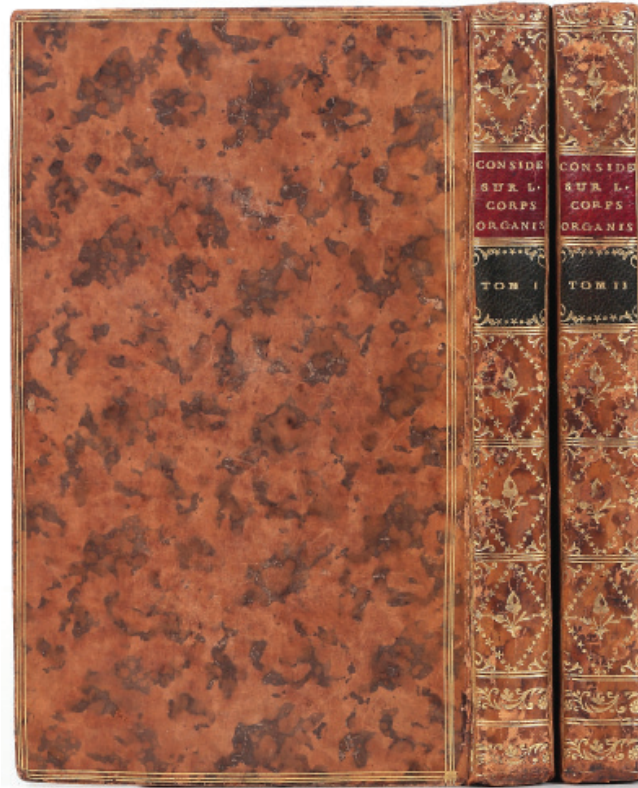
The handsome plates were engraved by Jacob vander Schley and Wandelaer, who executed the famous anatomical plates of Albinus.

A fine and crisp copy.

¶ Pritzel 981.

Preformation

16. BONNET, CHARLES. *Considerations sur les Corps Organisés, Ou l'on traite de leur Origine, de leur Développement, de leur Réproduction, &c. & ou l'on a rassemblé en abrégé tout ce que l'Histoire Naturelle offre de plus certain & de plus intéressant sur ce sujet.*



32

xlii, one leaf of errata, 274 pp.; xx, 328 pp. Two vols. 8vo, cont. polished mottled calf (small inkstain to outer lower corner of the first 30 leaves), triple gilt fillet round sides, flat spines nicely gilt, red & green morocco lettering pieces on spines. Amsterdam: M.M. Rey, 1762. \$2000.00

First edition and a lovely set of this important work. Bonnet (1720-93), is considered one of the fathers of modern biology. He was an enthusiastic champion of preformation, the theory postulating that the animal already existed in miniature in the germ cell, which is first stated in this work. “Bonnet’s theory of generation offered the best synthesis of 18th-century ideas of development and remained a leading authority until von Baer . . . He used many of Haller’s arguments to support his own opinions.”-Garrison-Morton 472.

Pretty set with the stamp on half-titles of Antoine Passy (1792-1873), French biologist and geologist.

¶ Needham, *A History of Embryology*, pp. 213-14.

A Fine Uncut Copy

17. BORELLI, GIOVANNI ALFONSO. *De Motionibus Naturalibus a Gravitate Pendentibus . . .* Numerous woodcut diagrams in the text. 4 pl., 566, [5] pp. Thickish 4to, cont. semi-stiff boards (a little soiled), uncut. Reggio di Calabria: D. Ferri, 1670. \$14,500.00



33

First edition and scarce. “Borelli’s second book on mechanics is important as the first treatise on capillarity. It contains the important investigations from which the author formulated the law that the height of the ascent of liquids in capillary tubes is inversely proportional to their diameters. His investigations also led him to the conclusion that the phenomenon of capillarity is independent of the pressure of air.”—Roberts & Trent, *Bibliotheca Mechanica*, p. 42.

Borelli saw this book not only as a work exploring aspects of mechanics but also as a necessary introduction to what he would later consider to be his most important work, the *De Motu Animalium*.

A fine copy in original state.

¶ D.S.B., II, p. 311—In this book “he argues against positive levity, discusses the Torricellian experiment, takes up siphons, pumps, and the nature of fluidity, tries to understand the expansion of water while freezing, and deals with fermentation and other chemical processes.” Riccardi, I, 159.

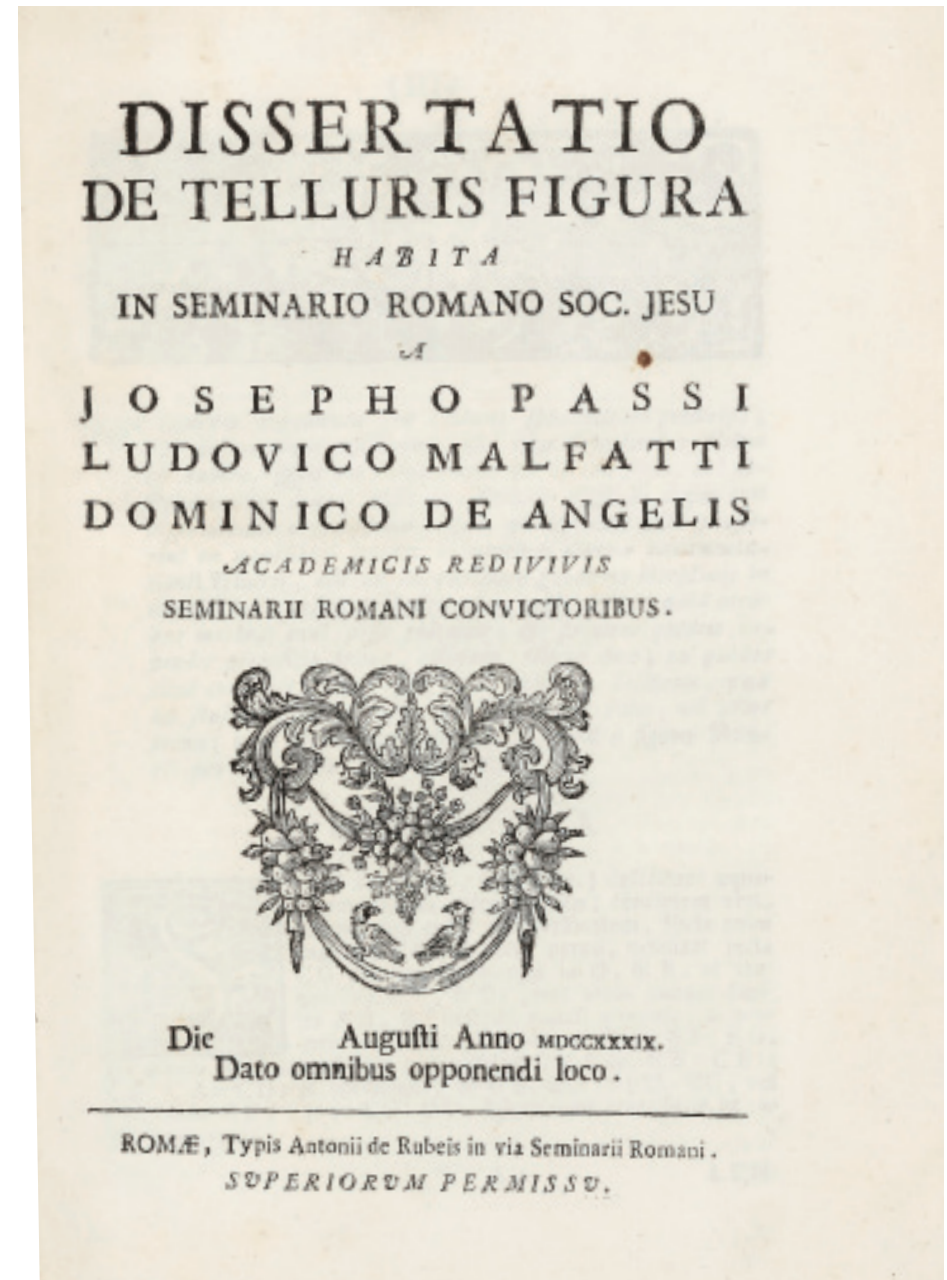
18. [BOSCOVICH, RUGGERO GIUSEPPE]. *Dissertatio de Telluris Figura habita in Seminario Romano So. Jesu. . .* One folding engraved plate. xxiii pp. Large 4to, attractive modern decorated paper over semi-stiff boards. Rome: A. de Rubeis, [1739]. \$5000.00

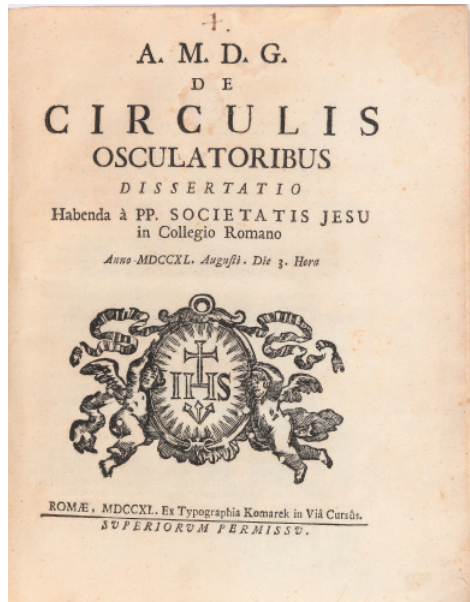
First edition of one of Boscovich’s first publications. “Early in his career his interest was drawn to the problem of the size and shape of the earth, an issue intensively discussed in the first half of the eighteenth century, since its resolution was thought to be crucial in an eventual choice between a Cartesian cosmology of vortices, which predicted an earth slightly elongated at the poles, and a Newtonian one of inertial motion under attractive forces, in which case the globe should be slightly flattened.”—D.S.B., II, p. 329.

In this work, “contemporary reviewers read a plea for removing the works of Copernicus from the Index.”—Hill, “Roger Boscovich. A Biographical Essay” in Whyte, ed., *Roger Joseph Boscovich* (1961), p. 32.

Fine copy.

¶ Riccardi, I, 173. Whyte, R.J. *Boscovich*, p. 214 in the bibliography.





The Power of Geometry

19. [BOSCOVICH, RUGGERO GIUSEPPE]. *De Circulis Osculatoribus Dissertatio*. One folding engraved plate. xii pp. Large 4to, modern patterned wrappers (minor browning). Rome: Komarek, [1740]. \$4750.00

First edition of this early work by the author; WorldCat locates only two copies in North America. "Science in general took its lead in physics from Newton and in mathematical analysis from Leibniz, and it was at the root of Boskovic's idiosyncrasy that, whether deliberately or not, he took the opposite tack in both respects. Mathematics had always attracted him. Instead of the calculus as developed by the great analysts among his great contemporaries — d'Alembert, the Bernoullis, and Euler — he preferred the geometric method of infinitely small magnitudes 'which Newton almost always used,' as he said, and which embodied the 'power of geometry.' He particularly applied it to problems of differential geometry, terrestrial and celestial mechanics, and practical astronomy." — D.S.B., II, p. 330.

Fine copy.

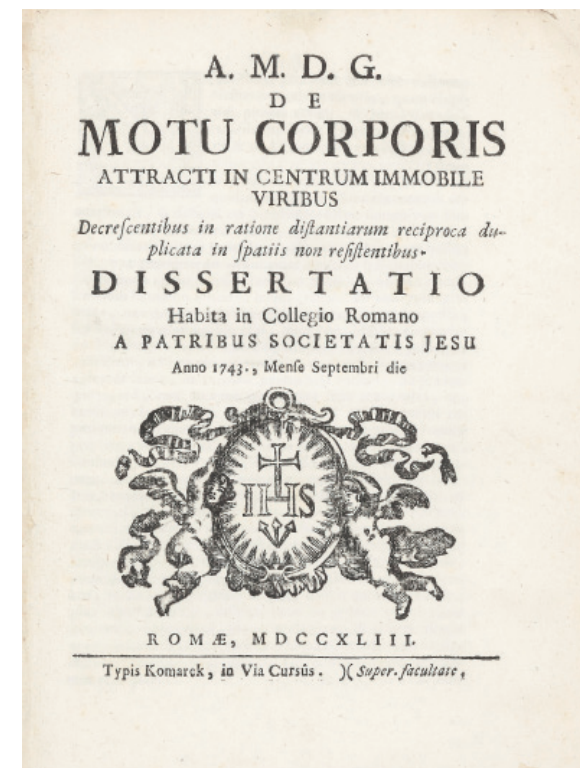
Euler Corrected

20. [BOSCOVICH, RUGGERO GIUSEPPE]. *De Motu Corporis attracti in Centrum Immobile Viribus decrescentibus in ratione distantiarum reciproca duplicata in spatiis non resistentibus. Dissertatio*. Jesuit woodcut vignette on title & one folding engraved plate. xxx pp., one leaf. Large 4to, attractive modern patterned paper over semi-stiff boards. Rome: "Typis Komarek," 1743. \$4750.00

First edition of one of the author's most important works in structural analysis and mechanics, in which "he corrects an error made by Euler." — Whyte, R.J. *Boscovich*, p. 35 & p. 215 in the bibliography.

Fine copy. Mr. Honeyman did not own a copy of this work.

¶ D.S.B., II, p. 331—selecting this as one of his most significant works. Kurrer, *The History of the Theory of Structures*, pp. 718-19. Riccardi, I, 174.



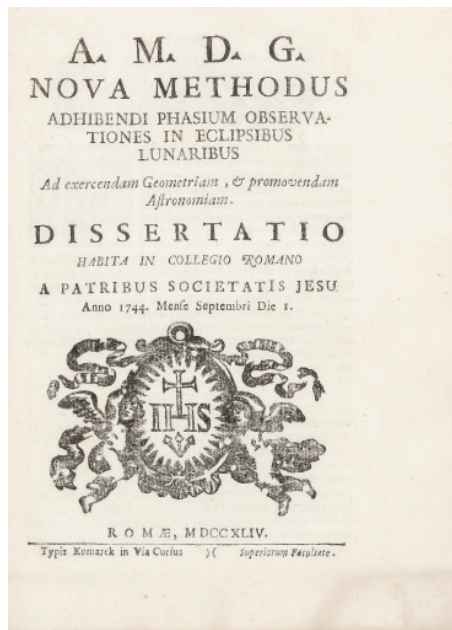
The Beginning of his Most Prolific Period of Mature
Scholarship

21. [BOSCOVICH, RUGGERO GIUSEPPE]. *Nova Methodus adhibendi Phasium Observationes in Eclipsibus lunaribus ad exercendam Geometriam, & promovendam Astronomiam. Dissertatio ...* One folding engraved plate (short tear with no loss of image). xxxii pp. Large 4to, attractive modern decorated paper over semi-stiff boards. Rome: "Typis Komarek," 1744. \$5000.00

First edition and rare; this work on lunar eclipses marks the beginning of Boscovich's most prolific period of mature scholarship. In the years 1742-44, Boscovich "turned his attention in astronomy to a comprehensive survey of the theoretical foundations and instrumental practice and resources of practical, observational astronomy, and in the years 1742 through 1744 he published a series of works that deal with these matters in a spirit of *severioris criticis leges*."—D.S.B., II, p. 328.

Fine copy.

¶ Riccardi, I, 174. Whyte, R.J. *Boscovich*, p. 215 in the bibliography.



"Goes Far Beyond the Essai"

22. BOUGUER, PIERRE. *Traité d'Optique sur la Gradation de la Lumiere: Ouvrage posthume ...* publié par M. l'Abbé de la Caille ... Seven folding engraved plates. xviii, [2], 368 pp. Large 4to, cont. polished mottled calf (upper joint with a very slight & short crack at head), spine gilt, red morocco lettering piece on spine. Paris: H.L. Guerin & L.F. Delatour, 1760. \$4500.00

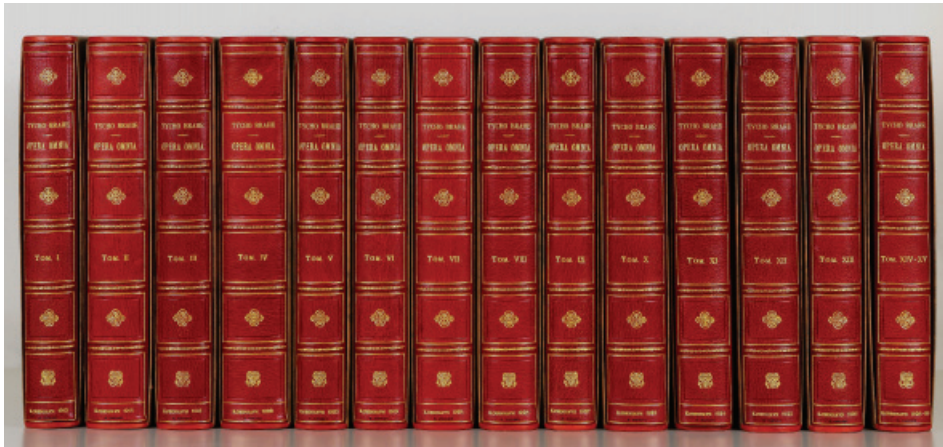
First edition of this uncommon work on the measurement of light by Bouguer (1698-1758), the father of photometry. "Just before he died, Bouguer completed a much larger book on photometry, the *Traité d'optique sur la gradation de la lumiere*, published posthumously (1760) by his friend the Abbé Nicolas Louis de la Caille. The *Traité* goes far beyond the *Essai*, describing a number of ingenious kinds of photometers, including a method of goniophotometry, and even attempting an elaborate theory of the reflection of light from rough surfaces, although this was not successful. The third and last part of the book, however, gives a valid elementary theory of the horizontal visual range through an obscuring atmosphere, arriving at a law, usually credited to H. Koschmieder, considered to belong to the twentieth century. It is fair to consider Pierre Bouguer not only the inventor of the photometer but also the founder of an important branch of atmospheric

optics. The eighteenth century is not an outstanding epoch in the history of optics, but Bouguer's contribution to that science is notable by any standard."—D.S.B., II, pp. 343-44.

Fine and attractive copy.

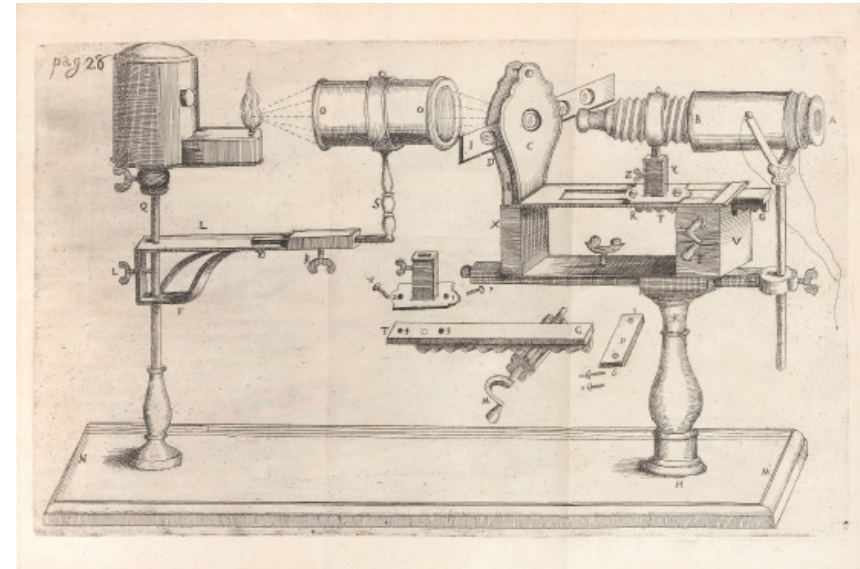
Limited to 225 Sets Only

23. BRAHE, TYCHO. *Opera Omnia*. Edited by J.L.E. Dreyer. Numerous charts, diagrams, facsimiles, maps, ports, & tables. 15 vols. in 14. Large 4to, orig. blue printed stiff wrappers bound in cont. red morocco & marbled boards, spines nicely gilt, t.e.g., others uncut. Copenhagen: Libraria Gyldendaliana, 1913-29. \$20,000.00



This is a particularly handsome and well-bound set of the magnificent and rare definitive edition of the collected works of Tycho Brahe. It is limited to 225 sets (of which only one hundred sets were for sale) and is printed on fine thick paper. Edited by the great scholar Dreyer, who wrote the standard biography of Brahe, this edition contains all of Brahe's published writings as well as his letters and a considerable amount of MS. material, all with full bibliographical details.

A fine and attractive set of an extremely uncommon work. Each volume is in a slipcase.



24. BUONANNI (OR BONANNI), FILIPPO. *Micrographia Curiosa sive Rerum minutissimarum Observationes, quae ope Microscopii recognita & expressae curiosorum Naturae Exploratorum utilitati proponuntur . . .* Added engraved title & 40 engraved plates (three are folding). 1 pl., 106 pp., one blank leaf. Small 4to, cont. English panelled calf (corners renewed, rebacked, some dampstaining in gutter at foot to first ten leaves). Rome: A. de Rubeis, 1703. \$6500.00

First separate edition, originally published as the second part of the author's *Observationes circa viventia* (1691). Our edition — which is actually the original printing of the second part with a new title-page — is very rare with only one copy located by WorldCat.

Buonanni (1738-1725), one of the most learned Jesuits of his time, was a pupil of Athanasius Kircher, and succeeded his master as teacher of mathematics at the Collegium Romanum. This work is one of the earliest Italian treatises on microscopy. It contains interesting observations on early microscopes and a precise description of Buonanni's own compound microscopes, which are illustrated on two plates. The rest of the plates show objects seen through the microscope, including a number of illustrations of insects. "The quality of his illustrations of various

insects was excellent — particularly those of the fly, louse, mite, flea, and mosquito. Indeed, his drawings of the *Culex pipiens* (common house mosquito) are the best of the seventeenth century.”—D.S.B., II, p. 591.

Very good copy. Duplicate from the British Museum with their duplicate stamp dated 1787. Armorial bookplate of Sir John Ingilby Bart. (1758-1815), M.P. and Fellow of the Royal Society.

¶ Clay & Court, *The History of the Microscope*, pp. 84-86. Garrison-Morton 264-(1st ed. of 1691).

Cardano's Second Great Encyclopedia of Natural Science

25. CARDANO, GIROLAMO. *De Rerum Varietate Libri XVII. Adiectus est captivus rerum & sententiarum notatu dignissimarum Index*. Fine medallion woodcut port. of the author on verso of title, numerous woodcut illus. in the text, one folding woodcut plate (pp. 769-70) with the woodcut volvelle unassembled on a separate slip bound-in, & one folding printed table (pp. 790-91). 16 pl. (the last a blank), 1194 (i.e. 1204), [64] pp. Thick 8vo, cont. blind-stamped panelled pigskin over wooden boards (some light dampstaining) by Hans Bopp of Nuremberg, orig. clasps & catches. Basel: [H. Petri], 1557. \$8500.00

Second edition (the first edition was published earlier in the same year) of Cardano's second great encyclopedia of natural science; it is a continuation of and supplement to his *De Rerum Subtilitate* (1st ed.: 1550). These two works contain his important ideas on physics and metaphysics. In this book, Cardano made notable contributions to mechanics, hydrodynamics, and geology and there are interesting chapters on astronomy, botany, zoology, chemistry, metallurgy, etc.

“Of special chemical interest is Book X, comprising one chapter on fire ... a chapter on distillation with woodcuts of apparatus, and a chapter on chemistry. It finishes by a chapter on glass.”—Duvceen, p. 117.

A very good copy. Somewhat later ownership inscription of Paulus Memminger (1599-1663), Bürgermeister of Regensburg on front paste-down endpaper. This edition is the first to contain the invaluable index.

¶ D.S.B., III, pp. 64-67. Partington, II, pp. 9-15. Thorndike, V, pp. 563-79. For the binding, see Haebler, I, 43, 3.



MINERALOGIA,

SIVE

NATURALIS PHILOSOPHIÆ

THESAURI.

IN QUIBUS METALLICÆ CONCRETIONIS

medicamentorumque fossilium miracula, terrarum pretium, colorum
& pigmentorum apparatus, concretorum succorum virtus,
lapidum atque gemmarum dignitas continentur.

Hos publici iuris fecit R. P. BERNARDVS CÆSIVS Mutinensis,
à Societate IESV.

PRODERIT HÆC PRETIOSA SVPELLEX NON

Philosophiæ modo, ac Medicinæ, verum etiam sacræ & humanioris
literaturæ studiosis.



LVGDVNI,

Sumptib. IACOBI & PETRI PROST.

M. DC. XXXVI

CVM PRIVILEGIO REGIS.

The First to Use the Term Mineralogy in the Modern Sense

26. CESI (OR CAESIUS), BERNARDO. *Mineralogia, sive Naturalis Philosophiæ Thesauri, in quibus Metallicæ Concretionis medicamentorumque fossilium miracula, terrarum pretium, colorum & pigmentorum apparatus, concretorum succorum virtus, lapidum atque gemmarum dignitas continentur.* Large engraved vignette on title. Title in red & black. 8 pl., 626, [69] pp. Folio, cont. blind-stamped pigskin over wooden boards, arms on covers effaced. Lyon: J. & P. Prost, 1636. \$9500.00

First edition, Schuh's issue B (no stated priority) with the dedication to Charles de Neufville. "Very scarce. Compendium of all the author ever discovered or read about the subject of mineralogy. It was published posthumously from notes he left by his Order at Lyon six years after his death. Printed in a double column format in a relatively small type-size, the work is a vast storehouse of all things mineralogical, including new ideas, restatements of earlier authors, observations and superstitious belief. The uncritical selection of material led Webster in his *Metallographia* (London, 1671, p. 29) to criticize the author as too digressive and as mixing tares with the wheat. Partington thinks the use of the term 'Mineralogia' in the title is the first modern usage of the word . . .

"The work opens by listing the evils and benefits of mineralogy. Mining is considered dangerous because of the lurking underground spirits . . . the author notes that the study of mineralogy helps one to understand the bible. It provides medicines and money, ornaments for religious purposes, tools used in agriculture, industry, painting, music and alchemy. Cesi then answers the question he posed earlier and declares mineralogy to be a true philosophy, worthy of careful study . . .

"The numerous citations to earlier authors provide evidence of Cesi's wide reading. Commonly, many authors are referenced on single points. For example, in describing the generation of minerals he closely follows Aristotle but also cites Theophrastus, Avicenna, Albertus Magnus, Agricola, Gregorius Reisch, Pliny, Boodt, Francis Rueus, Marbode, the Bible, and numerous church fathers. The author is uncritical of the views he presents, and accepts the authority of the ancient and medieval

authors as his own. He believes that the Sun, Moon and stars influence the subterranean world of minerals and metals, and that gems have miraculous curative powers. He includes a chapter on the magnet . . .

“Cesi divides his work into five sections: the first treats mineralogy proper, the second the economic and commercial aspects, for example colors and pigments, the third, lapidifying juices of the earth that congeal into minerals, the fourth gems and the fifth metals. At the conclusion is a long and thankfully comprehensive index. Much insight about ancient philosophy and its affect in the 17th century can be gained from studying Cesi’s *Mineralogia*.”—Schuh, *Mineralogy & Crystallography: A Bibliography, 1469 to 1920*, pp. 358-59.

Cesi (1581-1630), was a Jesuit professor at Modena and Parma.

A nice copy of a book which is now scarce on the market.

¶ Hoover 214. Partington, II, p. 94. Schuh 1113. Sinkankas 1221—(who, inaccurately, calls this issue a reprint. Sinkankas knew mineralogy very well but nothing about bibliography). Thorndike, VII, pp. 254-57.

In Original State

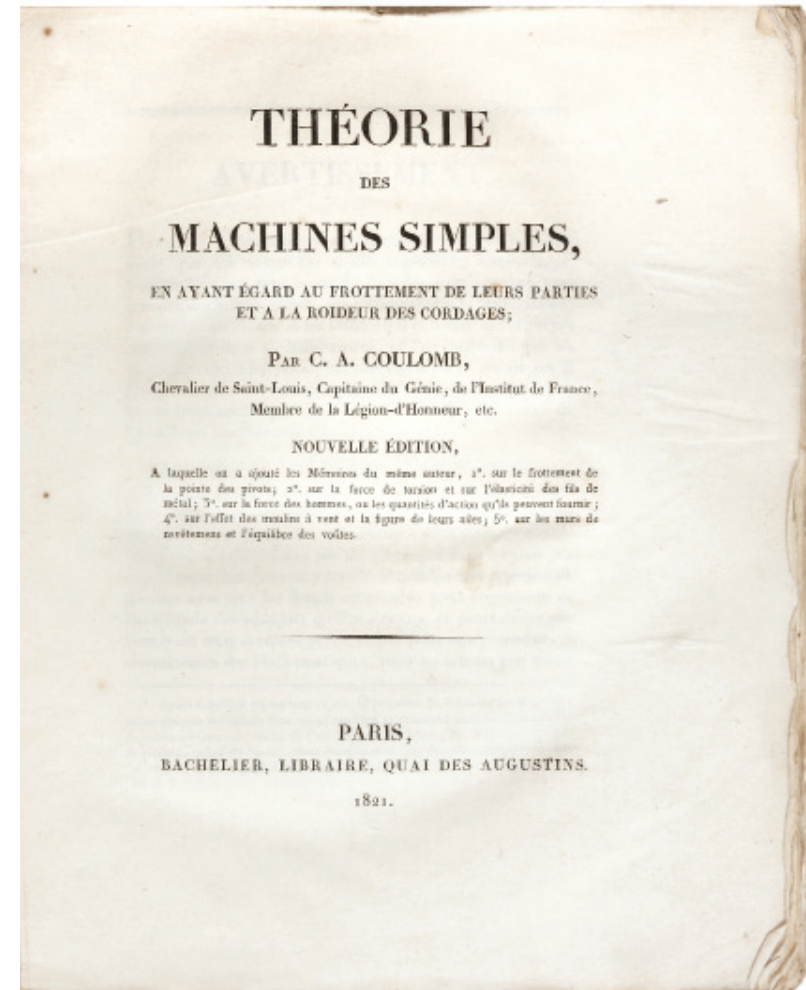
27. COULOMB, CHARLES AUGUSTIN DE. *Théorie des Machines simples, en ayant Égard au frottement de leurs parties et a la Roideur des Cordages ... Nouvelle Édition, a laquelle on a ajouté les Mémoires du même auteur, 1. Sur les frottement de la pointe des pivots; 2. Sur la force de torsion et sur l'élasticité des fils de métal; 3. Sur la force des hommes, ou les quantités d'action qu'ils peuvent fournir; 4. Sur l'effet des moulins à vent et la figure de leurs ailes; 5. Sur les murs de revêtement et l'équilibre des voûtes.* Ten folding engraved plates. viii, 368 pp. Large 4to, orig. paste-paper wrappers (a bit frayed), printed paper label on spine, uncut. Paris: Bachelier, 1821. \$3500.00

First collected edition and quite scarce on the market. “Coulomb’s collected memoirs on mechanics. The first of these deals with simple machines and won the Academy prize of 1779. The second is a study of friction at pivots, and the third deals with torsion and the elasticity of metal wire. In the fourth memoir Coulomb discusses man’s ability to perform work, quoting Daniel Bernoulli and d’Alembert. The fifth memoir is devoted to windmills and the force of their wings, while the

last is his famous memoir, ‘Sur une application des règles de maximis et minimis à quelques problèmes de statique relatif à l’architecture’ (1773).”—Roberts & Trent, *Bibliotheca Mechanica*, pp. 82-83.

Fine copy in original state. From the library of Marchese Giulio Stanga Carlo Trecco (d. 1832), amateur mathematician and physicist who formed a large collection of scientific instruments.

¶ D.S.B., III, pp. 439-46.



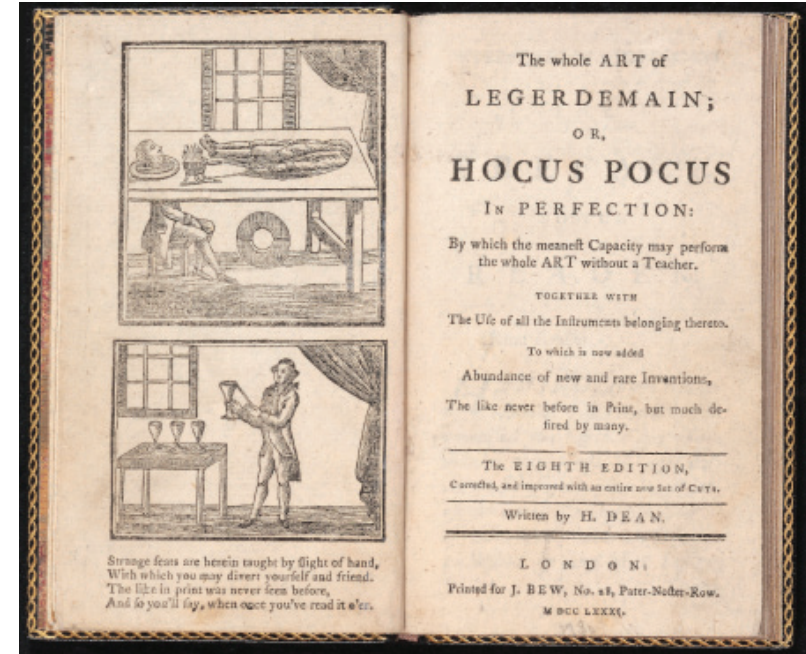
28. DEAN, HENRY. *The Whole Art of Legerdemain; or, Hocus Pocus in Perfection: by which the meanest capacity may perform the Whole Art without a Teacher. Together with the Use of all the Instruments belonging thereto. To which is now added abundance of New and Rare Inventions, the like never before in print, but much desired by many* . . . Written by H. Dean. Woodcut frontis. 132 (incl. frontis.), iv pp. 12mo, fine modern black morocco, elaborately panelled in gilt, flat spine & inner dentelles gilt, a.e.g. London: Printed for J. Bew, 1781. \$6000.00

“Eighth edition, corrected, and improved with an entire new set of cutts.” First published in 1722, this is the most popular English conjuring book of the 18th century; more than twenty printings have been identified, and no doubt others have failed to survive. The text is heavily dependent on Reginald Scot’s *Discovery of Witchcraft* (1584), and on subsequent derivative works, but the language has of course been adapted for a more modern readership.

The author’s identity has long remained something of a mystery, but an advertisement at the end of the fourth edition, published in the 1750’s, suggests that Henry Dean may have been a dealer in magical apparatus, with a bookshop “near the Watch House on Little-Tower Hill, Postern Row.”

The very appealing 36 woodcut illustrations and diagrams depict playing cards, cups and balls, and other sorts of conjuring apparatus, as well as a number of effects, such as “how to eat fire, and to blow it up in your mouth with a pair of bellows.” The frontispiece is in two compartments, each of which is repeated in the text. The upper panel shows “How to cut a man’s head off and to put the head into a platter, a yard from his body.” The lower portion is a cut used to illustrate “To cut a glass, a famous invention.”

This is the first of two editions of Dean’s book to be published by John Bew, a bookseller who established his business in London in the early 1770’s, and specialized in titles for a popular audience; he also issued a “ninth edition” in 1789. Of particular interest here are four pages of his advertisements at the end, entitled “A Catalogue of Chapman’s Books, printed for and sold by J. Bew, at No. 28, in Paternoster Row.” This unusual catalogue of chapbooks is printed in double col-



umns and lists more than eighty titles; examples have been found at the back of several other titles published by Bew, but its presence in Dean’s book is not noted in any of the four copies recorded by the ESTC (L, Lu; NN; GOT). Toole-Stott, however, who lists a number of other copies in private collections, notes that “some copies have inserted a leaf or leaves of advertisements at the end.”

In very fine condition, elegantly bound.

¶ Toole-Stott, *A Bibliography of English Conjuring*, 210.

“*Le Plus Grand Ouvrage d’Astronomie Analytique*” –Lalande

29. DIONIS DU SÉJOUR, ACHILLE PIERRE. *Traité Analytique des Mouvemens apparens des Corps célestes*. Seven folding engraved plates. 2 pl., xxxv, 738 pp., 1 leaf of errata; 2 pl., lvi, 680 pp. Two vols. Large 4to, attractive cont. marbled sheep, flat spines richly gilt, green morocco lettering pieces on spines. Paris: la Veuve Valade, 1786-89.

\$9500.00

First edition and quite scarce on the market. “From 1764 to 1783 he [Dionis] wrote a series of important memoirs on the application of the most recent analytic methods to the study of the principal astronomical phenomena (eclipses, occultations, reductions of observations, determination of planetary orbits, etc.). Revised and coordinated, these memoirs were reprinted in the two-volume *Traité analytique des mouvements apparents [sic] des corps célestes* (1786-1789), of which Delambre gives a detailed analysis . . . All these works are dominated by an obvious concern for rigor and by a great familiarity with analytical methods . . . their reexamination in the light of present possibilities of calculation would certainly be fruitful.”—D.S.B., IV, p. 107.

A most attractive set.

¶ Lalande, p. 599—“Le plus grand ouvrage d’astronomie analytique.”



The First Book from the Press of Didot l’aîné

30. DUTENS, LOUIS. *Des Pierres précieuses et des Pierres fines, avec les moyens de les connoître & de les évaluer*. 2 pl., xii, 124, [4] pp. 12mo, cont. blond calf (two corners a tiny bit worn), triple gilt fillet round sides, spine finely gilt with chevrons “à la grotesque,” red morocco lettering piece on spine. Paris: F.A. Didot & De Bure, 1776.

\$4750.00



First edition of this introduction to precious stones written for collectors and jewelers; according to the author this is the first complete treatise on precious stones. Dutens describes the chief varieties including diamonds, rubies, sapphires, emeralds, etc. He has also provided an interesting table at the end of current prices of diamonds of increasing carats. In the Preface, Dutens reviews the writings on precious stones of earlier authors including Pliny, Theophrastus, Boyle, and Romé de l’Isle.

This work is a notable work in typography as well: it is the first book printed by François Ambroise Didot, l’aîné (1730-1804), who promoted technical innovation in printing and papermaking and introduced the new form of typographical measurement, the “point Didot.”

We quote from the 1783 catalogue of Mérard de Saint-Just: “Ce petit

Traité est le premier Ouvrage sorti des presses de M. Didot l'aîné, où l'on ait aperçu cette supériorité de talents qui l'a mis tout de suite au-dessus de tous ses confrères de France, d'Italie, d'Allemagne et de Hollande, et qui l'associe dès lors à la gloire de Baskerville, et surtout à celle d'Ibarra.”—from André Jammes’ wonderful *Les Didots* catalogue, no. 73.

Dutens (1730-1812), diplomat and man of letters, edited the works of Leibniz (1768), was a fellow of the Royal Society, and was historiographer to the King of England.

An uncommonly fine copy.

¶ Sinkankas 1819—“Dutens’ work did provide useful accurate information and received acclaim and wide distribution.”

“The Euclid of the Sixteenth Century”

31. EUCLID. *Euclidis Elementorum Libri XV. Accessit XVI. de Solidorum Regularium comparatione. Omnes perspicuis Demonstrationibus, accuratisque Scholiis illustrati.* Auctore Christophoro Clavio . . . Titles within architectural woodcut borders & numerous woodcuts in the text. 20 pl., 331, [1] leaves, one blank leaf; 300 leaves. Two vols. in one. Thick 8vo, cont. blind-stamped pigskin over wooden boards, upper cover dated in blind “1580,” remains of catches. Rome: V. Accolti, 1574. \$9500.00

First edition of Clavius’s main work, his rare and influential edition of Euclid; ours is a fine and handsome copy in a contemporary south German or Swiss blind-stamped and panelled pigskin binding over wooden boards. Clavius (1538-1612), was called by his contemporaries “the Euclid of the sixteenth century.”

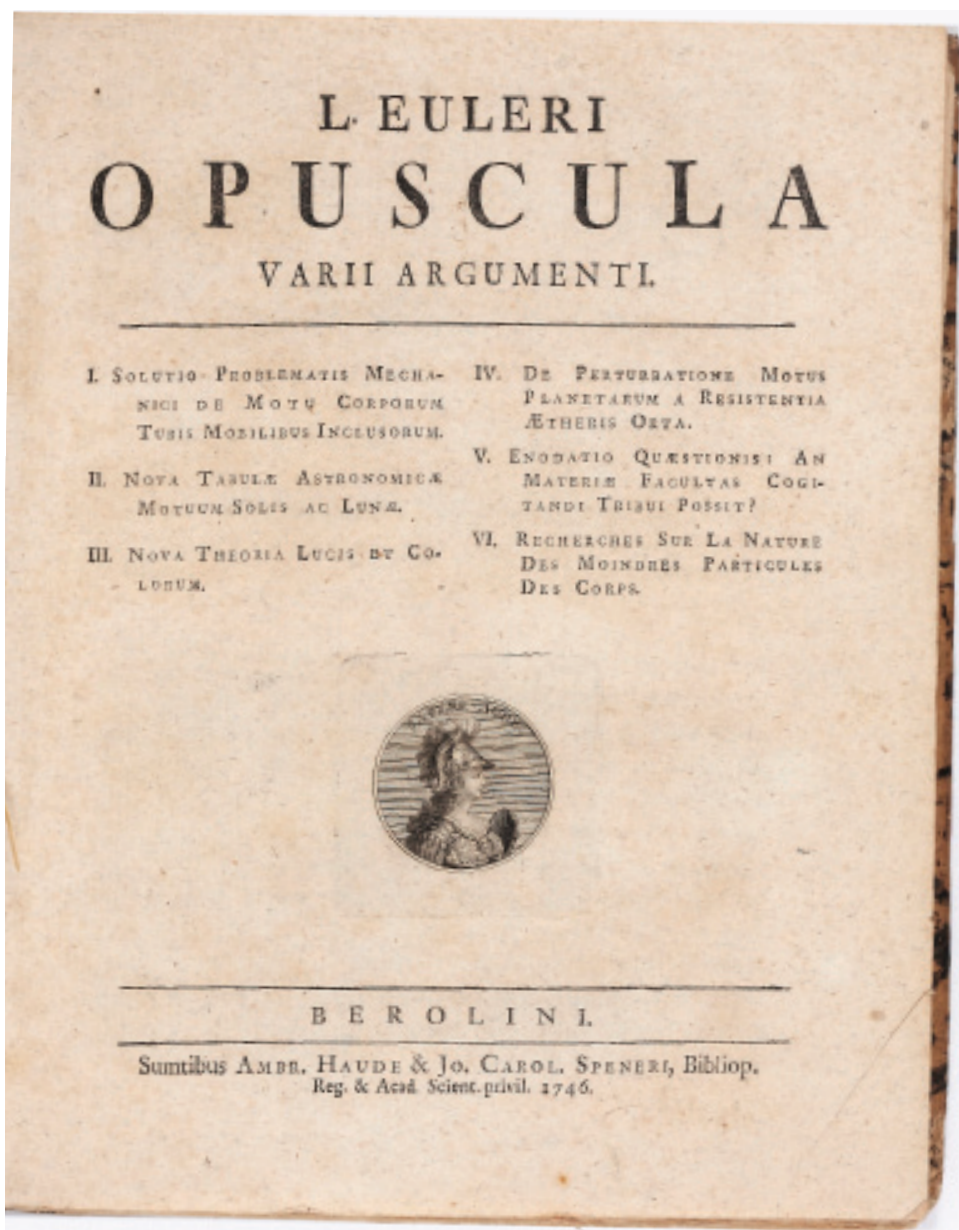
“In 1574 a new departure in the matter of format was taken. A Latin edition in two octavo volumes with rather diminutive diagrams was printed at Rome by Vincenzo Accolti. The [editor] was Christophorus Clavius (Schlüssel) of Bamberg, of the Society of Jesus, a mathematician who gave the Gregorian Calendar of New Style its present form and made all the calculations necessary for its verification. It contains the fifteen books with very full scholia, and the addition of a sixteenth, *De solidorum regularium comparatione*. It was reprinted at Rome in 1589 in the same form, and in folio at Cologne in 1591.”—Thomas-Stanford, p. 11.

[Clavius’s] “*Elements*, which is not a translation, contains a vast quantity of notes collected from previous commentators and editors, as well as some good criticisms and elucidations of his own. Among other things, Clavius made a new attempt at proving ‘the postulate of the parallels.’ . . . In a scholion, to the twelfth proposition of the ninth book of Euclid, Clavius objects to Cardanus’ claim to originality in employing a method that derives a proposition by assuming the contradictory of the proposition to be proved. According to Clavius, Cardanus was anticipated in this method by Euclid and by Theodosius of Bithynia in the twelfth proposition of the first book of his *Sphaericorum*.”—*D.S.B.*, III, p. 311.

Minor browning and discoloration to the binding but a fine and large copy; just the way it should appear. Preserved in a box.

¶ Thomas-Stanford 19.





One of His Rarer Books

32. EULER, LEONHARD. *Opuscula Varii Argumenti*. Twelve folding engraved plates. 1 pl., 300 pp.; 1 pl., 166 pp.; 1 pl., 165 pp. Three vols. in one. 4to, cont. sheep-backed mottled boards (minor rubbing, some foxing as is usual with this book). Berlin: A. Haude & J.C. Spener, 1746-50-51. \$7500.00

First edition of one of Euler's scarcer works; this collection contains separate monographs on astronomy, optics, magnetism, electricity, mathematics, and physics and includes several of Euler's most important and fundamental works.

Vol. I deals mostly with astronomy and optics. It is valuable for Euler's tables of the sun and moon and for his discussion of the problem of perturbations. Euler's studies in astronomy embraced a great variety of problems: determination of the orbits of comets and planets, calculation of the parallax of the sun, the physical nature of comets, celestial mechanics, etc. With regard to optics, Euler herein rejected the dominant corpuscular theory of light and constructed his own theory in which he attributed the cause of light to peculiar oscillations of ether.

Vol. II is concerned with physics and mathematics. Topics examined here are the propagation of sound and light, analysis, the theory of differential equations, and ellipses.

In Vol. III, "Euler adopts the Cartesian doctrine of pores and magnetic particles, magnetic matter is more subtle than the ether itself and is propagated through a magnet in one direction only, p. 10; declination and dip explained, p. 30."-Wheeler Gift Cat. 366.

A very good set. Engraved bookplate of Canterzani.

¶ D.S.B., IV, pp. 467-84. Houzeau & Lancaster 3482. Sotheran, Supp., 2242-"Rare."

The General Properties of the Lemniscate Discovered

33. FAGNANO, GIULIO CARLO, CONTE DI, MARCHESE DE' TOSCHI. *Produzioni Matematiche*. Engraved vignettes on titles depicting the lemniscate & 16 folding engraved plates. xxiv, 528 pp.; xii, 536 pp. Two vols. Large 4to, mid-19th cent. half-vellum & marbled boards

(occasional minor stains), entirely uncut. Pesaro: Stamperia Gavelliana, 1750. \$9500.00

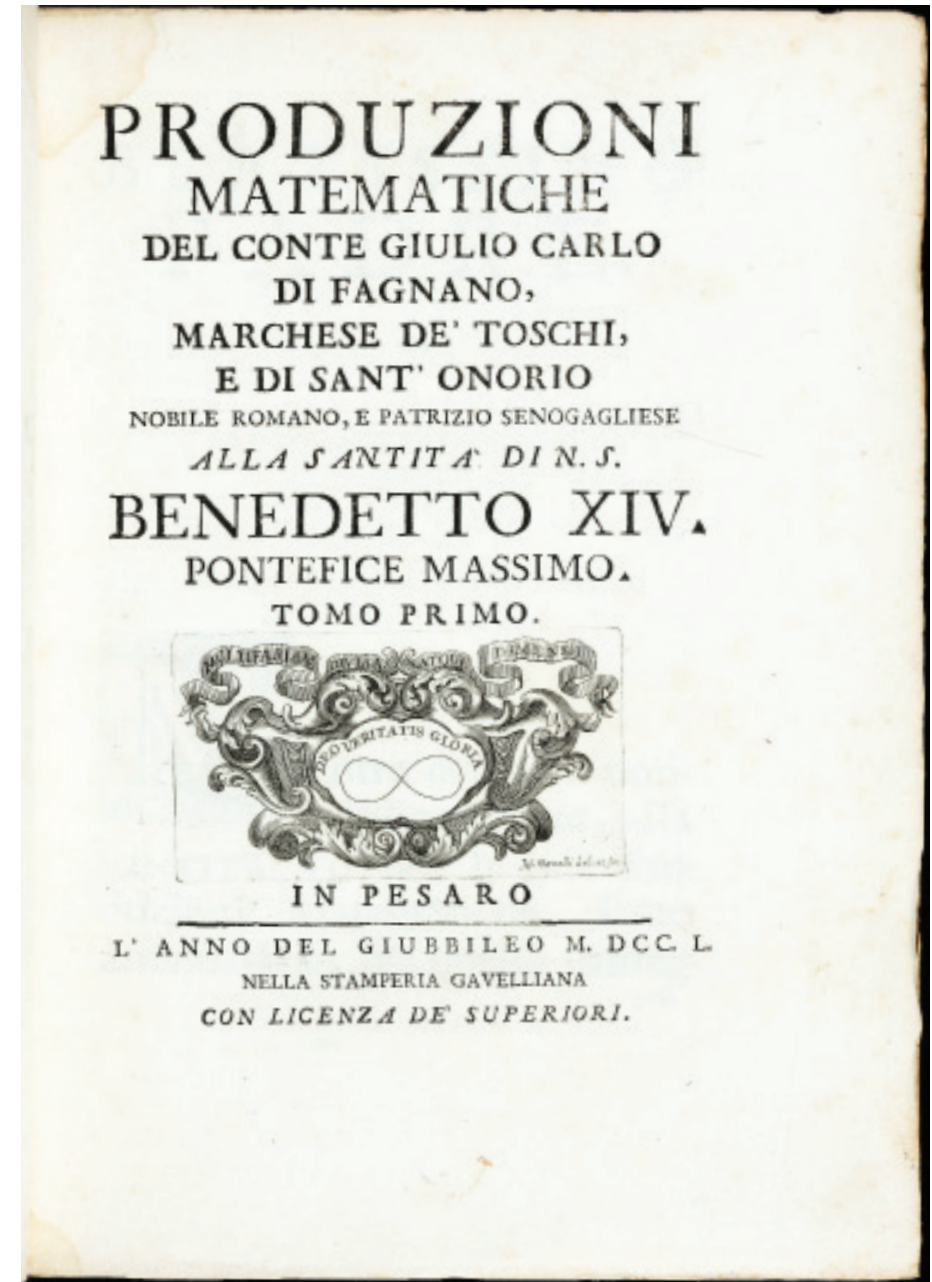
First edition of a rare work, containing the important collected writings of Fagnano (1682-1766), Italian nobleman and mathematician. Many of the texts printed here appear for the first time. Fagnano's advances in algebra and geometry were very far-reaching and his work on the rectification of the lemniscate made him, according to Legendre, the true founder of the theory of elliptic functions. This breakthrough was of great importance and was employed in the recent proof of Fermat's last theorem.

"In algebra Fagnano suggested new methods for the solution of equations of the second, third and fourth degrees. He also organized in a rational manner the knowledge that scientists had of imaginary numbers, establishing for them a special algorithm that was far better than Bombelli's primitive one . . .

"In geometry Fagnano formulated a general theory of geometric proportions that is more noteworthy than the countless writings, published previously, that were intended to illustrate book V of Euclid's *Elements*. Much more important, however, is his work on the triangle, for which he may well be considered the founder of the geometry of the triangle . . .

"The most important results achieved by Fagnano, however, were in analytical geometry and in integral calculus."—D.S.B, IV, pp. 515-16.

"In his study of the rectification of the lemniscate, Fagnano introduced ingenious analytic transformations that laid the foundation for the theory of elliptic integrals and his work was to lead to elliptic functions. Fagnano collected many of his published works, and a few unpublished ones, and produced the two volume treatise *Produzioni matematiche* in 1750. In 1751 Euler was asked to examine *Produzioni matematiche* and he found in this treatise relations between special types of elliptic integrals, that express the length of an arc of a lemniscate, which were quite unexpected to him. Generalising Fagnano's results, Euler went on to create a general theory of these integrals, in particular giving the famous addition formula for elliptic integrals. Fagnano had proved the duplication formula, a particular case of the addition formula, for the integrals . . .



“In fact Fagnano had proved remarkable properties of the lemniscate, including the fact that its arcs may be divided in equal parts using a ruler and compass construction . . .

“Fagnano made many other major contributions but his mathematical work was not without controversy. He was involved in priority disputes with Nicolaus (I) Bernoulli and, not surprisingly, the big dispute of the day which was between the supporters of Newton and those of Leibniz.”—*The MacTutor History of Mathematics Archive* (on-line).



One of the Most Famous & Attractive
of All Geological Books

34. FAUJAS DE SAINT-FOND, BARTHELEMY. *Recherches sur les Volcans éteints du Vivarais et du Velay; avec un Discours sur les Volcans brûlans, des Mémoires analytiques sur les Schorls, la Zéolite, le Basalte, la Pouzzolane, les Laves & les différentes Substances qui s’y trouvent engagées, &c.* 20 engraved plates (including one double-page) & several engraved vignettes (including one on the title). 2 p.l., xviii, [2], 460 pp., 2 leaves of subscribers. Large folio, cont. mottled calf (title with a little dampstaining round edges), spine richly gilt, red morocco lettering piece on spine. Grenoble: Cuchet, 1778. \$8500.00

First edition of one of the most famous and attractive of all geological books in which the author “established once and for all that basalt, a rock important scientifically because of its distinctive characteristics, its widespread occurrence, and the manner of its association with other kinds of rocks, was the product of volcanic action.”—D.S.B., IV, p. 548. Faujas compared mineralogically the rocks present in Vivarais and Velay with the ejected material of active volcanoes. “The author’s descriptions and illustrations of the extinct volcanoes are excellent, and have scarcely been surpassed in later publications.”—Zittel, p. 46.

Faujas (1741-1819), professor of geology at the Muséum d’Histoire Naturelle, also travelled to England and Scotland where he made important geological observations.

A really nice and attractive copy of the large folio issue with the rare four-page list of subscribers.

¶ *En Français dans le Texte* 169. Hoover 294.

“Exquisitely Illustrated”

35. FONTANA, CARLO. *Utilissimo Trattato dell’ Acque correnti. Diviso in Tre Libri, nel quale si notificano le Misure, ed Esperienze di Esse. I Giuochi, e Scherzi, li quali per mezzo dell’ Aria, e del Fuoco, vengono operati dall’ Acqua.* Two double-page plates & 80 engravings in the text. 8 p.l., 196, [16] pp. Folio, orig. *carta rustica* (covers a little soiled & spotted, first few leaves a little dampstained in outer lower corner). Rome: G.F. Buagni, 1696. \$7500.00

First edition and a fine fresh copy of this finely illustrated work on baroque hydraulics. Fontana (1638-1714), was the most important Roman architect of his generation.

This book “emerges from an actual design problem. The practical source for this theoretical work was the project for the raising of the water level of Lake Bracciano, necessary since the second fountain in Saint Peter’s square, built by Bernini under Pope Clement X, was to be fed with water brought from this lake . . .

“In the three parts of *Acque correnti*, Fontana takes up a wide range of empirical and theoretical issues. In his discussion of the behavior of water, Fontana challenges Galileo’s theory of flotation, positing water as heavier than earth. The technique of moving water through lead pipes

is discussed, as is the theory of the speed of the movement of water, followed by an analysis of compression and the functioning of pumps. In the third part, Fontana deals specifically with the project of bringing water from Bracciano to Rome. The water brought from Bracciano was drawn from the property of the Orsini, and Fontana was able to draw from a rich range of documents in the family archives . . .

“The *Acque correnti* is exquisitely illustrated with engravings of a high artistic and decorative standard, and thus appreciated not only by hydraulic engineers but also by collectors of fine books and wealthy patrons of garden fountains. Despite this aesthetic quality, however, the book is modest in length and compact in format, suitable for practical use . . . The text of the *Acque correnti* aims at scientific clarity and addresses the hydraulic engineer and fountain specialist.”—*Millard Architectural Collection*, IV, 39.

Fine copy. Occasional light browning.

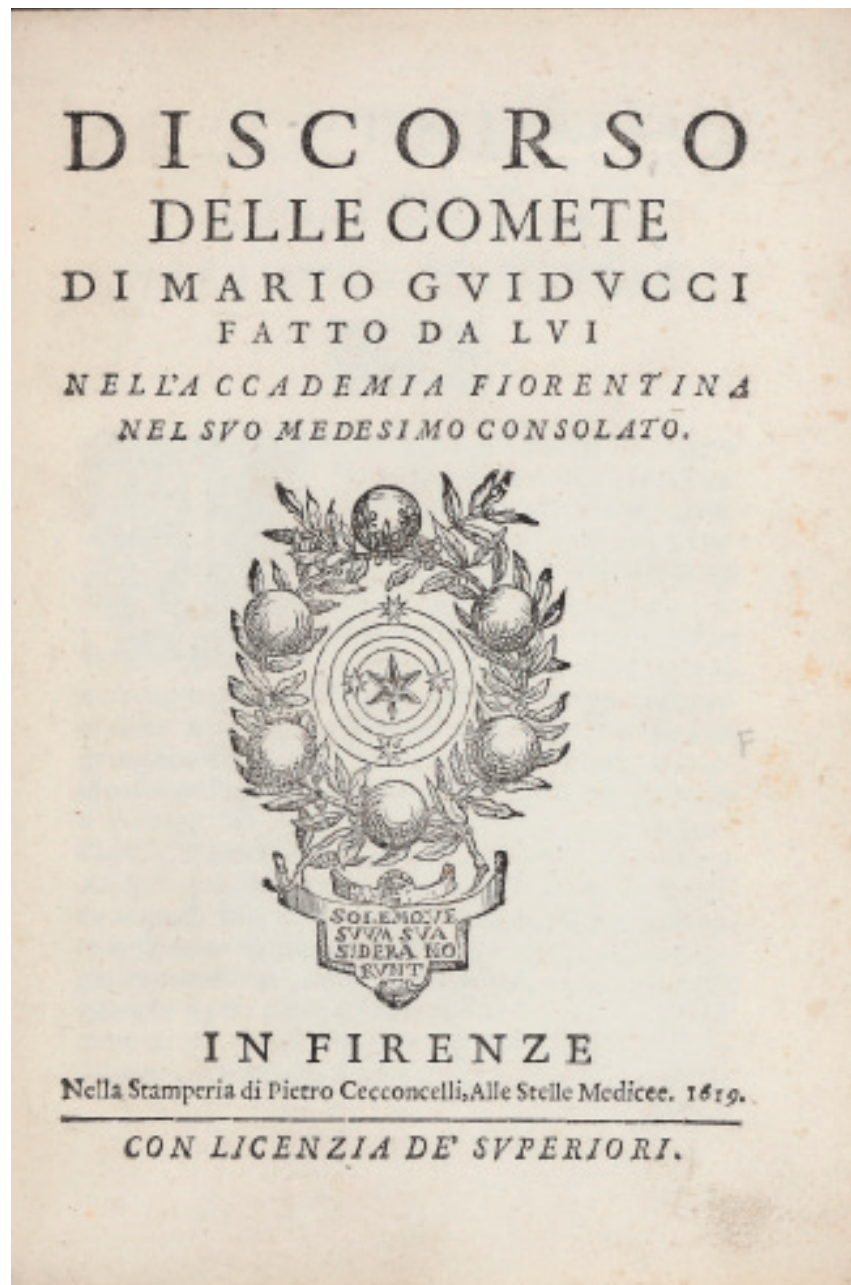
¶ Riccardi, I, 465-66—(with a long note). Roberts & Trent, *Bibliotheca Mechanica*, pp. 115-16.



Galileo's First Reply in his Controversy with the Jesuits over the Comets of 1618

36. [GALILEI, GALILEO]. *Discorso delle Comete di Mario Guiducci fatto da lui nell'Accademia Fiorentina nel suo medesimo consolato*. Woodcut device of the Medicean stars on title & two woodcut diagrams in the text. 2 p.l., 54 pp., one blank leaf. Small 4to, late 19th-cent. green diced morocco, arms of the House of Visconti in gilt within a richly decorated border, spine richly gilt, a.e.g. Florence: P. Cecconcelli, 1619. \$40,000.00

First edition and a very fine copy. Although published under the name of his pupil and assistant Mario Guiducci (1585-1646), the present book is actually the work of Galileo (the autograph manuscript survives). It is a concealed reply to the attack of the Jesuit Orazio Grassi's *De Tribus Cometis*, published earlier in the same year, and marks the beginning of Galileo's long controversy with Scheiner and the other



Jesuit astronomers over the comet of 1618. The dispute continued for several years and resulted in Galileo's scientific manifesto *Il Saggiatore* (1623) which contains his most important ideas on the philosophy of scientific investigation.

In addition to a description of the comets of 1618, Galileo discusses the satellites of Jupiter, the uses of the telescope, fixed stars not visible to the naked eye, etc.

¶ Carli & Favaro 80. Cinti 63.

*The First Alphabetically Arranged Catalogue
of Plant Names*

37. GESNER (OR GESSNER), CONRAD. *Catalogus Plantarum Latinè, Graecè, Germanicè, & Gallicè ... Namenbüch aller Erdgewächsen, Latinisch, Griechisch, Teütsch, und frantzösisch. Regestre de toutes Plantes en quatre langues, Latin, Grec, Aleman, & Francoys. Unà cum vulgaribus Pharmacopolarum nominibus ... Adjectae sunt etiam Herbarum Nomenclaturae variarum gentium, Dioscoridi ascriptae, secundum literarum ordinem expositae.* 4 pl., 162 leaves. Small 4to, cont. blindstamped panelled pigskin, remains of two deerskin ties. Zurich: C. Froschauer, 1542. \$32,500.00

First edition of a very rare book on the market; this is a lovely fresh copy in contemporary blind-stamped pigskin. This, Gesner's second botanical work, is "an alphabetically arranged catalog of plant names in four languages, the first of its kind, and an indication of the growing interest in botany beyond purely philological investigations into the writings of the classics. The Greek names are based on the works of Dioscorides. This early work is already characteristic of Gessner's life-long endeavour to arrange scientific topics in alphabetical or systematic order; it also show his proficiency in languages, and his interest in their comparative treatment."-Wellisch 8.1.

A fine copy, preserved in a box. Signature at foot of title of "Lucas Schröck, M.D." Schröck (1646-1730), was a professor of medicine at Jena and president of the Deutschen Akademie der Naturforscher (see Hirsch, V, pp. 139-40). Early inscription on front free endpaper stating this is a duplicate from the Royal Library of Munich. Engraved armo-



Namen der Kräuter

CATALOGVS
PLANTARVM LATINÈ, GRÆCÈ,
Germanicè, & Gallicè.

ΡΙΝΑΣ ΦΥΤΩΝ, ΛΑΤΙΝΙΕΤΙ, ΕΛΛΗ-
νισι, γαλλικωϊς, καὶ γερμανικωϊς.

**Namenbüch aller Erdgewächsen/
Latinsch/Griechisch/Teütsch/
vnd Französisch.**

REGESTRE DE TOUTES PLAN-
tes en quatre langues, Latin, Grec, Aléman, & Francoys.

Vnà cum uulgaribus Pharmacopo-
larum nominibus.

EN tibi candidissime Lector, scriptum interpretationem, supra
omnes omnium hactenus de re herbaria libros locupletissimā in-
structissimamq̄, in qua non solum omnia recte antehac ab alijs scri-
pta breuiter continentur, sed per multa prius à nemine tradita, uel
nunc primam inuenta, clarissime docentur.

ADIECTAE SVNT ETIAM HERBA-
rum nomenclaturæ uariarum gentium, Diosco-
ridi à scriptorū, secundam literarum ordi-
nem expolite.

Authore Conrado Gesnero Tigurino.

TIGURI APVD CHRISTOPH.
Froschouerum. Anno
M, D. XLII,

Lucas G. P. M.

rial bookplate, dated 1744, of Franziskus Topsl (1711-96), prior of the Polling Abbey in Upper Bavaria. Modern booklabel of D. Henry. Some minor worming to upper inner corner of first seven leaves, touching a few letters of the first two leaves.

¶ Pritzel 3298.

38. GHILIOSSI DE LEMIE, JOSEPH IGNACE. *Mûriers et Vers-a-Soie*. 4 p.l., 74, [2] pp. 8vo, cont. green straight-grained sheep *maroquiné*, sides decorated in gilt, flat spine gilt, a.e.g. Cuneo: P. Rossi, 1812. \$3500.00



First edition and a very rare provincial imprint. Ghiliossi, a resident of Cuneo in the Piedmont of northern Italy, was active in developing the agriculture and industries of the Cuneo area. The silk industry began to develop in the region in the 16th century and, by the early 19th century, became the predominant commercial activity.

In this work, Ghiliossi provides an excellent history of the growth

of industry in Cuneo. He then goes on to the process of sericulture from the rearing of silkworms to cocoons and then the manufacture of silk. The development of the industry was greatly encouraged by the government and there is much information on the laws and regulations which governed the manufacture and trade in silk. Ghiliossi describes a number of processes which he claims are unique in the region.

He also gives a history of the early silk spinning and weaving machinery powered by water.

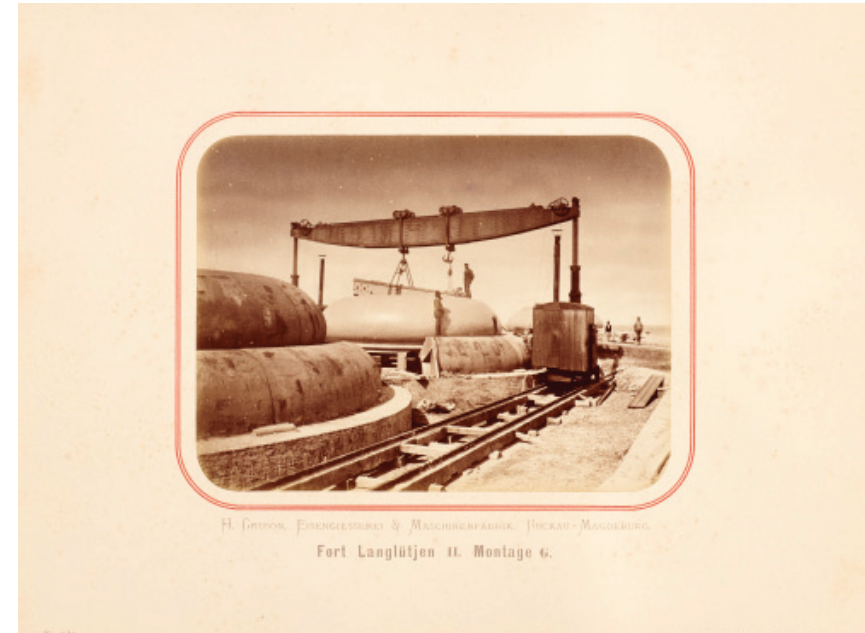
Fine and handsome copy. Corners a bit rubbed. Bookplate of Maurice Desgeorge of Lyon.

¶ Hagen, I, p. 279.

Splendid Photographs of Armored Turrets

39. H. GRUSON EISENGIESSEREI & MASCHINENFABRIK. From the inside cover, lettered in gilt: *H. Gruson Eisengiesserei & Maschinenfabrik Buckau-Magdeburg. Hartguss-Panzerthürme*. 26 (of 30?) albumen photographs (all ca. 215 x 160 mm.), mounted on





boards within frames printed in red, all images with printed titles on the boards (410 x 320 mm.). Numbered 501 to 530 but lacking (?) nos. 506, 507, 511, & 525, signed: "Photographie des H. Gruson'schen Ateliers." Oblong folio, orig. green leather portfolio, panelled in gilt with leather wreath, with metal crest in center of upper cover. Buckau, near Magdeburg: n.d. [but 1872-76]. \$7500.00

From the collection of Otto von Bismarck, the German statesman and unifier of Germany. This deluxe portfolio of original photographs was presented by the Grusonwerk, a leading member of Germany's defense industry, to Bismarck and comes from his personal collection. The splendid photographs depict the construction, transportation, and installation of enormous armored turrets at Fort Langlütjen II on the Weser Estuary in 1872-76, built to protect Bremen and Bremerhaven. These armored turrets were one of the specialties of the company.

Hermann Gruson (1821-95), started his firm in Buckau near Magdeburg in 1855 as a shipbuilder and iron foundry. The company's technological improvements led to the manufacture of iron and steel

suitable for machine parts and the construction of railways, as well as for armor and guns. Soon Grusonwerk became, along with the Krupp company, the greatest manufacturer of large weapons in the world. In 1893, Krupp bought the Gruson company.

Industrial photographs were a new kind of specialty, produced to show potential clients around the world products for sale. In 1872, the industrialist Gruson, by then Krupp's biggest competitor, engaged Gustav Härtwig as the company's official photographer. Härtwig set up a photographic studio and produced a series of photographs at the testing grounds, docks, foundries, and fortresses. Härtwig took part in the photographic exhibition at the Royal and Imperial Austrian Museum for Arts and Industry in 1875, submitting large-format views of the Gruson iron foundry and engineering factory. He was a co-founder and long-serving president of the association of independent photographers in Magdeburg.

In fine and fresh condition. Binding a little worn.



An Early User of the Telescope

40. GUALTEROTTI, RAFFAELLO. *Discorso . . . sopra l'Apparizione de la Nuova Stella. E sopra le tre oscurazioni del Sole e de la Luna nel anno 1605. Con alquanto di lume del arte del Oro.* Woodcut Medicean arms on title. 36 pp. Small 4to, attractive antique calf (final five leaves a little stained & with some minor marginal paper repairs), spine gilt, red morocco lettering piece on spine. Florence: C. Giunti, 1605. \$25,000.00

First edition of this rare and important book on the new star of October 1604; it plays a significant role in the first great controversy of Galileo's scientific career in which he turned his back on the whole philosophical approach to science and sought reliable information and secure knowledge about the physical world through observations and calculations. The controversy which arose from the appearance of the supernova of 1604 was, simply, did the nova appear far beyond the moon — as believed by the astronomers — or did it occur in the sublunar region as believed by the Aristotelians who thought nothing new could be created in the heavens?

Gualterotti (b. 1548), "knew Galileo as a young man and showed him how stars could be seen in daytime through a long hole in a castle wall. In 1605 he published books [this and the following work] about the new star of 1604 . . . He also mentioned observations of stars through a dark tube, and from a letter written shortly after Galileo's telescopic discoveries it appears that he, like Porta, had employed a lens or lenses in a tube without developing the potentialities of the device. He was interested in alchemy and composed much poetry. He died at Florence in May 1639."—Drake, *Galileo at Work*, pp. 451-52.

In the present book, Gualterotti provides a long and careful account of his observations of the new star which he first observed from Florence on 9 October 1604. He "favored generation of the new star from the gatherings of vapors and exhalations in the region of the outer planets. He wrote at some length on the flexibility and penetrability of the heavens, on the presence there of elemental material in a refined and purified state, and on the essential similarity of matter everywhere."—Drake, *Galileo against the Philosophers*, p. 59. Both Galileo and Colombe



read this book carefully. In fact, according to Drake, Galileo believed that Gualterotti's views were the main reason Colombe wrote his *Discorso* of 1606, in which he attacked Gualterotti without naming him.

Gualterotti also provides here an important and early scientific description of a sunspot.

Although not a scientist of great note, Gualterotti was a significant figure within the scientific debate over the supernova, thanks to his anti-Aristotelian theories and his connections to Galileo. He is also important for being one of the first to use a telescope although he only used it to observe jousting matches. In a letter to Galileo in 1610, shortly after the publication of *Sidereus Nuncius*, Gualterotti wrote that he had developed a telescope in 1598. But, as it seemed to him to be "a feeble thing" he neglected it.

Very good copy of a rare book.

¶ Carli & Favaro 14. Cinti 14-(& see his long detailed note on the scientific contents of this work). Riccardi, I, col. 535. Van Helden, "The Invention of the Telescope" in *Transactions of the A.P.S.*, Vol. 67, Part 4 (1977), pp. 19, 24-25, 35, & 45-46.

The Fallacies of Diagnosis

41. HART, JAMES. *The Anatomie of Urines. Containing the Conviction and Condemnation of them. Or, the second Part of our discourse of urines. Detecting and unfolding the manifold falshoods and abuses committed by the vulgar sort of Practitioners in the judgement of diseases by the urines onely: together with a narrow survey of their substance, chiefe colours, and manifold contents, joyning withall the right use of urines . . . Collected, as well out of the ancient Greeke, Latine, and Arabian authors, as out of our late famous Physitians of severall Nations: their authorities quoted and translated out of the originall tongues, together with some of the Authors owne observations . . . Never heretofore published.* 9 pl., 127, [1] pp. Small 4to, 19th-cent. red half-morocco & marbled boards (minor staining here & there, A6 a bit chipped at head but not touching text), spine lettered in gilt. London: R. Field for R. Mylbourne, 1625. \$5000.00

THE
ANATOMIE
OF VRINES.

CONTAINING THE CONVICT-
tion and condemnation of them.

Or, the second Part of our discourse of vrines.

Detecting and unfolding the manifold fallhoods and
abuses committed by the vulgar sort of Practitioners,
in the iudgement of diseases by the vrines onely: to-
gether with a narrow survey of their substance,
chiefe colours, and manifold contents, ioy-
ning withall the right vse of vrines.

*wherein is contained plentie of profitable and delectable
Histories concerning this subiect.*

Collected, as well out of the ancient Greeke, Latine, and Ara-
bian Authors, as out of our late famous Physitians of severall
Nations: their authorities quoted and translated out of
the originall tongues, together with some of the
Authors owne obseruations.

By JAMES HART of NORTHAMPTON.

Neuer heretofore published.

LONDON,

Printed by Richard Field for Robert Mylbourne, and are to be
sold at his shop at the South doore of Pauls. 1625.

First edition and quite uncommon. Hart (d. 1639), physician, studied in Paris and took his medical degree at Basel in 1609. He then travelled to Germany and on to Prague. Upon returning to England, he settled in Northampton where he established a practice and lived for the rest of his life.

“Hart’s first published work was *The Arraignment of Urines* (1623), an abridged translation of *De incerto, fallaci, urinarum iudicio* (1589) by Pieter van Foreest. This was followed in 1625 by [the present work]. Both works are dedicated to Charles I, then prince of Wales; they expose the fallacies of diagnosis by means of an examination of urine at the hands of ignorant persons, and attack three kinds of trespassers on the medical domain — unlicensed quacks, meddlesome old women, and, above all, clergymen.”—ODNB. Each work was independently issued.

Very good copy.

*A Remarkable Photograph with an Equally Remarkable
Provenance*

42. HERSCHEL, SIR JOHN FREDERICK WILLIAM. *The Forty-Foot Telescope at Slough. Photographed by Sir John F.W. Herschel* [photographed 9 September 1839; this print made in] August 1890. Circular silver photographic print, 92 mm. in diameter, mounted on paper incorporating a printed title and descriptive letterpress dated August 1890 with the signatures of two of Herschel’s sons, mounted on card. Some small areas of abrasions to the paper surface. In the original frame, by Ryman & Co. of Oxford, made from the rungs of the ladder to the telescope. With a fragment of an original (?) printed descriptive notice on the back. \$25,000.00

This is the earliest photograph of a scientific instrument and the first photograph deliberately taken to record an object prior to its disappearance (the earliest “record” photograph). It is also the earliest surviving photograph taken on glass and Sir John Herschel’s only surviving camera image.

This example is the Herschel family copy, by direct descent from Sir John F.W. Herschel through his daughter Amelia and her husband Sir Thomas Wade.

Although some images had previously been made on light-sensitive paper, this image was made in the first year of photography as we know it, i.e. using the negative/positive process. On 22 January, Herschel heard about Daguerre's experiments. On 30 January, the second day of his photographic researches, Herschel made the first of several images of his father's 40-foot telescope using a Dollond telescope lens. These images were the first "negatives" (as he called them), and Herschel's only photographic subject. He fixed these images on paper with his method of using sodium thiosulphate, or "hypo," which came to be recognized as the most useful of all the chemicals proposed as the fixer for silver-based photographic images. A few prints or "positives" were made from the negatives at the time, and none survive today. On 1st February he was visited by William Henry Fox Talbot who was shown a picture of the telescope, "freshly made."

In the following months, Herschel began to use glass, in order to eliminate the organic substances contained in paper and for the sake of improved transparency.

The earliest surviving photograph on glass is Herschel's image of his father's famous 40-foot telescope at Slough, taken on 9 September 1839. By 1890, no original prints of this image were known and so 25 copies were made by projection from the best of the original negatives which had been on exhibition in the Science Museum, the photographic work being done by Sir John Herschel's eldest son Sir William J. Herschel (1833-1917), himself a pioneer of color photography. The present copy is one of those 25, and is signed on the mount by two of Herschel's sons including Sir William. It has been kept in the Herschel family ever since. The negative, now faded almost beyond recognition, is also preserved in the Science Museum.

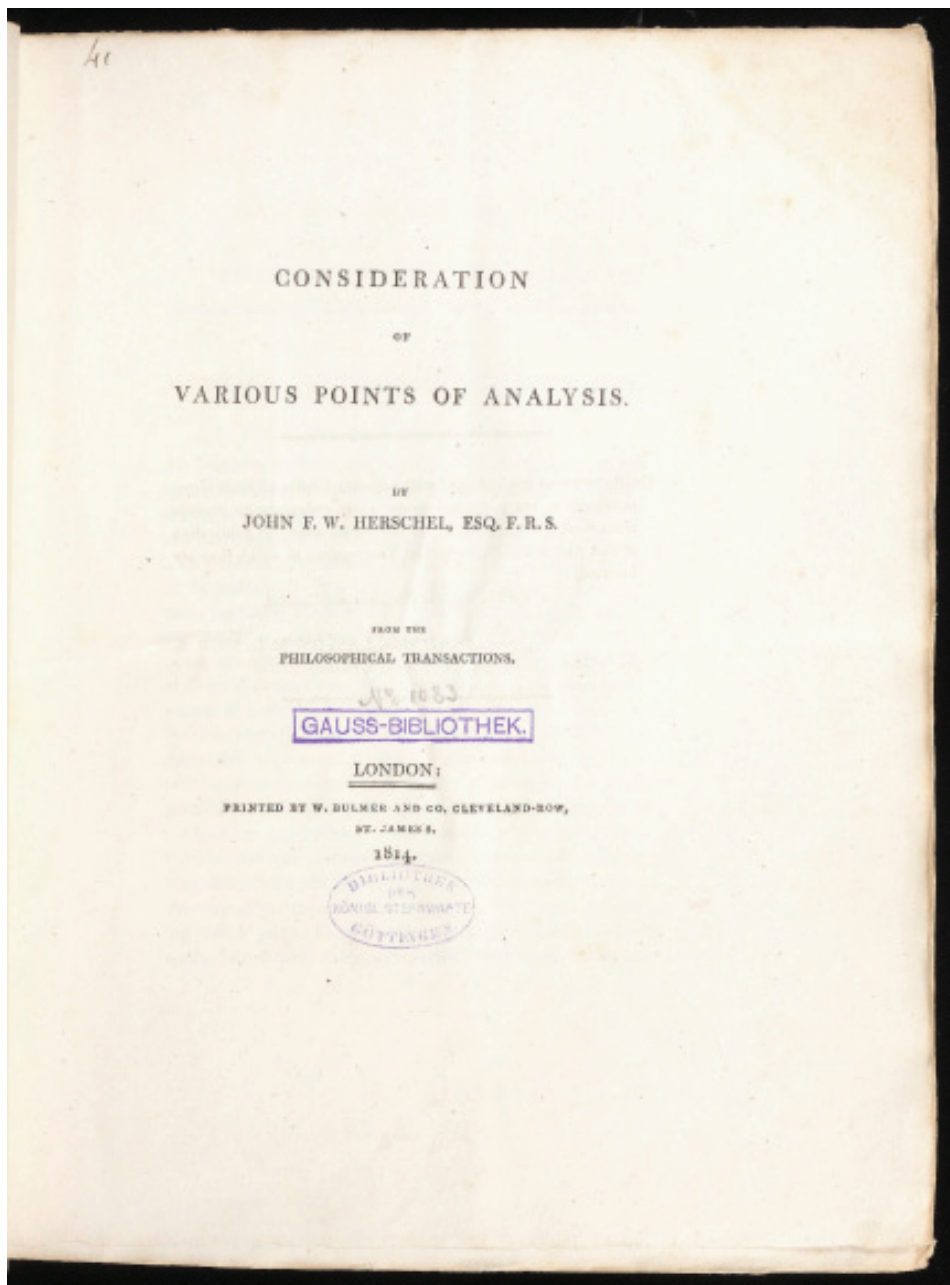
The 40-foot telescope was constructed by William Herschel (1738-1822) on the grounds of his house in Slough, and completed in 1789. It was the largest of a succession of important instruments that Herschel himself made. The massive reflecting telescope weighed over a ton, and became a much-visited wonder of the age. It was the largest telescope in the world for some fifty years, and the two 4-foot mirrors made for it were also the largest in the world. By 1839 the frame was becoming unsafe so in December of that year it was dismantled, but not before William's son Sir John Herschel had taken this image of it.



The frame of this copy was made from the rungs of the ladder that went up to the telescope.

A most remarkable survival.

¶ Gernsheim, *The History of Photography*, pp. 95—"Herschel's photographic researches are concentrated within the first few years after the discovery of photography, and the genius and energy which he displayed were overwhelming. For him, it would have been an easy matter to invent a photographic process earlier had he felt, like Niépce, any urge to do so, or had he believed that it would facilitate his work, as Daguerre and Talbot and Reade did. As far back as 1819 Herschel discovered the property of the hyposulphites as solvents for silver salts, whereas ignorance of this fact had proved the stumbling-block to other investigators in photography for a long time. Herschel's scientific knowledge was indeed so great that on merely receiving a note, on 22 January 1839, from Captain (later Admiral) Beaufort telling him the bare fact of Daguerre's discovery, 'a variety of processes at once presented themselves,' and only a week later Herschel succeeded in producing his first photograph."



Mathematics Reformed; Gauss's Copy

43. HERSCHEL, JOHN FREDERICK WILLIAM. *Consideration of Various Points of Analysis . . . from the Philosophical Transactions.* Several diagrams in the text. 1 pl., 33 (i.e. 29) pp. Large 4to, orig. blue wrappers, uncut. London: W. Bulmer, 1814. \$7500.00

First separate edition, with new pagination. This offprint belonged to Carl Friedrich Gauss, with the "Gauss-Bibliothek" stamp on the title. This copy was no doubt sent by Herschel to Europe's leading mathematician.

The present work is an important contribution to mathematical notation by Herschel, who was, with Charles Babbage and George Peacock, a founder of the famous Analytical Society, a group of Cambridge mathematical reformers. They wanted to leave behind the fluxional, Newtonian notation so prevalent in 18th-century Britain and embrace the algebraically based conception of the calculus developed by Lagrange. In this work, Herschel professes "his belief in the fruitfulness of the method of separating the symbols of operation from those of quantity."—S.E. Despeaux, "Very Full of Symbols" in *Episodes in the History of Modern Algebra (1800-1950)*, (2007), ed. by J.J. Gray & K.H. Parshall, p. 54.

Fine copy and rare. With the stamp of the Royal Observatory at Göttingen on upper wrapper (with release stamp on front paste-down endpaper) and title. Preserved in a box.

A. G. Werner's Set of an Important Journal

44. HOFF, CARL ERNST ADOLF VON, ED. *Magazin für die gesammte Mineralogie, Geognosie und mineralogische Erdbeschreibung.* Verfasst von einer Gesellschaft Gelehrten und herausgegeben von . . . Four folding engraved plates. Four parts in one vol. [all published]. 8vo, cont. half-sheep & paste-paper boards (occasional minor dampstaining, first 40 leaves with two unimportant wormholes in lower outer margin), spine gilt, black leather lettering piece on spine. Leipzig: Roch, 1801. \$9500.00

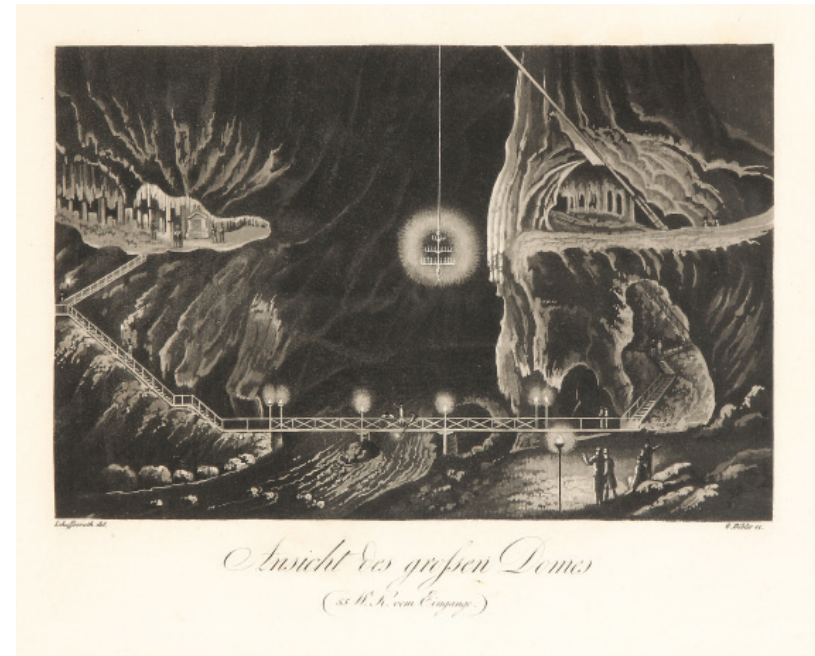
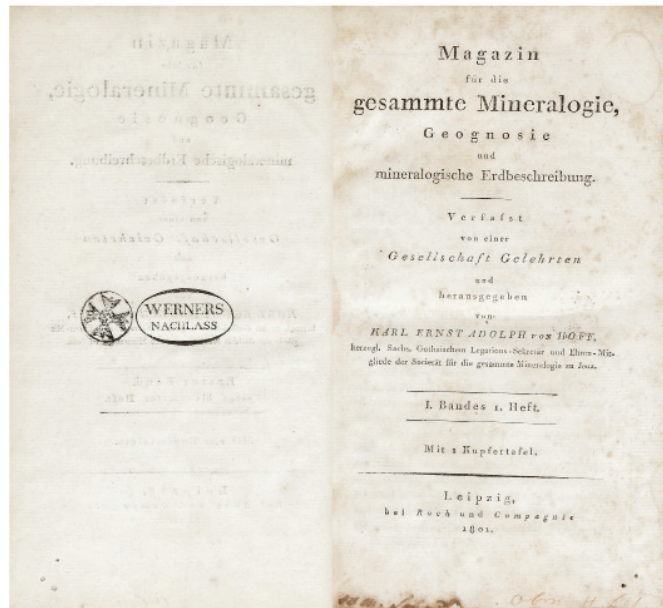
First edition, all published, of this important mineralogical and geo-

logical journal; this set comes from the library of the great geologist and mineralogist Abraham Gottlob Werner (1749-1817), professor at the famous Freiberg Bergakademie. According to *D.S.B.*, VI, p. 456, this is the first “special periodical for geology and mineralogy . . . Despite the recognition it received, it ceased publication on the death of its publisher.” Some of the contributors include Ernst Friedrich von Schlotheim, Reuss, Vauquelin, Klaproth, Wiedemann, and other notable scientists.

This journal offers a remarkable view of the ferment which the fields of geology and mineralogy were undergoing during this period. Apart from the scholarly articles, Hoff also publishes “Letters to the Editor,” notes of current activities, notices of position changes in institutions, obituaries, reviews of recently published books and articles, and accounts of the trade amongst collectors of minerals.

Hoff (1771-1837), a distinguished diplomat in Gotha’s civil service, also “accomplished first-rate work in a totally different field — scientific research, notably in geology and geography. Indeed, he introduced a new epoch of geological study which continues still.”—*ibid.*, pp. 455-58.

Very good set. Stamp on verso of first title “Werners Nachlass.”



Mezzotint at its Finest

45. HOHENWART, FRANZ JOZEF HANIBAL, GRAF VON. [Printed title]: *Wegweiser für die Wanderer in der berühmten Adelsberger und Kronprinz Ferdinands-Grotte bey Adelsberg in Krain.* [Engraved title]: *Ansichten der Adelsberger und Kronprinz Ferdinands ...* One engraved title & 19 engraved plates (of which 17 are in magnificent mezzotint). Text: 16 pp.; 1 pl., 9 pp.; iv, 14 pp. Three parts in one vol. Oblong folio, modern half-cloth & boards. [Part I]: Vienna: J.P. Sollinger, 1830; [Parts II & III]: Laibach (today Ljubljana in Slovenia): I.A. Edlen v. Kleinmayr, 1830-32. \$6000.00

First edition of this beautifully illustrated monograph on the famous karst caves in Slovenia. They were first described and studied by Johann Weikhard von Valvasor in the late 17th century. The fine plates, most of which are in splendid mezzotint, have been drawn by Alois Schaffenrath (1794-1836), an engineer working for the Laibach ministry of travel, transport, and navigation.



The Adelsberger Grotte, a cave system 24,120 meters long near Postojna, was created by the Pivka River. In 1819, Archduke Ferdinand visited the caves and, as a result, they became widely known. Today, they are a major tourist attraction.

Howenwart (1771-1844), was an Austrian government official and natural historian. He furnishes here an exact account of the cave, its origins, and extent.

Fine copy and very rare. Two old stamps on first printed title of "Kupferst. Samml. S. M. FR.W. III" and "Kupferstich-Sammlung der Königl. Museen."

*An Illuminated 18th-Century Book;
Bound by John Brindley*

46. HOLLAND, RICHARD, M.D. *Observations on the Small Pox: or, An Essay to discover a more Effectual Method of Cure.* 4 p.l., xix, 164 pp. 8vo, cont. mottled calf by John Brindley, single gilt fillet round



sides, the four corners of each cover elaborately gilt with Brindley's characteristic dolphins surmounted by crowns within circular wreaths, spine divided into six compartments, five of which with the golden fleece device in gilt, green morocco lettering piece in remaining compartment. London: J. Brindley, 1728. \$12,500.00

First edition; an extraordinary "illuminated" copy with the title-page, initials, and section headings all heightened in gold, and bound by John Brindley, bookbinder to Frederick, Prince of Wales and Queen Caroline. The initials along with the vignettes and typographical ornaments at the beginning and end of each chapter have also been skillfully decorated in blue, red, and yellow. This remarkable book, with all the decorations contemporary, comes from the library at Marble Hill House, the Palladian villa constructed 1724-29 at Twickenham which was built by Henrietta Howard (ca. 1688-1767), countess of Suffolk and mistress of George II. Pope helped design the gardens and he, Gay, and George Berkeley were frequent visitors.

Henrietta Howard was an intimate of Queen Caroline, who encouraged the countess in her sexual relationship with King George II. The present book is dedicated to Queen Caroline and clearly there is some connection, because of its special illuminations and binding, between the Queen and Henrietta Howard. Could this have been the Queen's copy or one specially prepared for her close and useful friend?

This book was printed by William Bowyer and his records show that 350 ordinary copies and 150 large-paper copies were printed.

Richard Holland (1688-1730), was born in London and educated at St. Catharine's College, Cambridge, where he received his M.D. in 1723. He became a fellow of the College of Physicians in 1725 and was elected a fellow of the Royal Society in 1726. This is his only book, which provides many case histories.

A fine and special copy. With a contemporary inscription on the leaf facing the title "Removed from Marble Hill House." Later engraved bookplate of M. General Sir Charles Stewart. This copy was sold Sotheby's, 20 July 1959, part of lot 749.

¶ ODNB for Holland and Howard.



The First French Microscopist

47. JOBLOT, LOUIS. *Observations d'Histoire naturelle, faites avec le Microscope, sur un grand nombre d'Insectes, & sur les Animalcules qui se trouvent dans les liqueurs préparées, & dans celles qui ne le sont pas, &c. avec la Description & les Usages des différens Microscopes, &c. Partie déjà publiées ...* Fine engraved headpiece (repeated three times) depicting a scientist in his laboratory & 53 folding engraved plates. xx, 38, 124 pp.; vi, 78, 27 pp. Two vols. in one. Large 4to, cont. polished calf (corners very carefully repaired), spine gilt, contrasting leather lettering piece on spine. Paris: Briasson, 1754-55. \$3500.00

Second edition, greatly enlarged, of the first French book on microscopy (1st ed.: 1718 with the title *Descriptions* and only 34 plates). Job-

lot (1645-1723), professor of mathematics at the Ecole nationale des Beaux-Arts, probably became interested in microscopy during the visit of Huygens and Hartsoeker to Paris in 1678 when they demonstrated microscopes brought from Holland.

While Joblot's observations were largely limited to protozoa in the first edition, the second edition reflects his study of minerals, plant cross-sections, and insects, illustrated on the plates in the first volume. The charming headpiece, repeated three times, depicts a scientist in his laboratory, surrounded by instruments, specimens, and books. The second volume contains a number of fine plates depicting many new kinds of microscopes and their construction.

Joblot "introduced some improvements, including the use of stops (diaphragms) in compound microscopes to correct for chromatic aberration. Joblot designed the first *porte loupe*, a simple preparation microscope in which the lens is supported by a string of 'Musschenbroek nuts,' forming a ball-and-socket jointed arm."—D.S.B., VII, p. 110.

A very handsome copy. Several leaves of the table of contents misbound in the second volume.

¶ Clay & Court, *History of the Microscope*, pp. 57-61. Dobell, *Leeuwenhoek and his Little Animals*, p. 372.

48. KECKERMANN, BARTHOLOMAEUS. *Systema Ethicae, Tribus Libris adornatum & publicis praelectionibus traditum in Gymnasio Dantiscano*. Woodcut printer's device on title. 4 p.l., 400 pp. Small thick 8vo, cont. richly blindstamped pigskin over wooden boards, one of the stamps with "H M" with the date "160[?]", two catches & one (of two) clasps. Hanau: G. Antonius, 1607.

[BOUND WITH]:

THEODORICUS, SEBASTIANUS. *Novae Quaestiones Sphaericae, hoc est, de Circulis Coelestibus & primo mobili, in gratiam studiosae juventutis scriptae*. Woodcut on title, numerous astronomical woodcuts in the text, three folding printed tables, & one large woodcut plate. 8 p.l. (the last a blank), 320 pp. Small 8vo. Wittenberg: L. Seuberlich for S. Selfisch, 1605.

[BOUND WITH]:



LEMNIUS, LEVINUS. *De Astrologia Liber unus ...* Woodcut printer's device on title. 5 p.l., 25 leaves, 2 blank leaves. Small 8vo (light browning). Jena: T. Steinmann, 1587. \$7500.00

A pleasant sammelband of three noteworthy textbooks in a most attractive contemporary binding.

I. First edition. Keckermann (1573-1609), was a German theologian and philosopher best known for his "analytical method." He studied at the universities of Wittenberg and Leipzig and became professor of Hebrew at Heidelberg. From 1602 until his death, he served as rector of the gymnasium of Danzig, his native town. This is one of many "systems" or textbooks which he wrote on all aspects of knowledge including logic, politics, economics, science, astronomy, geography, physics, etc.

"Keckermann was one of the earliest Western thinkers to use the term 'system' to describe academic treatises; his detailed discussion of the component parts of systematic textbooks appears to be the first of this kind and many have been without parallel during the entire seventeenth century."—Joseph S. Freedman, "The Career and Writings of Bartholomew Keckermann (d. 1609)" in *Proceedings of the American Philosophical Society*, Vol. 141, No. 3 (1997), pp. 305-64 & A.22 in his bibliography.

II. A late edition (1st ed.: 1564) of a very popular textbook on astronomy which was the standard textbook on the subject at the University of Wittenberg for more than fifty years. Theodoricus (1501-78), a native of Windsheim, took his degrees in philosophy and medicine at Wittenberg and became professor of mathematics there. He surely knew Rheticus. "His own manual of 320 small pages in four parts is arranged in the form of questions and answers, with the former set off in heavy type and with considerable use of the syllogistic form of proof in the answers . . . He cites Copernicus as well as Ptolemy for the relative magnitudes of earth and sun. He gives Copernicus's figures for the maximum and minimum declination of the sun, and his estimate that this movement of the ecliptic approaching and receding from the equator is completed in 1717 years . . . the textbook of Theodoricus . . . appears to have been inflicted on the students at Wittenberg for several decades, since further editions appeared in 1567, 1570, 1578 and 1605."—Thorndike, VI, pp. 34-35.

The large woodcut plate contains a number of figures designed to be cut up and used as movable parts on several of the text woodcuts. This is a rather wonderful survival.

WorldCat locates only one copy in the U.S.

III. Second edition (1st ed.: Antwerp: 1554) of the author's first book. Lemnius (1505-68), studied medicine at the University of Louvain under Vesalius, Dodoens, and Conrad Gesner. He returned to practice in his native city of Zierikzee and had a broad interest in medicine, hygiene, geography, botany, and astrology. He is most famous for his book on the occult miracles of nature.

¶ II. Thorndike, V, 154 & Zinner 4066. III. Lindeboom cols. 1169-70. Zinner 3260.

"The Basis for Coptic Studies" &
"A Tour de Force of 17th-Century Typography"

49. KIRCHER, ATHANASIOS. *Prodromus Coptus sive Aegyptiacus . . . cum linguae Coptae . . .* Woodcut vignette on title, woodcut illus. in the text, & many exotic type fonts used. 12 p.l., 338 pp. 4to, late 18th-cent. half calf & marbled boards (some browning as is usual with this book), spine gilt, black morocco lettering piece on spine. Rome: Propaganda Fide, 1636. \$7500.00

First edition. This present work is "the first Coptic grammar to appear in the West, [it] was for centuries the basis for Coptic studies, along with Kircher's later work *Lingua aegyptiaca restituta* (1643). Kircher had encountered hieroglyphs during his tertianship (a one-year period of religious study in preparation for the ministry) in Speier, and he was convinced — correctly — that Coptic was a late vestige of ancient Egyptian. While at Avignon he was given several Coptic manuscripts by his friend and patron Nicolas Claude Fabri de Peiresc. Later in Rome Kircher acquired an Arabic-Coptic vocabulary brought from Egypt by Pietro della Valle. On the basis of these, and with Peiresc's encouragement, Kircher compiled the *Prodromus*. As the title reveals, it was to be a precursor of a later work on the Egyptian language, perhaps the *Lingua aegyptiaca restituta*. In both works he stresses the importance of Coptic for interpreting hieroglyphics. Because 'things Egyptian' were the

rage in seventeenth-century Europe, the *Prodromus* attained immediate popularity and firmly established Kircher's reputation as a scholar . . .

"Type fonts include Greek, Syriac, Arabic, Hebrew, Estranghelo, Samaritan, Armenian, Chaldean, Rashi, Amharic, 'Saracen,' hieroglyphic, and of course Coptic — a tour de force of seventeenth-century typography."—Merrill, *Athanasius Kircher*, 3.

This book is virtually a type specimen of the fonts possessed by the new established (1626) Press of the Propaganda Fide.

Very good copy. Stamp on free front endpaper of the "Biblioteca Privata Pasquale Regina" and a signature on blank portion of title. Dunnhaupt notes two settings of the title-page (no priority): 1. with the insignia of the dedicatee, Francesco Barberini, and 2. a medallion of Christ and Apostles (as in our copy).

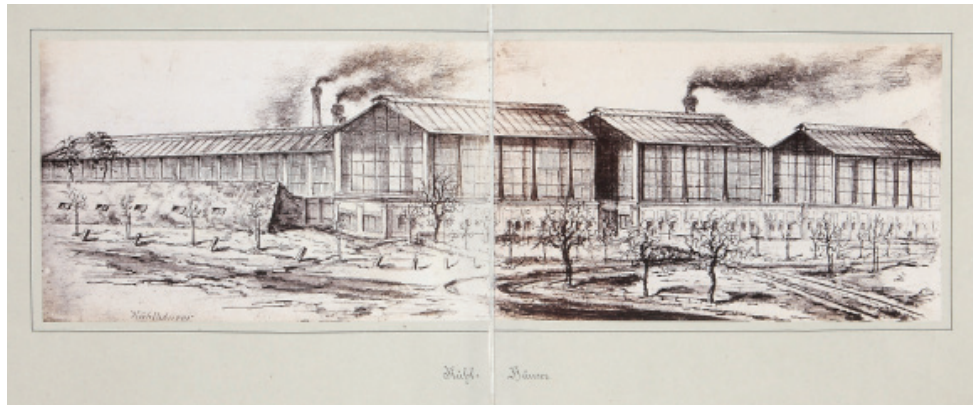
¶ Dunnhaupt, II, pp. 996-97.



The Brewery at Klein-Schwechat

50. BRAUEREI IN KLEIN-SCHWECHAT. A unique album of photographs reproducing drawings of different views of the famous brewery at Klein-Schwechat, a town just to the south-east of Vienna, entitled (from the upper cover): "Brauerei in Klein-Schwechat [sic]. Nach der Natur gezeichnet und Seiner Hochwohlgeboren Herrn August Deiglmaier [sic] Dankbar Gewidmet von Georg Wieninger 1881." 21 photographs (seven double-page) mounted on thick board. Oblong 4to (320 x 220 mm.), an ornately designed morocco binding with nine sunken panels on both covers, decorated & lettered in gilt & blind, spine decorated in gilt & blind, a.e.g. [Klein-Schwechat: 1881]. \$5500.00

An elaborate album of photographs of drawings of the celebrated brewery at Klein-Schwechat, founded in 1632, and today one of the leading breweries of Austria, producing a lager, a light smooth premium beer called Hopfenperle, and a super-premium called Steffl. The album was prepared for the renowned Viennese brewer August Deiglmaier (1827-83), who was, at that time, managing director of the brewery and



one of the great innovators of 19th century brewing. Deiglmayer spent much of his professional career at the Klein-Schwechat brewery.

The drawings were executed at the request of Georg Wieninger (1832-87), scion of the Schärding family of brewers. Reproduced here in photographs, the drawings depict a number of the imperial-style buildings of the brewery, set around a series of courtyards, which today still more resembles a grand country estate more than a brewery. The first plate consists of a calligraphic title “Erinnerung an Klein-Schwechat” in a hop-vine border. Each has a caption in manuscript.

In fine condition. Preserved in the original box.

¶ Jackson, *The New World Guide to Beer*, pp. 192-93.

The Most Comprehensive Work of its Kind in the Classic Era

51. KOCH, HEINRICH CHRISTOPH. *Musikalisches Lexikon, welches die theoretische und praktische Tonkunst, encyclopädisch bearbeitet, alle alten und neuen Kunstwörter erklärt, und die alten und neuen Instrumente beschreiben, enthält . . .* Illus. in the text. xiv, [2], 1020 cols.; 1 pl., [1029]-1802 cols., [1] p., one leaf of errata. Two vols. 8vo, fine cont. speckled polished sheep, spines gilt, contrasting leather lettering pieces on spines. Frankfurt am Main: A. Hermann the Younger, 1802. \$3000.00

First edition of this great and influential music dictionary. Koch’s “*Versuch einer Anleitung zur Composition* (1782-93) and *Musikalisches Lexikon*

(1802) . . . are the most comprehensive works of their kind in the Classic era . . . the *Lexikon*, a dictionary of musical terms, is a valuable source of information on theory and aesthetics, much of it is drawn from the *Versuch*, and Koch frequently quoted Sulzer’s *Allgemeine Theorie der schönen Künste* . . . [it] has served as the model for later non-biographical music dictionaries.”—New Grove, Vol. 10, pp. 132-33.

Koch (1749-1816), was a German theorist and violinist.

A very fine and handsome set, complete, with the stamp of the “Wertheim Fürstl. Löwenstein-Freudenbergischen Bibliothek” on the front pastedowns.



Describing Polhem's Industrial Processes

52. KOENIG, CARL HINDRICH. *Inledning til Mekaniken och Bygnings-Konsten, samt en Beskrifning öfwer åtskillige af Framledne Commerce-Rådet och Commendeuren af... Hr. Polhem opfundne Machiner.* Large engraved vignette on title & another at the head of the first leaf of Part II and 30 fine folding engraved plates (numbered I-XXVIII plus XV* & a second plate numbered XVI). 184 pp. 4 p.l., 183, [1] pp. Small 4to, cont. speckled sheep, contrasting vellum lettering piece on spine. Stockholm: tryckt af P.J. Nyström, 1752. \$6500.00

First edition and very rare; WorldCat locates only one copy in North America. This *Introduction to the Mechanics and the Art of Construction, including a Description of Several of the Machines invented by the late... Mr. Polhem* is the best early treatise on the mechanical and industrial processes devised by Christopher Polhem (1661-1751), the “father of Swedish technology.” He built a remarkable factory for iron and other metal products at Stjaernsund in 1704, producing a wide array of iron and steel products for industry, agriculture, and general consumption. The manufactory used division of labor, hoists, and conveyor belts to minimize manual labor, anticipating the mass-production techniques later adopted in America and England. His “alphabet” of machine components enabled him to build every conceivable machine and demonstrated the basic elements used by later machine builders. His rolls mills were an advance over contemporary methods of metal-working.

Polhem published his *Patriotiska Testamente* in 1761; it gives the first description of rolling mills and other methods of iron-working, but had only a few text diagrams. In our work, the last part (pp. 155-end) gives an explanation of many of Polhem's machines, which are illustrated on 23 of the 30 plates (nos. 6-28). The balance of the work describes other industrial developments in Sweden in the first half of the 18th century.

“These new techniques of production exerted an important influence in Sweden and elsewhere. They represent the highest level of accomplishment of an iron industry based on charcoal and dependent for primary power on water-wheels and horse-driven gins... The general understanding of the use of rolls was not new, but Polhem was doing



many new things with them: partly because of his more vivid vision of the advantages of a less direct process of production, partly because his versatility as an engineer made it possible for him to achieve new results by better methods of machine construction . . . Polhem's work provides a fresh standard for measuring the technical accomplishment of the first generation of the eighteenth century."—Singer et al, *A History of Technology*, III, pp. 342–343.

Fine fresh copy. Small tear to third plate, carefully repaired on verso at an early date, with no loss of image.

*A Photographic Panorama of the Krupp Steel Works
from the Library of Otto von Bismarck*

53. KRUPP, FRIEDRICH, CAST STEEL WORKS, ESSEN; PHOTOGRAPHER: HUGO VAN WERDEN. *Krupp'sche Gussstahlfabrik*. Six albumen prints from wet collodion negatives (each 430 x 430 mm.), each mounted on stiff card stock panels (each panel measuring 620 x 430 mm.), joined together with the orig. linen, with the lithographed title at foot of the two middle panels. Preserved in the orig. green cloth-backed board portfolio, ties gone. [Essen: F. Krupp, ca. 1872-73].
\$45,000.00

A magnificent and rare photographic panorama of the Krupp Steel Works in Essen, consisting of six albumen prints, each mounted on paper board panels, measuring altogether 430 x 2480 mm. The industrial steel manufacturer Friedrich Krupp AG was the largest company in Europe at the beginning of the 20th century. One of the most powerful business dynasties in Europe, for 400 years Krupp flourished as the premier weapons manufacturer of Germany. From the Thirty Years' War until the end of the Second World War, they produced everything from guns and cannons, battleships, U-boats, tanks, and hundreds of other products.

"In 1861, one of the most remarkable figures in German industrial history, Alfred Krupp, commissioned his far relative Hugo van Werden [(1836-1911)] to learn photography in a studio in Hannover then well-known for its qualities in depicting industrial products. After a short apprenticeship, van Werden set up the Krupp photographic



Panorama: Two left-side panels



Panorama: Two center panels



Panorama: Two right-side panels

and lithographic institute which from then on had to deliver all visual materials used for documentation, press releases, and public relations for Krupp's steel company. As early as 1862, on the occasion of the London World Fair, Krupp was able to show and deliver large quantities of photographs of all his products, and the company gained fame for the use of the new medium in advertising . . . On top of the Krupp stand at the World Fair in London in 1862 there was a large photograph showing the Essen company site. Made of 12 images, it correlated to a recent fashion among manufacturers: showing a bird-like view of their establishment."—Rolf Sachsse in *Encyclopedia of 19th-Century Photography*, p. 584.

In the century prior to the advent of photography, panoramic painting reached a pinnacle of development in which whole buildings were constructed to house 360 degree panoramas, and even incorporated lighting effects and moving elements. Indeed, the career of one of the inventors of photography, Daguerre, began in the production of popular panoramas and dioramas. Shortly after the invention of photography, the desire to show overviews of cities and landscapes prompted photographers to create panoramas.

The development of panoramic cameras was a logical extension of the 19th-century enthusiasm for panorama. Because of the high cost of materials and the technical difficulty of properly exposing the plates, Daguerreotype panoramas, especially those pieced together from several plates, are rare. After the advent of wet-plate collodion process, photographers would take anywhere from two to a dozen of the ensuing albumen prints and piece them together to form a panoramic image. This photographic process was technically easier and far less expensive.

The history of photography and the modern manufacturing of steel have been interwoven since both came into being in the mid-19th century. Photography of steel mills began about the same time that modern steel making became possible through invention of the Bessemer converter (furnace) in 1855. Photographers have actively engaged this topic ever since. Photographing the steel industry has always presented technical as well as aesthetic challenges, but no challenge was more daunting than that of access. Mere fascination with industrial architecture, the dramatic processes of transforming

raw iron ore to finished steel, or the many tasks performed by steel workers, did not entitle a photographer to take pictures of mills.

The pioneering German industrialist Alfred Krupp hired Hugo van Werden as the company's first full-time photographer. As an employee, van Werden had unlimited access to take photographs of the factory. The stunning nature of van Werden's early photographs interpreted Krupp's business vision. Van Werden's task was to document Krupp's rapidly expanding company; he began to make periodic panoramas of the Kruppsche Gußstahlfabrik in Essen in 1861. These panoramas started modestly and ended up being monumental. Krupp's intensive advertising work for his company, as well as the company's presence in commercial and world exhibitions, was important in the success and economic expansion of the company. Krupp used the new medium photography for the self-presentation and documentation of his emerging company. In addition to a historical department, which was founded in 1861, Krupp set up an atelier for photographers. Not only the individual products but also the company as a whole were documented by means of the photographic image.

Our 180 degree panoramic view of the cast steel factory was taken by van Werden at the request of Krupp from a tower of the cannon workshop. Krupp himself gave the order to photograph the factory on a Sunday because "the work days carry too much smoke, steam and restlessness." The elevated viewpoint provides an overview of the extent of the factory, which transitions into the landscape on the horizon. The panoramic view over the roofs of the factory buildings, along the chimneys to the landscape, gives the impression of a self-contained world. From the tower, one looks westward over the works to the surroundings of Essen. The arranged scenery — the factory buildings still partly under construction, the workers and steam locomotives, the railway bicycles and other steel goods transported throughout the plant — give the impression of remarkable economic activity.

In fine and fresh condition. From the library of Otto von Bismarck, no doubt presented to him by the firm.

¶ Tenfelde, *Pictures of Krupp: Photography and History in the Industrial Age* (2005).



*The First French National Bibliography;
The duc d'Aumont's Copy*

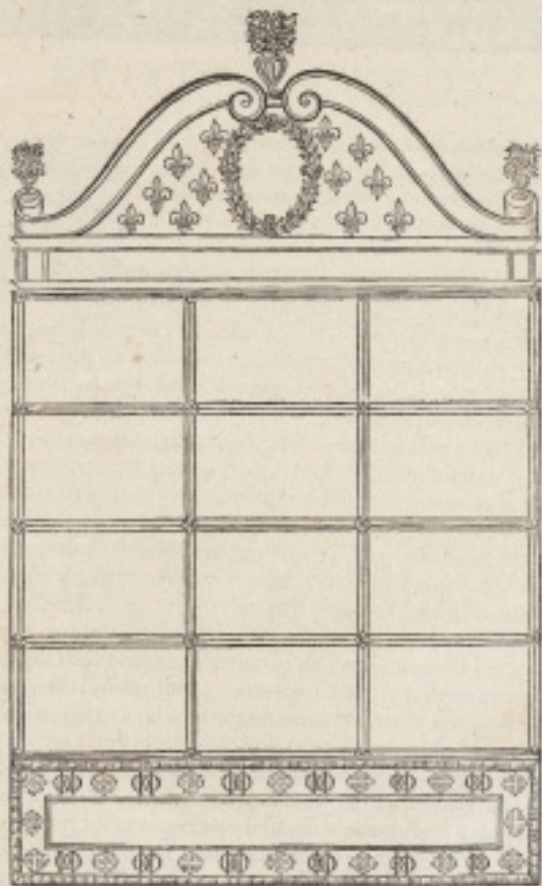
54. LA CROIX DU MAINE, FRANÇOIS GRUDÉ, SIEUR DE. *Premier Volume de la Bibliotheque du Sieur de la Croix-du Maine. Qui est un Catalogue general de toutes sortes d'Autheurs, qui ont escrit en françois depuis cinq cents ans & plus, jusques à ce jourd'huy: avec un Discours des vies des plus illustres & renommez entre les trois mille qui sont compris en cet oeuvre, ensemble un recit de leurs compositions, tant imprimees qu'autrement.* Fine woodcut printer's device on title, woodcut port. on verso of the dedicatee, Henri III, & several woodcut illus. in the text. 22 pl., 558, [5] pp. Folio, fine 18th-cent. marbled calf (joints & ends of spine very carefully repaired), arms in gilt on both covers of the great bibliophile. the duc d'Aumont, triple gilt fillet round sides, spine richly gilt, red morocco lettering piece on spine, a.e.g. Paris: A. l'Angelier, 1584. \$25,000.00

First edition, a fine copy from the library of the great bibliophile, the duc d'Aumont (1709-82), one of the outstanding book and art collectors of his age, with his arms in gilt on both covers. This is the first French national bibliography, a monumental work of fundamental importance for the history of French literature and scholarship. It has remained an indispensable reference and source book to this day, as attested by Brunet, Petzholdt, and Besterman.

The roughly 3000 authors are arranged alphabetically by their given names, and La Croix du Maine gives succinct bio-bibliographical information for each. Our edition contains a remarkable proposal (not reprinted in the 18th-century edition) for the formation of a French national (royal) library housed in about 100 "noble" bookcases, of which a most attractive illustration is printed on p. 511. This woodcut appears to be the first illustration of library furniture in a printed book. La Croix du Maine also urges the arrangement of the books by a system that is quite close to a decimal classification.

La Croix du Maine (1552-92), began this bibliography at the age of 17 and in the process accumulated a large library. A Protestant sympathizer, he was assassinated at 40 and was therefore unable to issue further volumes as he had planned.

C'EST ICI LA FIGURE OV REPRESENTATION DES BVFETS, SEMBABLE A CEUX qui sont en la Bibliothèque du sieur de La Croix du Maine, auteur de ce liure.



V iij

PREMIER VOLUME DE
LA BIBLIOTHEQUE
DV SIEVR DE LA CROIX-DV-MAINE.

Qui est vn catalogue general de toutes sortes d'Auteurs, qui ont escrit en François depuis cinq cents ans & plus, iusques à ce iourd'uy : avec vn Discours des vies des plus illustres & renommés entre les trois mille qui sont compris en cet ouvrage, ensemble vn recit de leurs compositions, tant imprimées qu'autrement.

DÉDIÉ ET PRÉSENTÉ AU ROY.

Sur la fin de ce liure se voyent les desseins & gravés dudit sieur de la Croix, lesquels il presenta au Roy l'an 1583 pour dresser une bibliothèque parfaite & accomplie en sa vie future.

Daivantage se voit le Discours de ses ouvrages & compositions, imprimé de rechef sur la copie qu'il fit mettre en lumière l'an 1579.



A PARIS,

Chez Abell'ANGELIER, Libraire juré tenant sa boutique au premier
pallier de la grand Salle du Palais.

M. D. LXXVIIII.

AVEC PRIVILEGE DV ROY.



A fine copy. This copy appeared in the auction (lot 2977) of the library of the duc d'Aumont, which was sold in January 1783 in Paris by De Bure.

¶ Besterman, *The Beginnings of Systematic Bibliography*, pp. 24-25. Grolier Club, *Bibliography*, 29.

55. [LA GARAYE, CLAUDE TOUSAIN MAROT, COMTE DE]. *Chymie hydraulique, pour extraire les Sels essentiels des Végétaux, Animaux & Minéraux, avec l'eau pure.* Par M. L. C. D. L. G. Two



folding engraved plates. xi, [5], 390 pp. Small 8vo, cont. red morocco, with the arms in gilt of either the Comtesse de Provence or the Comtesse d'Artois (see below), triple gilt fillet round sides, spine nicely gilt, a.e.g. Paris: J.B. Coignard, 1745. \$3500.00

First edition and a lovely copy in contemporary red morocco with arms (see below). "La Garaye (1675-1755), a Breton nobleman and philanthropist, was a diligent chemist who devised a novel method of preparing medicines from minerals by long maceration with neutral salt solutions. He also extracted a number of principles from plants as from Peruvian bark, the extract of which became known as the 'essential salt of Garaye.'"—Neville, II, p. 3.

"He devised a rapid method of making black oxide of iron, and prepared an ammoniacal chloride of mercury called 'Tinctura mercurialis.'"—Ferguson, II, p. 78 (under Marot).

It is unusual to find a book of this kind so finely bound. Daughters of King Victor-Amédée III of Sardinia, Marie Joséphine (1753-1810), and Marie Thérèse (1756-1805), married respectively the Comte de Provence (the future Louis XVIII) and the Comte d'Artois (the future Charles X). The arms for their bindings are identical ("le graveur ayant oublié de représenter la bordure crénelée ou dentelée, qui seule permet la discrimination" (OHR 2517).

A very fine copy, with the smallest defects to the binding. This is the first issue of the book with the title dated 1745. There is a second issue which appeared a year later with a new title-page and different publisher.

¶ Duveen, p. 391. Hoover 500. Partington, III, pp. 88-89. Quentin-Bauchart, II, pp. 309-331.

56. LA MÉTHERIE, JEAN CLAUDE DE. *Théorie de la Terre... Seconde Édition, corrigée, et augmentée d'une Minéralogie*. Finely engraved frontis. port. of the author & eight folding engraved plates. Five vols. 8vo, fine cont. mottled calf (a few minor defects), flat spines gilt, red morocco lettering pieces on spines. Paris: Maradan, 1797. \$2750.00

Second edition, corrected, and enlarged. This edition expands the sections on mineralogy and petrology from two volumes to four. First



published in 1795, this is the author's chief work, which enjoyed considerable popularity among his contemporaries; it was founded for the most part on Werner's teachings. "Taking a broad cosmogonical view of creation, Lamétherie regarded the major features of the earth as the result of the combined action of crystallization, moving water, and shifts in the planetary-motion characteristics of the earth."—D.S.B., VII, p. 604.

La Métherie (1743-1817), was chief editor of the famous *Journal de Physique* from 1785 until the year of his death. He wrote a number of important works on mineralogy and was a friend to many of the leading scientists of his time, especially Cuvier.

A lovely set.

¶ Schuh, *Mineralogy & Crystallography: A Biobibliography, 1469 to 1920*, 1318—"Very scarce." Zittel, pp. 77-78.



Large & Fine-Paper Set

57. LAPLACE, PIERRE SIMON, MARQUIS DE. *Traité de Mécanique Céleste*. Folding engraved plate in Vol. IV. Five vols. Large 4to (281 x 200 mm.), cont. polished calf, sides panelled in blind & gilt, spines decorated in blind & gilt, a.e.g. Paris: J.B.M. Duprat & others, An VII [1798]-1825-1827. \$85,000.00

First edition, a magnificent set on large and fine paper, complete set with all the supplements. This is the only large and fine paper set I have ever seen on the market.

In this monumental and fundamental astronomical work, Laplace — the “Newton of France” — codified and developed the theories and achievements of Newton, Euler, d’Alembert, and Lagrange. “Laplace maintained that while all planets revolve round the sun their eccentricities and the inclinations of their orbits to each other will always remain small. He also showed that all these irregularities in movements and positions in the heavens were self-correcting, so that the whole solar system appeared to be mechanically stable. He showed that the universe was really a great self-regulating machine and the whole solar system could continue on its existing plan for an immense period of time. This was a long step forward from the Newtonian uncertainties in this respect . . . Laplace also offered a brilliant explanation of the secular inequalities of the mean motion of the moon about the earth — a problem which Euler and Lagrange had failed to solve . . . He also investigated the theory of the tides and calculated from them the mass of the moon.”—*Printing & the Mind of Man* 252.

A magnificent set, preserved in two boxes. Our set has the first state of the titles of Vols. I and II and all the supplements (the supplement in Vol. V, issued in 1827, is on regular paper).

¶ Dibner, *Heralds of Science*, 14. D.S.B., XV, pp. 273-403. *En Français dans le Texte* 201. Horblit 63. Roberts & Trent, *Bibliotheca Mechanica*, pp. 197-98. Sparrow, *Milestones of Science*, 125.



From the Library of the Only “Doppelkaiser” in History

58. LAPOSTOLLE, ALEXANDRE FERDINAND LÉONCE. *Traité des Parafoudres et des Paragrêles en Cordes de Paille, précédé d'une Météorologie électrique, présentée sous un nouveau Jour, et terminé par l'Analyse de la Bouteille de Leyde*. One long folding lithographed plate & one folding printed table. 2 pl., v, [3] (including the leaf of “explication de la planche”), 320 pp., one leaf of errata.

8vo, cont. red morocco, sides gilt, with arms in gilt of Francis I, the first Emperor of Austria, on each cover, flat spine gilt, a.e.g. Amiens: Caron-Vitet, 1820. \$4500.00

First edition and a lovely copy from the library of Francis I (1768-1835), the final Holy Roman Emperor and the first Emperor of Austria, with his arms in gilt on the covers. Lapostolle was an apothecary at Amiens and studied under Cadet de Vaux. Taking Franklin's researches as his starting point, he gives first a general survey of the current state of electrical science, and then a description of his straw-rope lightning rods, which could be used both on buildings and adapted for use in fields to prevent the destruction of crops by hailstorms.

This fascinating work contains one of the stranger illustrations in the history of early electrical books: it is a long lithographed plate depicting the construction of the rods and a view of a village and sur-

rounding fields equipped with them. It very much resembles a modern wind farm.

A very fine and handsome copy with half-title. With the copyright notice on verso of title signed by the author. Bookplates of Fernand J. Heitz and Jean-Claude de Rocha Carneiro.

¶ Wheeler Gift Cat. 771.

Three Beautifully Handcolored Monographs by Ledermüller

59. LEDERMUELLER, MARTIN FROBENIUS. *Physikalisch-mikroskopische Zergliederung und Vorstellung einer sehr kleinen Winterknospe der Hippocastani seu Esculi, oder des wilden Rosskastanienbaums*. Woodcut printer's device on title, a fine & large engraved headpiece with arms, & three finely handcolored engraved plates. 2 pl., 8 pp. Folio, cont. speckled sheep (minor defect at foot of upper joint), spine gilt, contrasting leather lettering piece on spine. Nuremberg: A.W. Winterschmidt, 1764.

[BOUND WITH]:

—. *Physikalisch-Mikroskopische Zergliederung des Kornes oder Rokens; nebst der Beobachtung seines Wachstums*. Woodcut printer's device on title, a fine & large engraved headpiece, & three finely handcolored engraved plates. 2 pl., 8 pp. Folio. Nuremberg: A.W. Winterschmidt, 1764.

[BOUND WITH]:

—. *Phisicalisch-Mikroskopische Vorstellung und Zergliederung einer angeblichen Rokenpflanze, das Staudten, Stek- oder Gerstenkorn insgemein genannt. Wobey die Embryonen der noch zarten und kaum 4. Wochen alten Aehre, mit ihrem Keim, dann Blüht und Befruchtungs-Theilen, ingleichen die Aehnlichkeit des Roken und Gerstengrases mit seiner Blüht und Frucht, sowohl natürlich als vergrößert sich abgebildet befinden ...* Woodcut printer's device on title & three finely handcolored engraved plates. 1 pl., 12 pp. Folio. Nuremberg: A.L. Wirsing, 1765. \$9500.00

First editions of these beautifully illustrated monographs on the horse chestnut, the rye plant, and the barley plant, each with finely handcolored engraved plates.



Ledermüller (1719-69), a polymath, displayed a discerning interest in the art and science of natural history and especially in the newer science of microscopy which made it possible to study the characteristics of a great variety of specimens. The fine engravings, made by Winterschmidt in the first two volumes and Wirsing in the third, from the author's drawings, depict the plants, their seeds, flowering stages, and microscopic cross-section views.

Fine copy. Bound-in is the first part of Johann Christian Daniel Schreber's *Beschreibung der Gräser nebst ihren Abbildungen nach der Natur* (Leipzig: 1769) with twenty finely engraved handcolored plates of various grasses along with a fragment of the second part.

¶ Pritzel 5144, 5143, & 5146.



First Exhaustive Treatise on the Aurora Borealis

60. MAIRAN, JEAN JACQUES D'ORTOUS DE. *Traité Physique et Historique de l'Aurore Boréale ... Revûe, & augmentée de plusieurs Éclaircissemens*. Woodcut device on title & 17 folding engraved plates. 6 p.l., 570, xxii pp. Large 4to, cont. mottled sheep (a few minor scuff marks), spine nicely gilt, contrasting vellum lettering piece on spine. Paris: de l'Imprimerie Royale, 1754. \$3000.00

Third edition, greatly enlarged, of the first exhaustive treatise on the aurora borealis. Mairan attributed the phenomenon to an extension of the sun's atmosphere, which at times enveloped the earth and blended with our atmosphere. "Inquiry into the history and physics of the aurora borealis; the chapter on the relation between the aurora and the magnetic declination is of special interest."—Wheeler Gift Cat. 382. There are many references to Descartes, Newton, Cassini, and Euler.

Mairan (1678-1771), while basically a Cartesian, did incorporate some Newtonian ideas in his theories. He was secretary of the Paris Academy of Sciences and belonged to the Royal Societies of London, Edinburgh, and Uppsala, the St. Petersburg Academy, and the Institute of Bologna.

Unusually fine copy. Bookplate of Pierre Sciclounoff, the prominent Geneva lawyer and book collector.

¶ D.S.B., IX, pp. 33-34. See E. Newton Harvey's *A History of Luminescence*, pp. 258-59 for an excellent discussion.

*Large Paper Copy of Bentley's Great Edition of Manilius;
The Lamoignon Copy in Red Morocco*

61. MANILIUS, MARCUS. *Astronomicon*. Ex Recensione et cum Notis Richardi Bentleyi. Finely engraved port. of Bentley by Vertue (a little spotted in margins), a large folding engraved plate depicting the Farnese globe, & a fine engraved headpiece. xvi, 307, [5] pp. Large 4to, cont. French red morocco, double gilt fillet round sides, flat spine gilt, with the characteristic Lamoignon green morocco labels on spine, a.e.g. London: Typis H. Woodfall, sumptibus P. & I. Vaillant, 1739. \$3000.00

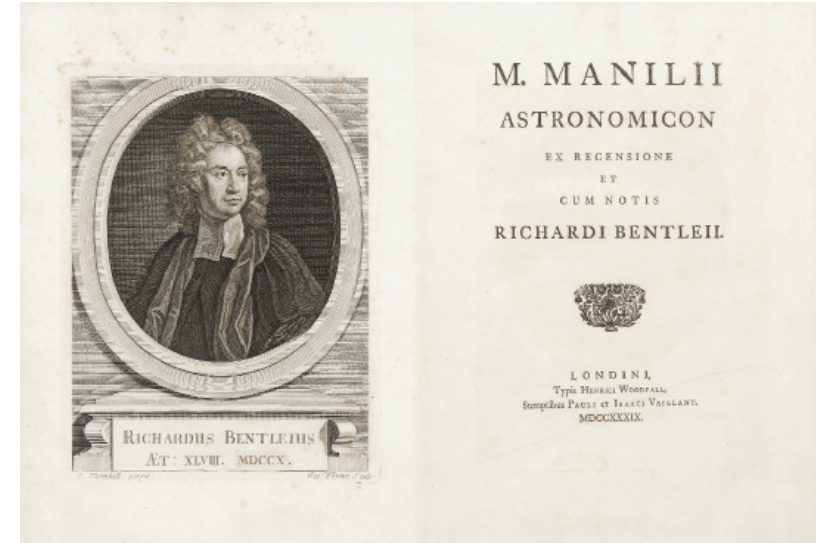
First edition of Bentley's commentary, with the text, of Manilius'



Astronomicon, the earliest extant treatise on astronomy of antiquity. Bentley's commentary, his last work, is recognized as the greatest on this text and is one of the most celebrated classical editions of the 18th century. A.E. Housman, a great admirer of Bentley's genius, thought this edition "a greater work than either the Horace or the Phalaris."

PROVENANCE: From the library of Chrétien François de Lamoignon (1735-89), with his "Bibliotheca Lamoniana" booklabel on the front paste-down endpaper, crowned "L" stamped on p. 3, and characteristic date and morocco labels on spine. The Lamoignon library was due to be sold at auction in the Hague in 1791, but was bought en bloc by Thomas Payne before the sale. This book was later owned by the Hon. George Agar Ellis (1797-1833); his booklabel is on the front pastedown. Ellis was one of the MPs who pressed for the grant which bought the Angerstein collection of pictures for the nation (thus founding the National Gallery), and was himself a very considerable collector of books and pictures. He was created Baron Dover just two years before his early death at the age of only 36.

A very fine and attractive copy. The head and tail of the spine has been almost invisibly repaired by James Brockman. Many examples lack either the portrait or the plate (or both) which are present in this copy.



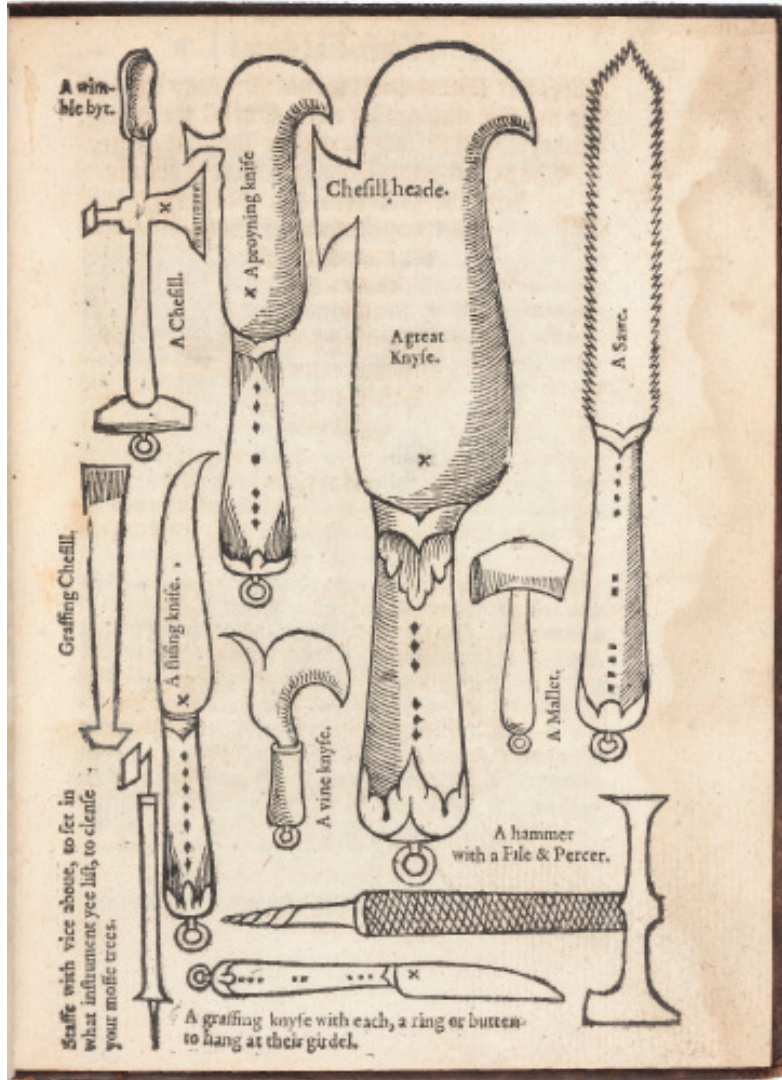
¶ Bartholomew & Clark, Bentley, 183. Lowndes, p. 1464. Brunet, III, 1369. None of these bibliographies distinguish large paper copies and, indeed, the superior copies are not so large as instantly to mark themselves out, or astonish the beholder with their margins. However, the measurements given by ESTC are conclusive: ordinary paper copies are 27 cm. high, with a gutter of 2.3 cm., and large paper copies are 29 cm. high, with a gutter of 4.5 cm. In this copy, finely bound for the Lamoignon family, and thus (naturally) trimmed down a little, the leaves are still 28.8 cm. tall, and the gutter clearly measures over 4 cm.

The First English Gardening Manual

62. MASCALL, LEONARD. *A Booke of the Arte and maner how to Plant and Graffe all sorts of Trees, how to set Stones & sow Pepins, to make wyld trees to graffe on, as also remedies and medicines. With divers other newe practises, by one of the Abbey of Saint Vincent in Fraunce . . . wyth an addition in the ende of this book, of certayne Dutch practises, set forth and Englished by . . .* Woodcut vignette on title, one full-page woodcut, & several smaller woodcuts in the text. Black letter. 11 pl., 88, [10] pp. Small 4to, late 18th cent. calf (upper joint cracked but strong, small paper flaw on

blank outer margin of title, fore-edges faintly dampstained), spine lettered in gilt. London: J. Wight, 1575. \$15,000.00

The third edition of the first English gardening manual; the first edition appeared in 1569 and all 16th-century printings are rather rare on the market. Mascall took most of his text from David Brossard's *Art*



et Manière de Semer et Faire Pépinières de Sauvageaux (Paris: 1552) with certain Dutch practices added. "Brossard, a Benedictine monk at the abbey of Saint-Vincent near Le Mans, who lived during the second half of the sixteenth century, was a skilful horticulturist . . . The English translation proved extremely popular and it appeared in many editions. Comparatively little is known of the translator, Leonard Mascall (d. 1589), who was the owner of a mansion called Plumpton Place, a few miles northwest of Lewes, in Sussex. He became clerk of the kitchen in the household of Matthew Park, Archbishop of Canterbury. It is said that in 1525 Mascall introduced pippin apples into England and established an orchard at his home in Sussex."—Henrey, I, pp. 63-64 & no. 17 in the bibliography.

A very good copy, preserved in a box. Head of spine a bit chipped and a few headlines just shaved.

A Large & Thick Paper Copy

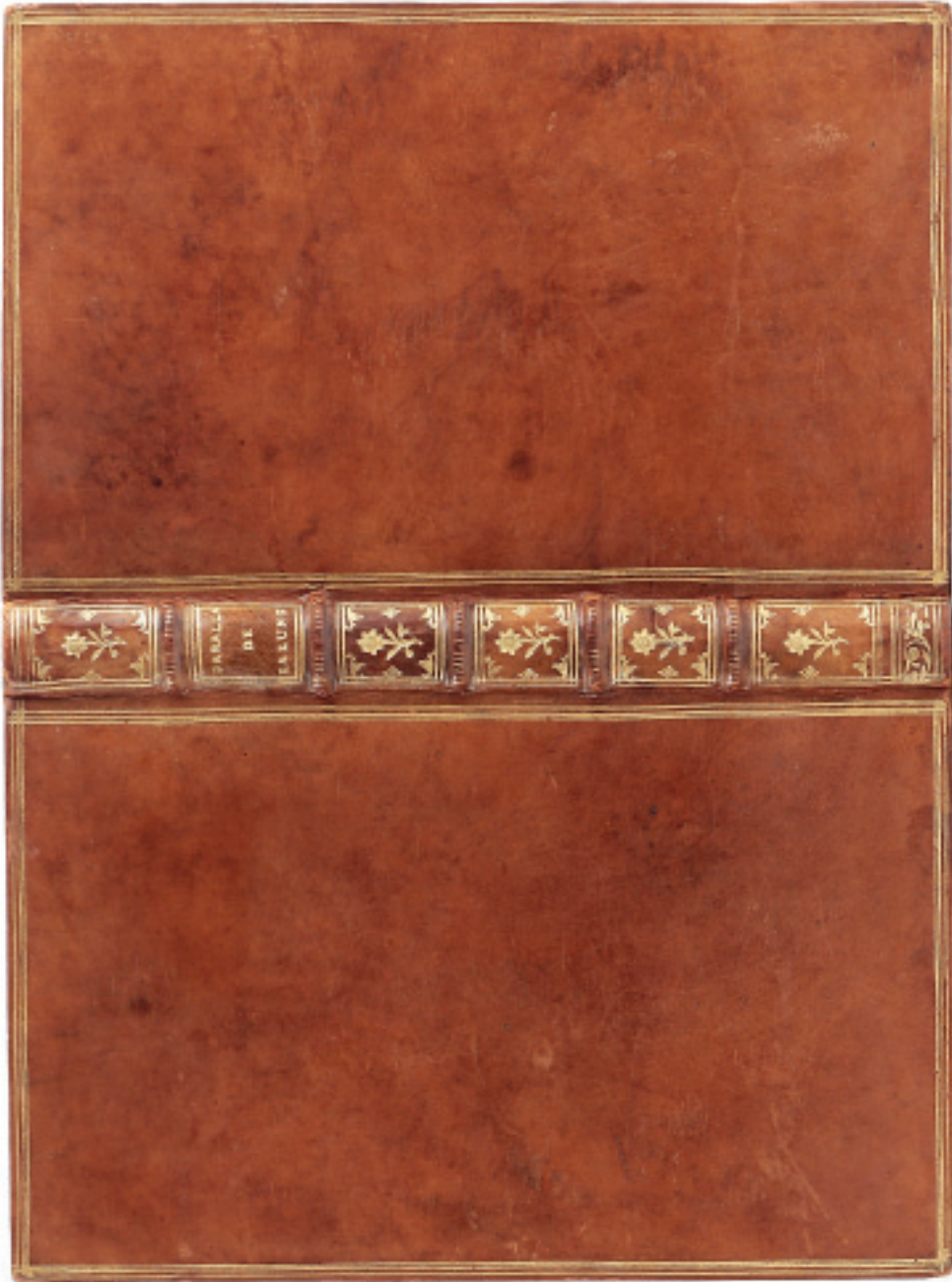
63. MAUPERTUIS, PIERRE LOUIS MOREAU DE. *Discours sur la Parallaxe de la Lune, pour perfectionner la Théorie de la Lune et celle de la Terre*. Numerous woodcut diagrams in the text. xxxii, 133 pp. 8vo, cont. blond calf (very short crack at foot of upper joint), triple gilt fillet round sides, spine nicely gilt, contrasting morocco lettering piece on spine, a.e.g. Paris: Imprimerie Royale, 1741. \$9500.00

First edition and a fine copy, printed on large and thick paper. This is a further work by Maupertuis to determine the shape of the earth through the accurate measurement of a degree of the meridian, using the results of the French expedition to Lapland in 1735. He argued "that a theory of the moon's motion, based on parallax observations, was integrally tied to accurate knowledge of the shape of the earth."—Terrall, *The Man who Flattened the Earth. Maupertuis and the Sciences in the Enlightenment*, p. 168.

Maupertuis (1698-1759), was the foremost proponent of the Newtonian movement in France.

Fine copy, preserved in a box. Unidentified ownership inscription on title: "D. Cht d. Ves."

¶ D.S.B., IX, pp. 186-89. Not in Babson or Wallis. [SEE ILLUSTRATION OVERLEAF]



An Early Ecological Classic

64. MEYER, GEORG FRIEDRICH WILHELM. *Beiträge zur chorographischen Kenntnis des Flussgebiets der Innerste in den Fürstenthümern Grubenhagen und Hildesheim mit besonderer Rücksicht auf die Veränderungen, die durch diesen Strom in der Beschaffenheit des Bodens und in der Vegetation bewirkt worden sind.* Two fine & large folding lithographed plates (one with cont. coloring) & two folding printed tables. xxix, 368 pp., one leaf of errata; x, 368 pp., one leaf of

errata. Two vols. 8vo, cont. fine blue calf bound in the Romantic style, sides gilt, flat spines gilt, a.e.g. Göttingen: 1822. \$4500.00

First edition and a beautifully bound set of this ecological classic. Meyer (1782-1856), was a German botanist in Göttingen and physiographer of the Kingdom of Hanover. The present work is "one of the earliest phytosociological and ecological treatises."—Stafleu & Cowan 5931.

The large handcolored lithographed plate depicts soil profiles from various regions of Germany.

Fine set with the ticket on each rear paste-down endpaper: "Gebunden bei G.W. Hennies in Hannover."

*"Surpasses Anything Done by Any Other Mathematician
Except P.S. Laplace"*

65. MOIVRE, ABRAHAM DE. *The Doctrine of Chances: or, A Method of Calculating the Probability of Events in Play*. Engraved vignette on title and engraved head- & tailpieces. 2 p.l., xiv, 175 pp. Large 4to, cont. mottled calf (expertly rebaked & recorned by Aquarius), spine richly gilt, red morocco lettering piece on spine. London: W. Pearson for the Author, 1718. \$12,500.00

First edition and a fine copy of this classic on the theory of probability; it is dedicated to Isaac Newton who was a personal friend of the author. "His work on the theory of probability surpasses anything done by any other mathematician except P.S. Laplace. His principal contributions are his investigations respecting the Duration of Play, his Theory of Recurring Series, and his extension of the value of Daniel Bernoulli's theorem by the aid of Stirling's theorem."—Cajori, *A History of Mathematics*, p. 230.

Nice copy.

¶ Babson 181—"He was among the intimate friends of Newton, to whom this book is dedicated. It is the second book devoted entirely to the theory of probability and a classic on the subject." Stigler, *The History of Statistics*, pp. 70-85. Tomash M 114.

Influential on the Continent

66. NEWTON, ISAAC. *Optice: sive de Reflexionibus, Refractionibus, Inflexionibus & Coloribus Lucis, Libri Tres . . .* Latine reddidit Samuel Clarke . . . Twelve folding engraved plates. [1] leaf of ads, 1 p.l., xi, [1], 415 pp, [1] p. of ads. 8vo, 18th-cent. speckled calf (carefully rebaked by Aquarius), double gilt fillet round sides, spine richly gilt, red morocco lettering piece on spine. London: G. & J. Innys, 1719. \$5750.00

Second edition in Latin and an influential book on the Continent. Newton published this edition in Latin to reach the Continental audience which had been little influenced by his optical experiments. The edition served its purpose and caused numerous demonstrations of his theory of colors to be performed in Paris. Newton's optical theories began to spread significantly outside Great Britain as a result of this book. See Westfall's *Never at Rest*, pp. 794-95.

A very good copy with the signature, dated 14 Mar. 1822, of Stephen Peter Rigaud (1774-1839), historian of science, astronomer, and Savilian professor of geometry at Oxford. Stamp of the Radcliffe Observatory on verso of title. With the bookplate of William A. Cole, the distinguished collector and bibliographer of chemistry.

¶ Babson 138.

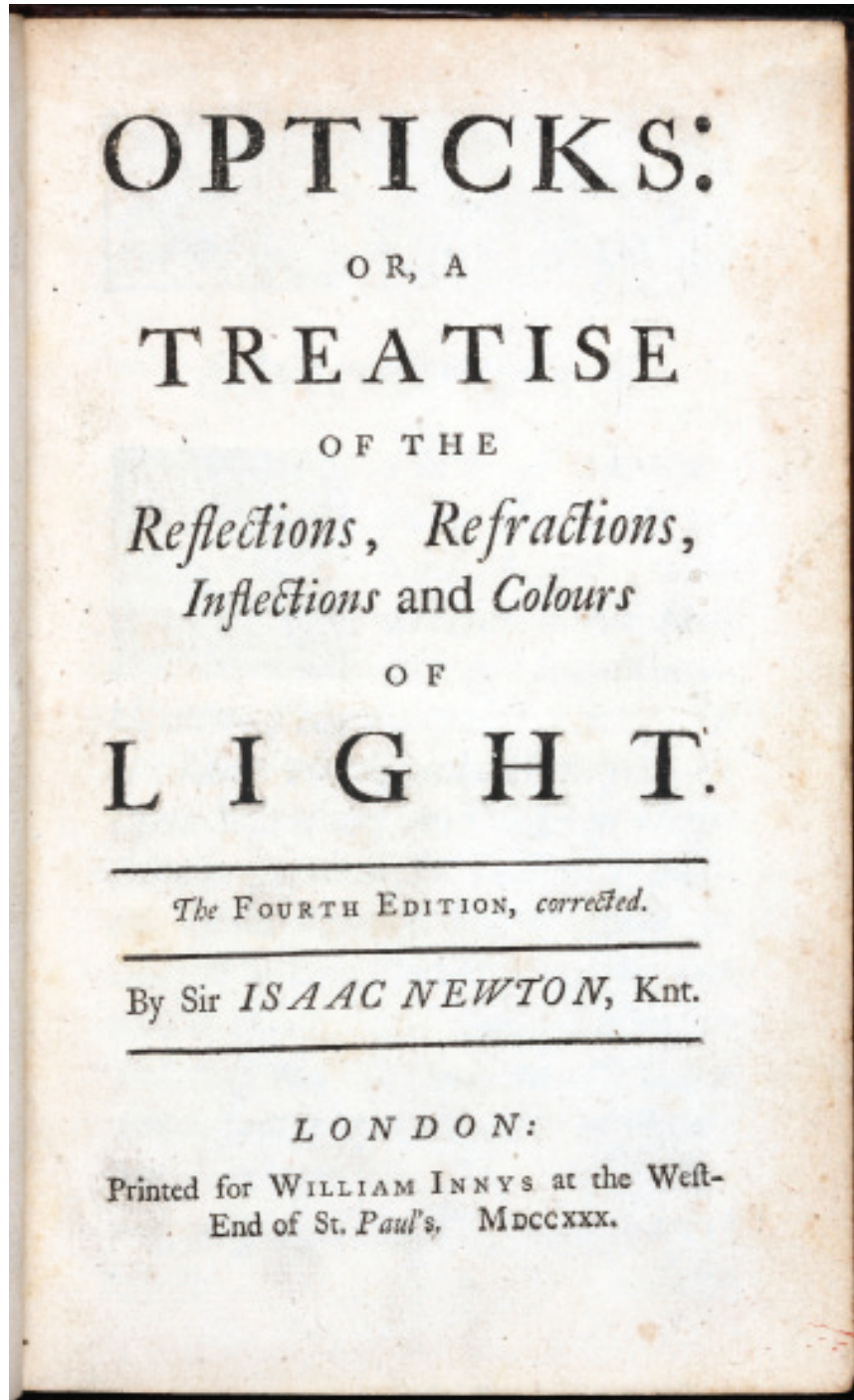
The Definitive Edition

67. NEWTON, ISAAC. *Opticks: or, a Treatise of the Reflections, Refractions, Inflexions and Colours of Light*. Twelve folding engraved plates. 4 p.l., 382 pp, one leaf of ads. 8vo, cont. calf (small portions of ends of spine & one corner carefully repaired), spine gilt, red morocco lettering piece on spine. London: W. Innys, 1730. \$7500.00

Fourth edition, and the final edition to be revised by Newton, of this great classic. It contains the complete set of 31 Queries which reveal some of Newton's most influential and speculative writing.

Fine crisp copy. Contemporary armorial bookplate of Edward Powell.

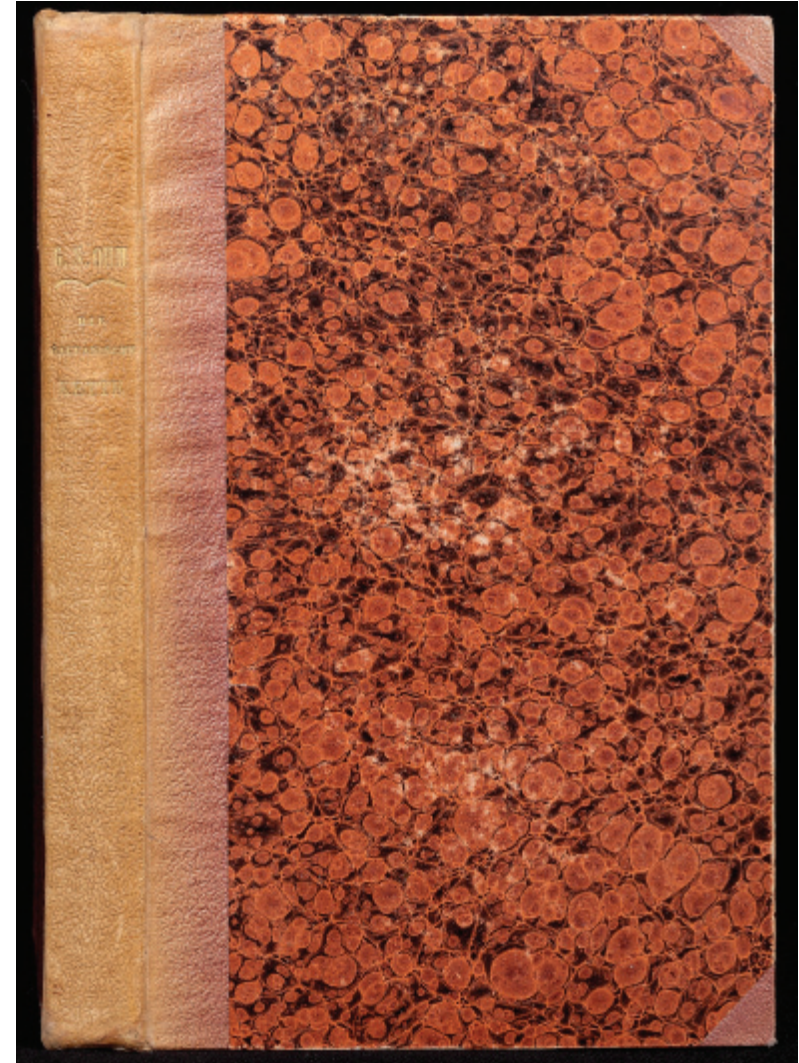
¶ Babson 136. [SEE ILLUSTRATION OVERLEAF]



ITEM 67

The Fundamental Law of Electric Circuits

68. OHM, GEORG SIMON. *Die galvanische Kette, mathematisch bearbeitet*. One folding engraved plate. iv, 245, [1] pp. 8vo, cont. half-cloth & marbled boards (ends of spine almost invisibly repaired), spine gilt. Berlin: T.H. Riemann, 1827. \$29,500.00



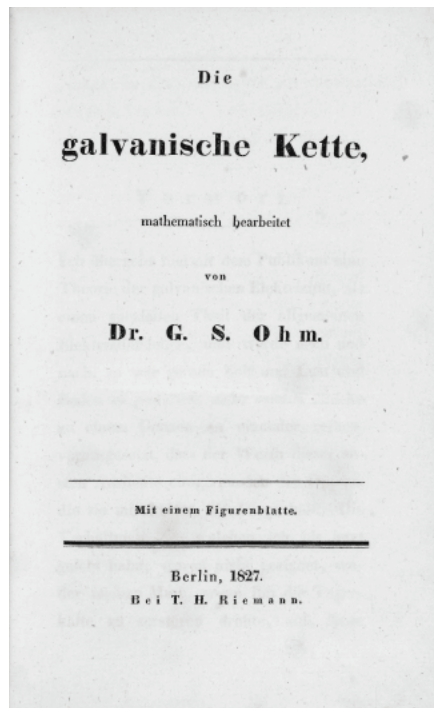
First edition of this pioneering work which contains one of the most important discoveries in electrical science — “Ohm’s law” — the basis of the present system of electrical measurement. Ohm discovered the unit of resistance in an electrical current.

“In the field of electrical measurement Ohm was the great pioneer ... Ohm’s great contribution — ‘The Galvanic Chain Mathematically Calculated’ — was to measure the rate of current flow and the effects of resistance on the current. ‘Ohm’s law’ — that the resistance of a given conductor is a constant independent of the voltage applied or the current flowing — was arrived at theoretically by analogy with Fourier’s heat measurements (1800-14).” — *Printing & the Mind of Man* 289.

It is known that the publisher was forced to pulp most of the copies of this book due to lack of sales.

A very fine and fresh copy with the bookplate of Alfred Schmid.

¶ Dibner, *Heralds of Science*, 63. Horblit 81. Sparrow, *Milestones of Science*, 154. Wheeler Gift Cat. 835.



Commandino’s Mathematical Renaissance Completed

69. PAPPUS, OF ALEXANDRIA. *Mathematicae Collectiones*. Ed. by Federico Commandino. Numerous woodcut illus. & diagrams in the text. 4 p.l. (the last a blank), 334 (i.e., 332) pp. Folio, cont. limp vellum (title a bit soiled, last two leaves with some light dampstaining), ties gone. Pesaro: H. Concordia, 1588. \$25,000.00

First edition and a very fine and fresh copy of this uncommon book; this edition, providing the complete extant text, was the final work to be edited by Commandino and completes his life’s work of reviving Renaissance mathematics by making available the best mathematical writings of antiquity.

“In the silver age of Greek mathematics Pappus stands out as an accomplished and versatile geometer. His treatise known as the *Synagoge* or *Collection* is a chief, and sometimes the only, source for our knowledge of his predecessors’ achievements. The *Collection* is in eight books, perhaps originally in twelve, of which the first and part of the second are missing...

“Book VII is the most fascinating in the whole *Collection*, not merely by its intrinsic interest and by what it preserves of earlier writers but by its influence on modern mathematics.” — *D.S.B.*, X, p. 293-95 — (and see pp. 294-98 for a full discussion of the contents).

This concerns, in a passage on Apollonius' *Conics*, the attempt to conceive of the product of more than three straight lines as geometrical entities, known as "Pappus' Problem." Descartes devoted a major part of his own *Géométrie* to this, and solved it by the use of algebraic notation. "Pappus' problem thus inspired the new method of analytical geometry that has proved such a powerful tool in subsequent centuries. In his *Principia* (1687) Newton also found inspiration in Pappus; he proved in a purely geometrical manner that the locus with respect to four lines is a conic section, which may degenerate into a circle."—D.S.B., X, p. 296.

Topics discussed in the other books include astronomy and mechanics.

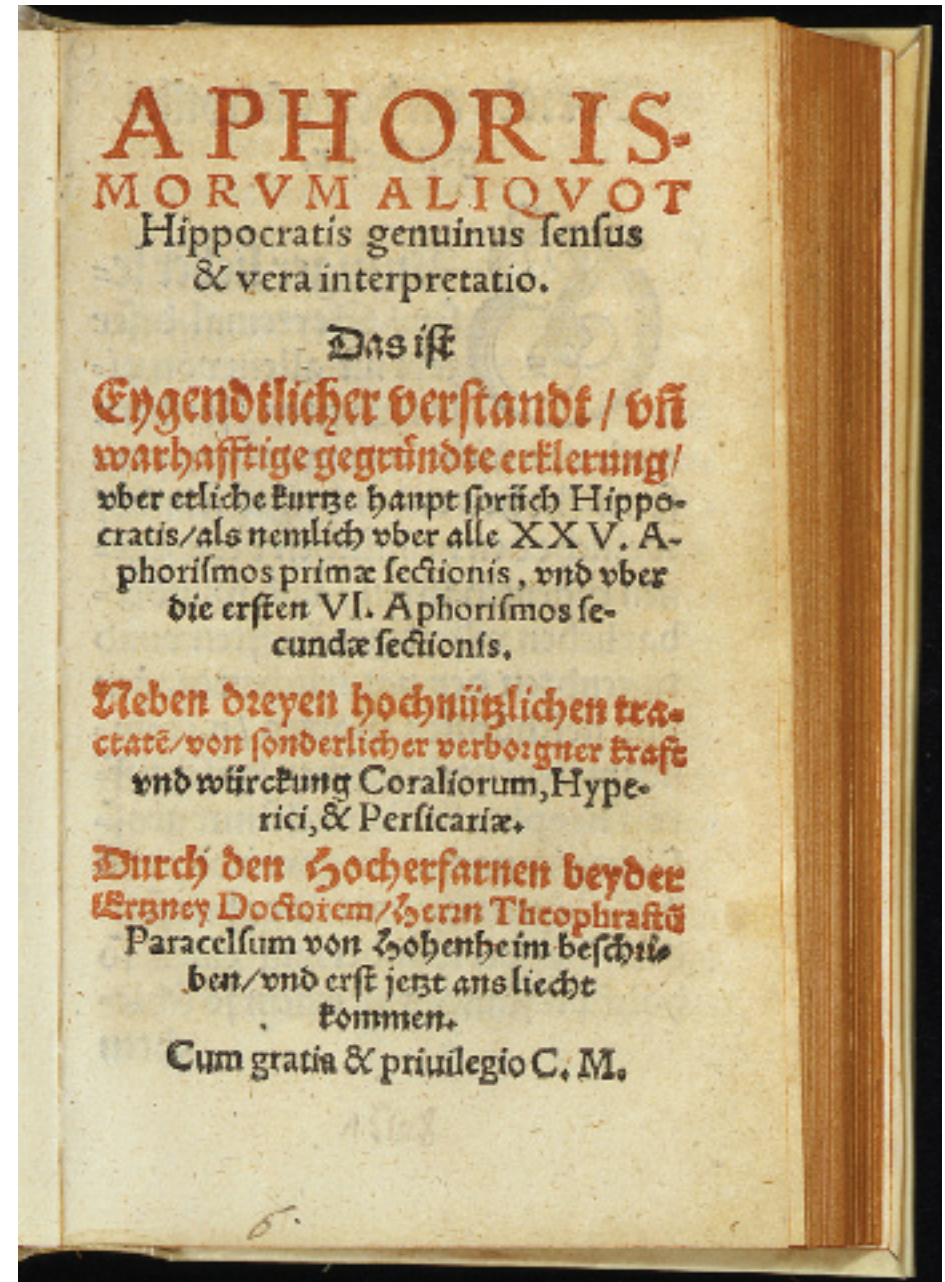
A very fine copy preserved in a green morocco-backed box.

¶ Rose, *The Italian Renaissance of Mathematics*, p. 214—"Within 25 years of Commandino's death the first step in founding the mechanics of the seventeenth century was to be taken by Galileo when, in criticising the inclined plane theorem of Pappus, the Tuscan mathematician adumbrated the notion of inertia. This step was not taken in an intellectual vacuum, but represents the culmination of the mathematical renaissance that had been achieved by the Restauratores."—(& see the whole of Chap. 9 for Commandino and this book). Smith, *History of Mathematics*, I, pp. 136-37.

St. John's Worts

70. PARACELSUS. *Aphorismorum aliquot Hippocratis genuinus sensus & vera interpretatio. Das ist Eygentlicher verstandt, und warhafftige gegriindte erklerung, uber etliche kurtze hauptsprich Hippocratis, als nemlich uber alle XXV. Aphorismos primae sectionis, und uber die ersten VI. Aphorismos secundae sectionis. Neben dreyen hochnützlichen tractaten, von sonderlicher verborgner kraft und würckung Coraliorum, Hyperici, & Persicariae.*
Title printed in red & black. 103 unnumbered leaves, one blank leaf. Small 8vo, modern vellum over boards. [Colophon]: Augsburg: M. Franck for G. Willer, [1568]. \$9500.00

First edition of a Paracelsian rarity. Paracelsus' commentaries on the first five of Hippocrates' *Aphorisms* had been published the previous year in Cologne. The present edition comprises his commentaries on



all 25 aphorisms of the first section, and on six of the second. They are followed by treatises on the medical uses of corals and the herbs *hypericum* (St. John's worts) and *persicaria* (peachwort). A slightly different version of the section on hypericum was published in the same year by Adam von Bodenstein (Sudhoff 95).

In his preface the anonymous editor gives what he calls an impartial discussion of Paracelsian ideas. He points out that Paracelsus' rude and aggressive style of writing and his personal conduct might have been regrettable, but now, 33 years after his death, the controversy should moderate since there is not such a chasm between the old medical school (Hippocrates and Galen) and iatrochemistry.

Fine copy.

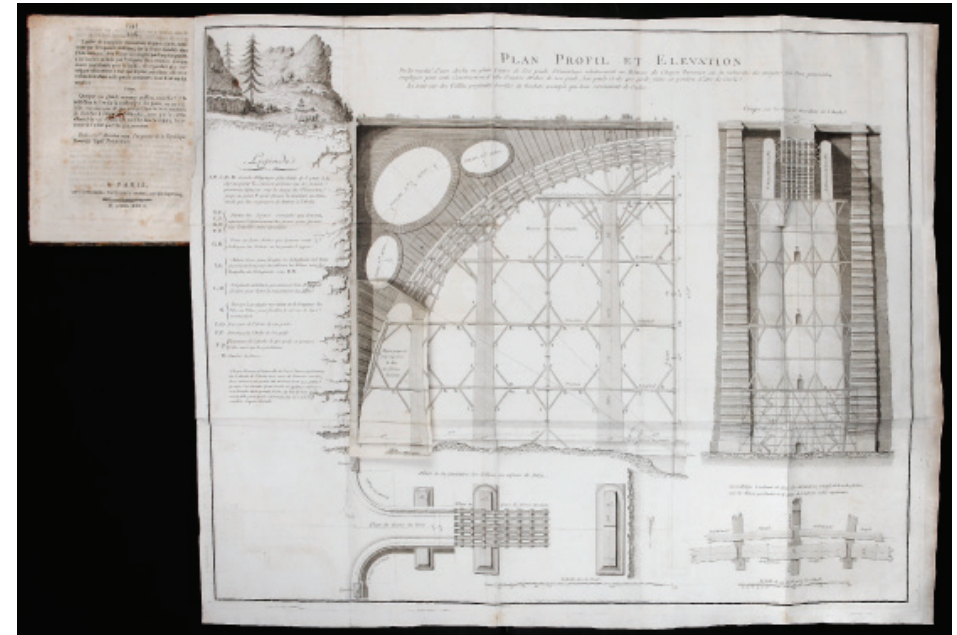
¶ Sudhoff 100.

The Perfection of the Classical Stone Arch Bridge

71. PERRONET, JEAN RODOLPHE. *Mémoire sur la recherche des moyens que l'on pourroit employer pour construire de grandes Arches de pierre de deux cents, trois cents, quatre cents, & jusqu'à cinq cents pieds d'ouverture, qui seroient destinées à franchir de profondes vallées bordées de rochers escarpés*. One large folding engraved plate. 1 pl., 44 pp. Large 4to, cont. half-sheep & marbled boards (minor foxing). Paris: de l'Imprimerie Nationale, 1793. \$4250.00

First edition. "This *Mémoire* on his monumental concept of masonry bridges with spans of 200 to 500 feet is the rarest of all Perronet's works. Inspired by some of the great spans of the past (Verona 150ft or Pontypridd 178ft) he asks why, 'dans un siècle ou les sciences & les arts ont fait de si grands progrès, ne pourroit-on pas se flatter d'en établir solidement qui ayent encore plus d'ouverture?' . . .

"Perronet is fascinated by the challenge of building such huge spans, particularly that of 500ft, and three main problems are considered. The first of these is the choice of stone and here he draws on his considerable knowledge, derived from experiments carried out on the strength of stone from quarries all over France, as well as citing his experience during the construction of the Neuilly bridge. The other two problems concern the design of centring for such a gigantic arch and



the method of dismantling it after the keystone has been put in place. Here, too, he brings his unparalleled experience to bear in his design but cites the theoretical works of Parent, Buffon, Musschenbroek and Couplet to prove its feasibility . . .

"The spandrels of his arch were to have been pierced by three voids, reminiscent of the Pontypridd bridge, and the design and construction of these are discussed, together with the retaining walls, the fill of the haunches behind the spandrel walls etc. Altogether a remarkable work (illustrated with a single magnificent plate)." —Elton, *Cat.* 5, 42.

Perronet (1708-94), was the founding director of the *École des Ponts et Chaussées* and developed the classical stone arch bridge to its ultimate perfection.

The fine and very large plate depicts the projected 500 foot bridge and has an engraved flap pasted over a portion of the image to show before-and-after effects.

Very good copy.

¶ D.S.B., X, pp. 527-28. Picon, *French Architects and Engineers in the Age of Enlightenment*, pp. 167-68.

A Classic of English Mining

72. PETTUS, SIR JOHN. *Fodinae Regales. Or the History, Laws and Places of the Chief Mines and Mineral Works in England, Wales, and the English Pale in Ireland. As also of the Mint and Mony. With a Clavis Explaining some difficult Words relating to Mines, &c.* Finely engraved frontis. port, two engraved plates, & two engravings in the text. Title within ruled borders. 7 p.l., 108, [7] pp. Small folio, cont. blind-ruled calf (neat repairs to ends of spine, faint dampstaining towards end), spine ruled in gilt, red morocco label on spine. London: Printed by H.L. & R.B. for T. Basset, 1670. \$3750.00

First edition and a fine and large copy of the standard 17th-century English work on mining, valuable for giving an account of the state of mining in England during the period. The glossary at the end is the first attempt in English at a dictionary of mining terms. The fine portrait, here in the second state (signed "W. Sherwin sculpsit"), shows Pettus aged 57.

Pettus (1613-90), was the deputy governor of the royal mines in England and Wales.

¶ Duveen, p. 468. Hoover 634.

"The Dawn of Experimental Research in Cancer"—Rayen

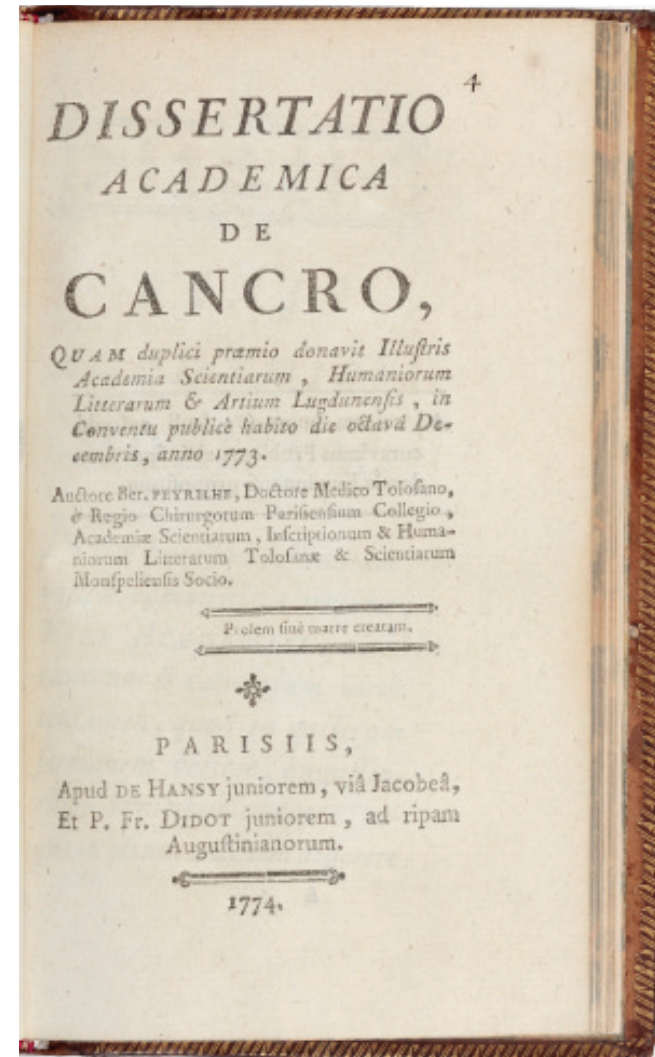
73. PEYRILHE, BERNARD. *Dissertatio Academica de Cancro, quam duplici proemio donavit illustris Academia Scientiarum, Humaniorum Litterarum & Artium Lugdunensis, in Conventu publicè habito die octava Decembris, anno 1773.* 2 p.l., 100 pp. Small 8vo, cont. polished calf (a little rubbed, carefully rebacked by Trevor Lloyd), spine gilt, red morocco lettering piece on spine. Paris: Hansy Jr. & P.Fr. Didot Jr., 1774. \$13,500.00

First edition and a book of very considerable rarity. WorldCat lists only two copies in American libraries. Peyrilhe (1735-1804), "was the first to attempt an experimental study to determine the nature of cancer. He injected fluid from human mammary cancer into a dog ... Peyrilhe recognized for the first time the essential unity of the many different forms of cancer."—Garrison-Morton 2608. He advocated sur-

gical treatment in mammary cancer, removal of the axillary nodes and even of the pectoralis major.

Fine copy with the bookplate of "Petri Vidal, Doct. Med. Monsp." A French translation appeared two years later.

¶ Raven, *The Theory and Practice of Oncology*, p. 10—"The dawn of experimental research in cancer."



The Beginning of Modern Psychiatry

74. PINEL, PHILIPPE. *Traité Médico-Philosophique sur l'Aliénation mentale, ou la Manie*. Two engraved plates & one folding printed table. lvi, 318 pp. 8vo, fine cont. marbled sheep, spine nicely gilt, red morocco lettering piece on spine. Paris: Richard et al., An IX [1801].

\$3750.00

First edition and a lovely copy of an important book. This work, which “presented the textual foundation of psychiatry, stands as the first great publication of the nineteenth century in clinical medicine, and at the same time as one of the paradigmatic expressions of the medical and scientific revolution that was taking place in the late eighteenth and early nineteenth centuries.”—Grolier Club, *One Hundred Books Famous in Medicine*, 54.

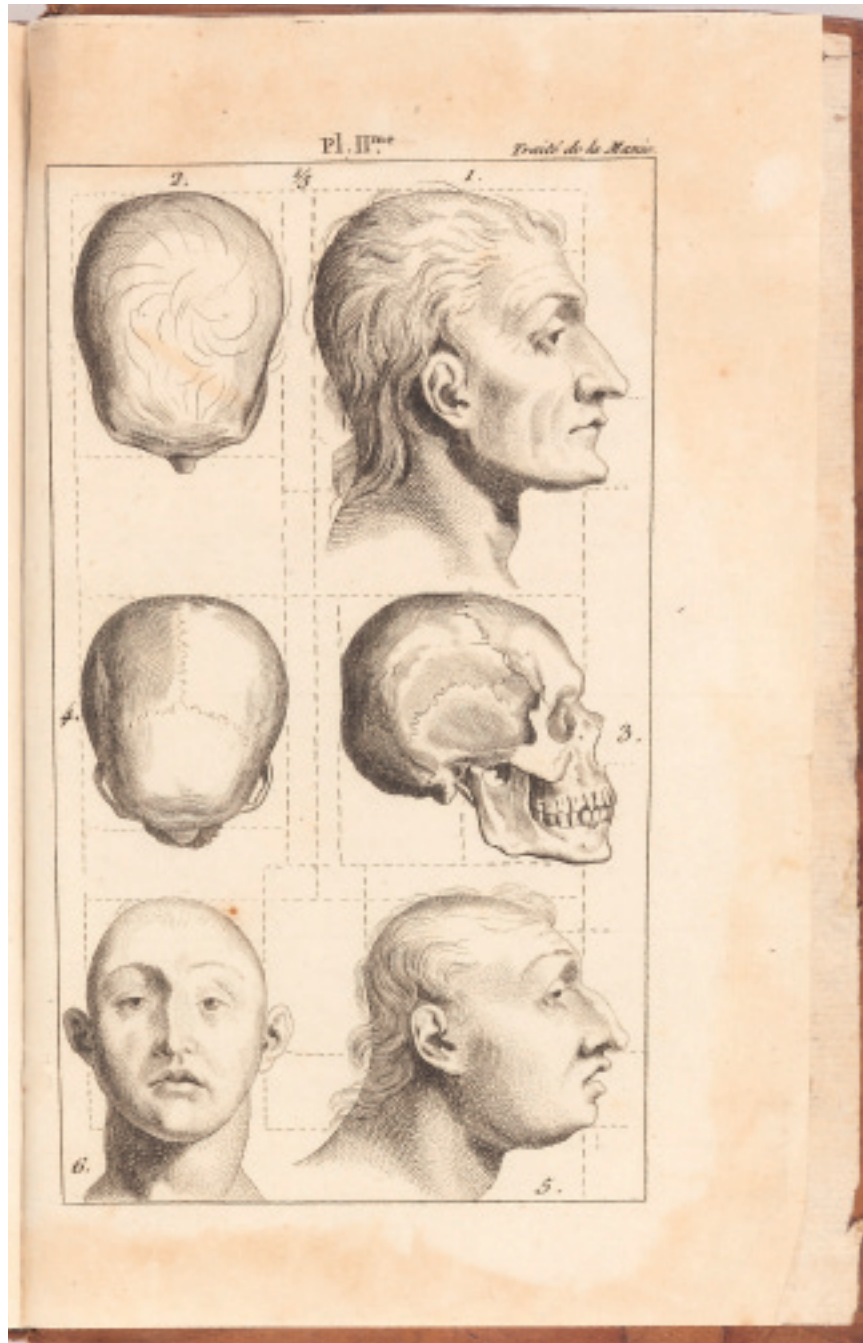
An unusually fine copy. The folding table lists pertinent data about patients he had cured.

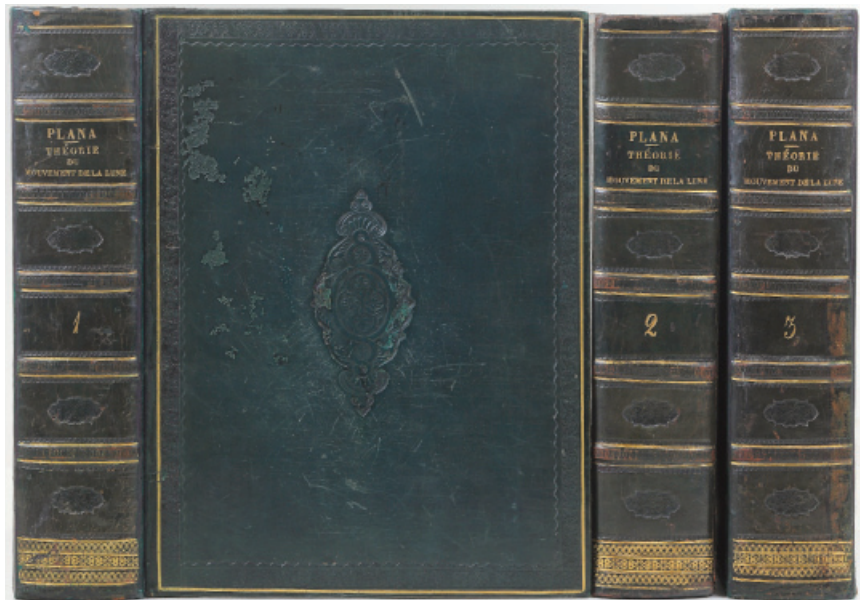
¶ *En Français dans le Texte* 203. Garrison-Morton 4922—“Pinel was among the first to treat the insane humanely; he dispensed with chains and placed his patients under the care of specially selected physicians. Garrison considered the above book one of the foremost medical classics.” Lefanu, *Notable Medical Books from the Lilly Library*, p. 155.

“Of Notable Scientific and Philosophical Value”

75. PLANA, GIOVANNI. *Théorie du Mouvement de la Lune*. Three vols. Large thick 4to, cont. green calf (joints neatly repaired), single gilt fillet round sides, sides stamped in blind with blind arabesque in center of each cover, spines gilt. Torino: Imprimerie Royale, 1832. \$9500.00

First edition, Plana's own set with manuscript notes tipped-in, of the author's most important work. Plana (1781-1864), who studied under Lagrange and was a close friend of Stendhal, was professor of astronomy at the University of Torino and director of the astronomical observatory. “Plana's scientific contributions cover a wide range: mathematical analysis (Eulerian integrals, elliptical functions), mathematical physics (the cooling of the sphere, electrostatic induction), geodesy (the extension of an arc of latitude from Austria to France), and astronomy (particularly the theory of lunar movement) . . . The results





were presented in the three-volume *Théorie du mouvement de la lune* . . . The work was not widely read and received criticism that was not always unfounded; but it is of notable scientific and philosophical value, and as such it was well received.”—D.S.B., XI, pp. 6-7.

The first volume, in particular, has a number of scientific notes and scraps of notes in Plana’s hand tipped-in or laid-in.

Fine set and rather uncommon.

*The First Translation of the Almagest from the Original
Greek;
The Riccati Family Copy*

76. PTOLEMAEUS, CLAUDIUS. *Almagestum seu Magnae Constructionis Mathematicae opus plane divinum Latina donatum lingua ab Georgio Trapezuntio* . . . per Luca Gauricum . . . recognitum . . . Printer’s device in red on title & numerous woodcut diagrams in the text. Title printed in red & black. 6 p.l., 143 numbered leaves. Folio, most attractive early 18th-cent. mottled half-sheep & mottled boards (head

of spine a bit worn, title a little browned), spine gilt, red & green morocco lettering pieces on spine. Venice: L. Giunta, 1528. \$50,000.00

First edition of the first translation of the *Almagest* from the original Greek. Previously Ptolemy’s great astronomical text was available only in the 12th-century translation of Gherardo da Cremona from an Arabic translation (1st ed.: 1515). The present translation was made directly from the Greek in 1451 by George of Trebizond, using a manuscript in the Vatican; this translation was edited for publication by Luca Gaurico. The original Greek text was not published until 1538. The *Almagest* was the foundation of ancient astronomy and a work as influential as the *Elements* of Euclid.

“Ptolemy’s chief work in astronomy, and the book on which his later reputation mainly rests, is the *Almagest* . . . It is a manual covering the whole of mathematical astronomy as the ancients conceived it . . . the *Almagest* is a masterpiece of clarity and method, superior to any ancient scientific textbook and with few peers from any period.”—D.S.B., XI, pp. 187 & 196.



“Among the instruments mentioned or described in the *Almagest* are the equatorial armillary for determining the equinoxes at Alexandria; the plinth and the meridional armillary for determining the midday and meridian altitude of the sun; the triquetrum for measuring meridian transits of the moon or fixed stars; and the armillary astrolabon.”—Stillwell 97.

A very fine and crisp copy with the early 18th-century bookplate of “Co. Riccati.” This was the noble Riccati family which held land near Venice. The family produced two prominent scientists: Jacopo Francesco (1676-1754) and his second son Vincenzo (1707-75). They both made important contributions to mathematics (see *D.S.B.*, XI, pp. 399-402).

¶ Sparrow, *Milestones of Science*, 167.

“Nothing Short of Excellent”

77. RADEMAN (OR RADEMANN), JOACHIM. *Ein Neues zur itzigen Kauf- und Handlung sehr nütz- und dienliches Buchhaltens-Werck, allen denen so Lust und haben, solche hochnützliche Wissenschaft zu lernen, durch sonderbahren Fleiss und vielfältige Mühe zu Dienst aufgesetzt . . .* Title within elaborate calligraphic woodcut border (title a little soiled & frayed around edges). 242 leaves (the last a blank). Small folio, cont. blind-stamped panelled pigskin over wooden boards (binding somewhat soiled, pigskin at one corner worn away), remains of clasps & catches. Hamburg: A. Lichtenstein, 1682. \$19,500.00

First edition, extremely rare, of this large and comprehensive Hamburg manual of accounting techniques. Only two other copies seem to be extant: one at the British Library and the other at Tübingen. The book was a success and a second edition was published in 1714 under the title *Der Werth-geschätzte Handels-Mann*.

Joachim Rademann was a chartered accountant at Hamburg. At the end of this, his first published work, he describes himself a “young man” and, according to Schröder, he married in 1683; otherwise, nothing seems to be known of his life. Based on Christoph Achatius Hager’s treatise *Buchhalten über proper Commission und Compagnia Handlungen*,



first published at Hamburg ca. 1625, Rademann's book takes into consideration the changes and innovations that trading and coinage had seen since then, and focuses on practical matters. The general ledger section comprises a *Memorial*, a *Journal*, and a *Hauptbuch*; the associated accounts include a *Cassa-Buch* (cash journal), a *Banca-Buch* (bank account), an *Unkostenbuch* (book of charges), a *Monat-Buch* (monthly journal), and a *Factura-Buch* and *Rechnungs-Copey-Buch* (books of invoices). Precise examples taken from actual trading accounts at Hamburg are given throughout.

"Rademann dispenses with long theoretical preambles and instead, when differentiating between debtor and creditor, points to the works of Hager and Gebhardt Overheiden. To the associated accounts, Rademann adds the *Portbuch von Briefe*, today's petty cash book. In the *Memorial*, Rademann follows his predecessor Hager, but adds a wealth of detail. The same applies to the *Journal* . . . The impersonal accounts that follow are remarkable not only for their multitude, but also for the exceptionally delicate and skillful handling of the accounts. Rademann's work is nothing short of excellent."—Penndorf, *Geschichte der Buchhaltung in Deutschland*, p. 219 (in trans.).

Very good copy of this extremely rare book. First fifteen leaves with light dampstaining.

¶ Hausdorfer 198. *Historical Accounting Literature* 28. Hoock/Jeannin II, R.1. 1. Humpert 396. Schröder VI, 3077, 1. Not in Goldsmiths, Kress, or Rapp.

The Gift of Réaumur to Bonnet

78. RÉAUMUR, RENÉ ANTOINE FERCHAULT DE. *Art de faire éclore et d'élever en toute saison des Oiseaux domestiques de toutes Espèces, soit par le moyen de la chaleur du fumier, soit par le moyen de celle du feu ordinaire*. 16 folding engraved plates & 11 engraved headpieces. xviii, 364 pp; 2 pl., 427 pp. Two vols. Small 8vo, cont. polished mottled calf (short split to foot of lower joint of Vol. II), spines gilt, red & citron morocco lettering pieces on spines. Paris: de l'Imprimerie Royale, 1751. \$10,000.00

Second edition, considerably enlarged, and a fine association copy: this belonged to Charles Bonnet (1720-93), "one of the fathers of modern



biology" (D.S.B.), who has signed both title-pages and made a note on the free front-endpaper of each volume "Donné par l'illustre Auteur." Bonnet was a student of Réaumur and both worked on regeneration. It was Réaumur's suggestion that inspired Bonnet to work on aphids which led

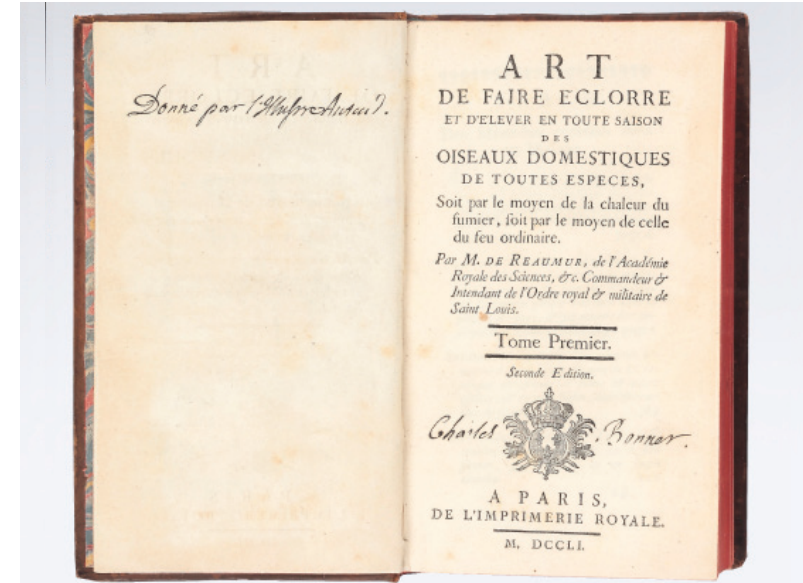


to his first — in 1746 — and greatest discovery, the parthenogenesis of the aphid. The two had been frequent correspondents since 1737.

This is an early and famous work on the artificial incubation of eggs. “But the most famous of all the attempts to make artificial as successful as natural incubation were those of de Réaumur, whose book *De l’art de faire éclore les Poulets* of 1749 achieved a wide renown. He devotes many chapters to a detailed description of incubators of very various kinds; but he nowhere gives any indication of his percentage hatch. It was probably low. He speaks also of the ‘funestes effets’ of the vapours of the dung on the developing embryos, without, however, furnishing any foundation for an exact teratology. In the second volume he describes those experiments on the preservation of eggs by varnish which caught the imagination of Maupertuis and were held up to an immortal but by no means deserved ridicule by Voltaire in his *Akakia*.”—Needham, *A History of Embryology*, p. 203.

The finely engraved plates and headpieces show every step of artificial incubation in great detail.

This enlarged edition has an extra “Mémoire” with an accompanying additional plate.



Fine set and a wonderful association copy, linking two of the greatest natural historians of the 18th century.

¶ D.S.B., XI, pp. 327-35.

The Cabbala

79. REUHLIN, JOHANN. *Liber De Verbo Mirifico*. 62 unnumbered leaves (the final leaf, a blank, is present). Small folio, cont. blind-stamped pigskin-backed wooden boards, orig. clasps & catches. Tübingen: T. Anshelm, 1514.

[BOUND WITH]:

- *De Arte Cabalistica Libri Tres Leoni X. dicati*. Large woodcut coat-of-arms of Reuchlin on title. Much printing in Hebrew. 4 p.l., LXX-IX leaves, one leaf. Small folio. Hagenau: T. Anshelm, 1517. \$45,000.00

Fine and fresh copies of the second and first editions respectively of the Christian humanist Reuchlin’s great expositions of the Cabbalistic art, present here together in a handsome binding of contemporary blind-stamped pigskin-backed wooden boards with the original catches and clasps.

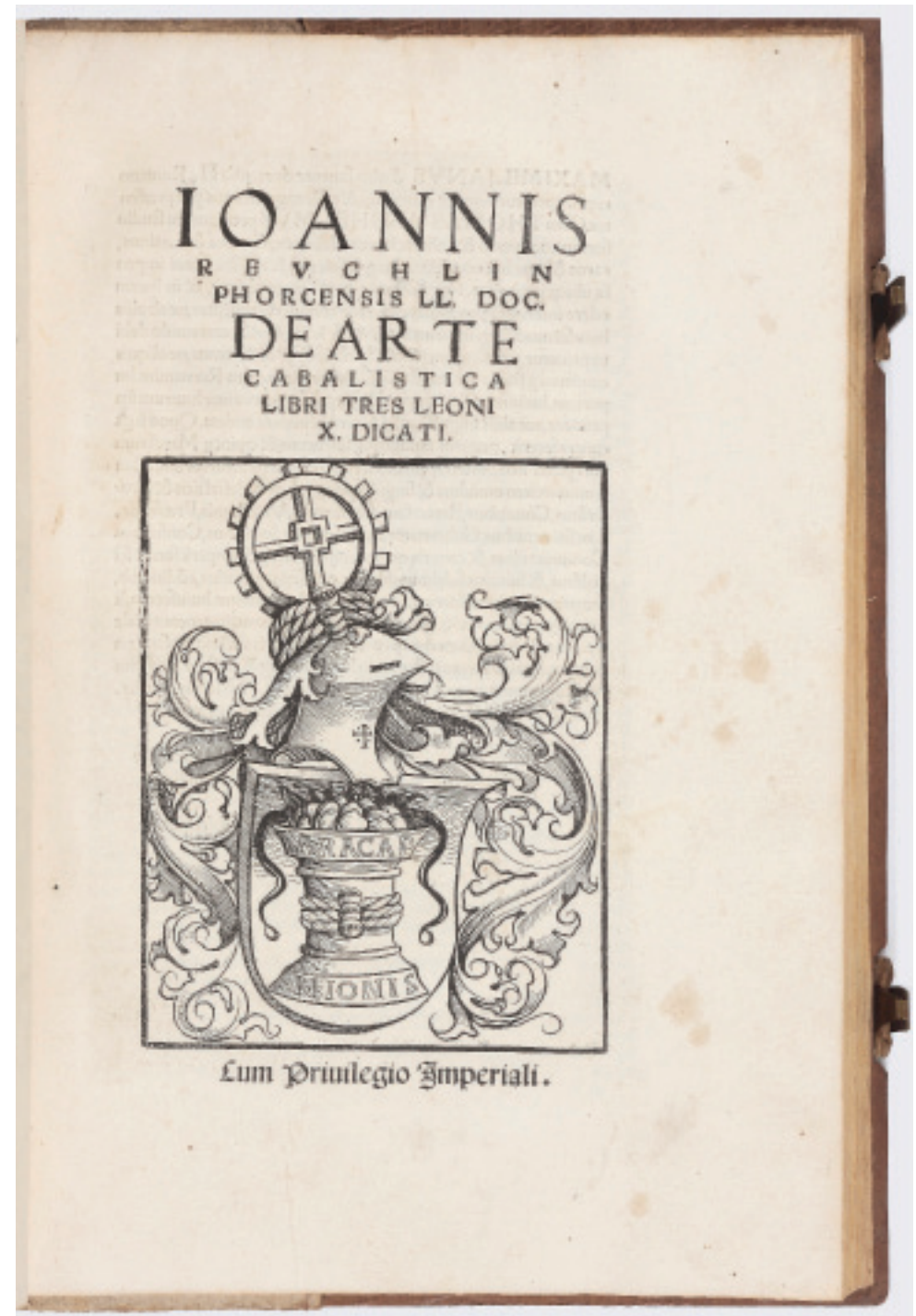
Reuchlin (1455-1522), was the first German humanist to rank as a great Hebrew scholar. His studies of the Hebrew language and of the Cabbala have earned him considerable historical significance. Reuchlin used his extensive travels to establish contact with Jewish scholars and humanists, and to acquire manuscripts and printed works for his library, which was one of the largest private book collections of his time.

In 1494, Reuchlin published his first cabbalistic text, the *De Verbo Mirifico* which greatly enhanced his scholarly reputation. Written in the form of a dialogue, there are three participants, the Greek philosopher Sidonius, the Jew Baruchias, and Reuchlin himself, appearing under the pseudonym Capnio. These three meet accidentally at Pforzheim where they discuss the occult meaning of the Hebrew pentagrammaton "YHSVH," the letters of the Hebrew form of the name Jesus.

The *De Arte Cabalistica* is Reuchlin's magisterial summation of his cabbalistic studies. Like the *De Verbo Mirifico*, the *De Arte Cabalistica* is a three-way dialogue, in this case between a Pythagorean called Philolaus, a Jew called Simon, and Mauranus, a Moslem. Gathered together at Simon's Frankfurt house, they come to the realization that by means of the Cabbalah and the mystical power invested in Hebrew letters, the help of angelic beings can be obtained, and a way opened to God. At the moment of revelation the mind of the Cabbalist, "in a state of unutterable delight, rejoicing in the spirit, in the depths of inner silence, driving away from itself humdrum earthly matters, is carried to the heavenly and the invisible that lies beyond all human sense."

These two works made Reuchlin the best-known Christian exponent of the Cabbala, and they were hugely influential, among others upon Agrippa of Nettesheim, Paracelsus, and, later, the Englishman, Robert Fludd. Reuchlin exercised an almost magical influence upon the greatest thinkers of his time. Pope Leo X and the Reformers were alike captivated by the charms of the Cabbala as propounded by Reuchlin and not only divines, but statesmen and warriors began to study the oriental languages in order to fathom the mysteries of Jewish Theosophy.

Fine copies in very fresh condition. Contemporary signature on front paste-down of "Joannis Schubert." This was Johannes Schubert or Schubart, vicar in Possendorf, a small village south of Dresden. On 12 May 1540 he handed over a house behind the Kreuzkirche to the





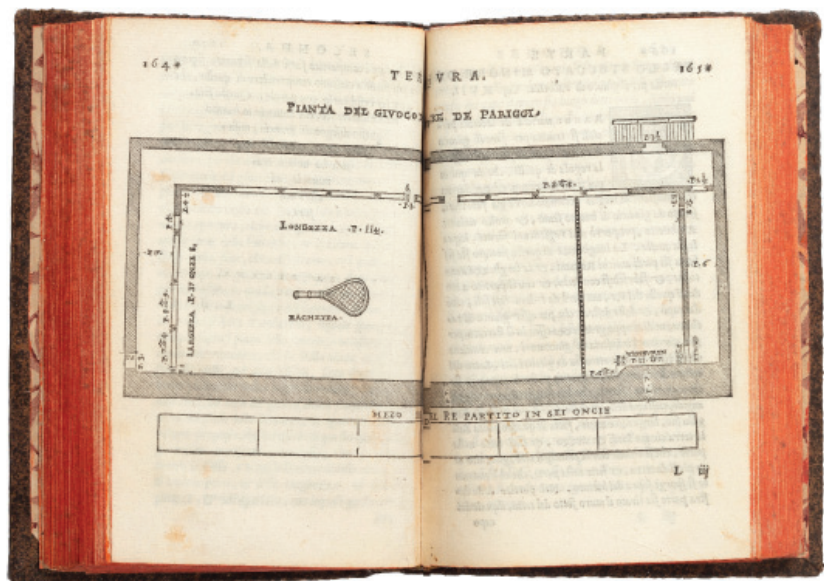
city council of Dresden for an annual rent of 20 guilders (see M. B. Lindau, *Geschichte der Haupt- und Residenzstadt Dresden*, 1858, p. 475). He has made a series of marginal annotations and neat underlinings throughout each work and on the rear endleaves. While these annotations have remained unstudied, they reveal a close and knowledgeable reading of the texts.

¶ Caillet 9333.

First Book on Tennis
"Fort Rare"-Brunet

80. SCAINO, ANTONIO. *Trattato del Giuoco della Palla di messer Antonio Scaino da Salò, diviso in Tre Parti. Con due Tavole, l'una de' Capitoli, l'altra delle cose piu notabili, che in esso si contengono ...* "Trattato" on title within a cartouche of scrollwork, woodcut printer's device on title, six double-page woodcuts (collation as in Mortimer), & another woodcut printer's device on verso of final leaf. 16 p.l., 315, [3] pp. Small 8vo, 18th-cent. Italian mottled sheep (a bit of browning), flat spine gilt, red leather lettering piece on spine. Venice: G. Giolito, 1555. \$45,000.00

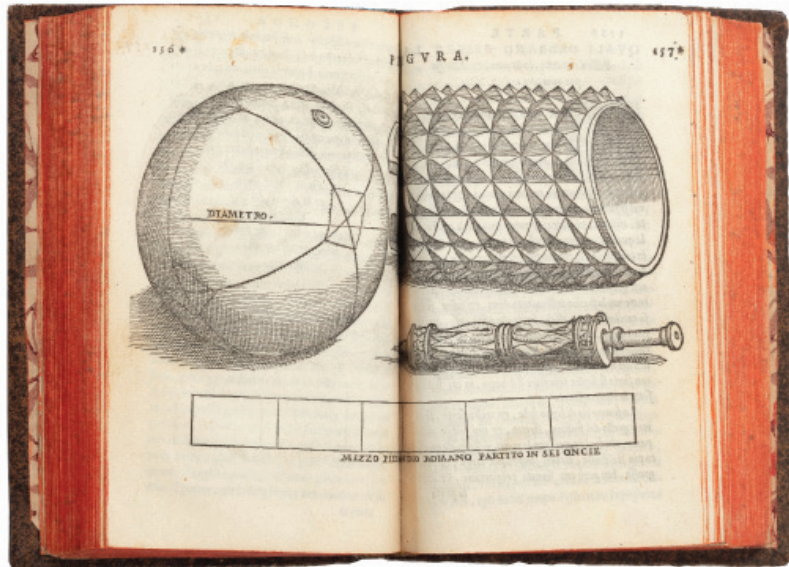




156



157



First edition of the earliest work on the game of tennis; this is a fine copy of a most uncommon book. In this work, Scaino not only describes the game but, for the first time, codifies the rules, sets the standard court sizes, discusses proper etiquette, and establishes a scoring system. He uses the terms *a due* and *vantaggio* from which our now familiar terms “deuce” and “advantage” are derived.

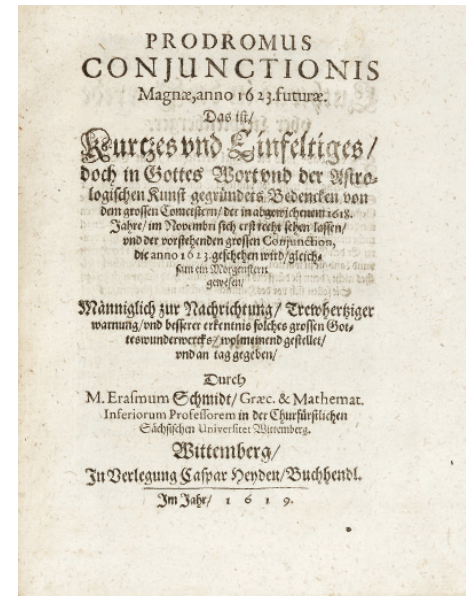
Tennis was already an extremely popular game in the 16th century, played by the kings of England and France. The rules for different versions of the game and their various interpretations often led to arguments. It was apparently after one such discussion with his patron, Alfonso II d'Este, the final Duke of Ferrara, that Scaino (1524-1612), decided to write the present book, formalizing and detailing the rules of the game.

Scaino describes the various forms of tennis being played at that time, whether the ball was solid or air-filled, hit with the hand or a racket, etc.

The excellent plates depict equipment and the court layouts.

Fine copy.

¶ Brunet V, 178 & Supplement II, 606-“fort rare.” Mortimer 465.



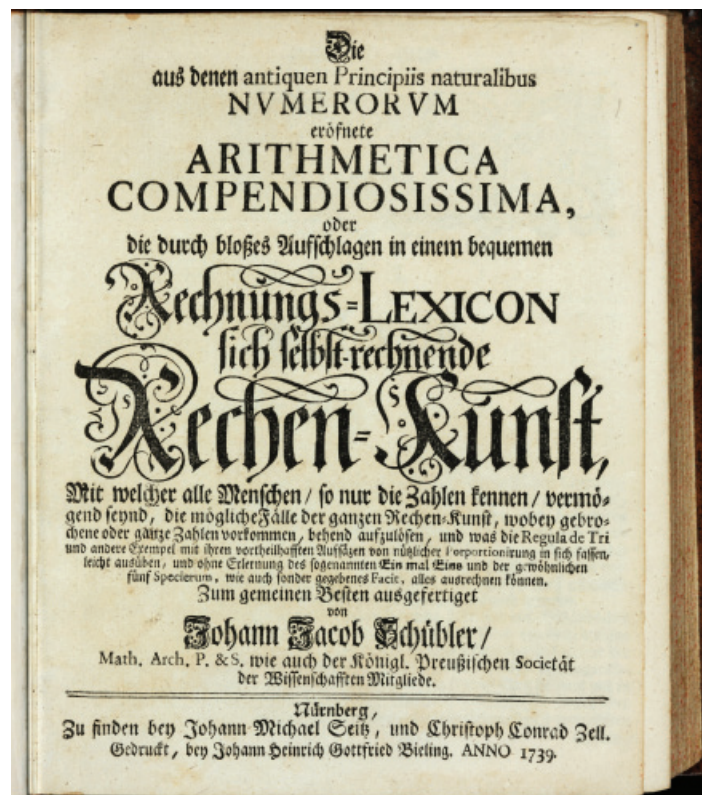
The Comet of 1618 Described by a Famous Hellenist

81. SCHMIDT (OR SCHMIED), ERASMUS. *Prodromus Conjunctionis Magnae, anno 1623. futurae. Das ist, Kurtzes und Einfeltiges, doch in Gottes Wort und der Astrologischen Kunst gegründets Bedencken von dem grossen Cometstern, der in abgewichenem 1618. Jahre, im Novembri sich erst recht sehen lassen . . .* 18 leaves. Small 4to, attractive modern marbled boards, red morocco lettering piece on spine. Wittenberg: C. Heyden, 1619. \$4500.00

First edition of this rare book which is considered by A.D.B. to be the author's most important scientific work; it is a careful record of the third of the three bright comets of 1618-19. Schmidt (1570-1637), was “one of the last of the scholars of Germany who taught the language and literature of Greece in the spirit of Melancthon. [Schmidt] was professor, first of Greek, and next of Mathematics, at Wittenberg. His principal work was an edition of Pindar, with a Latin translation and a careful commentary (1616).”-Sandys, II, p. 272.

Fine copy.

¶ A.D.B., Vol. 32, pp. 27-28. Zinner 4785.



82. SCHUEBLER, JOHANN JACOB. *Die aus denen antiken Principiis naturalibus Numerorum eröffnete Arithmetica Compendiosissima, oder die durch blosses Aufschlagen in einem bequemen Rechnungs-Lexicon sich selbst-rechnende Rechen-Kunst, Mit welcher alle Menschen, so nur die Zahlen kennen, vermögend seynd, die mögliche Fälle der ganzen Rechen-Kunst ... behend aufzulösen ... und ohne Erlernung des sogenannten Ein mal Eins ... alles ausrechnen können.* Several woodcuts & extensive tables in the text. 24 pl., 501, [1] pp. Large 4to, cont. polished speckled calf, initials on upper cover "F.G.Z.S.H.v.W. 1739," spine finely gilt, red morocco lettering piece on spine. Nuremberg: J.M. Seitz & C.C. Zell, 1739.

\$4750.00

First edition and a very fine copy from the library of [Karl] Friedrich Graf zu Sayn Hohenstein und Wittgenstein (1708-56), with his initials on the upper cover (one sees books from his library on the market from time-to-time. It must have been a fine and handsome collection).

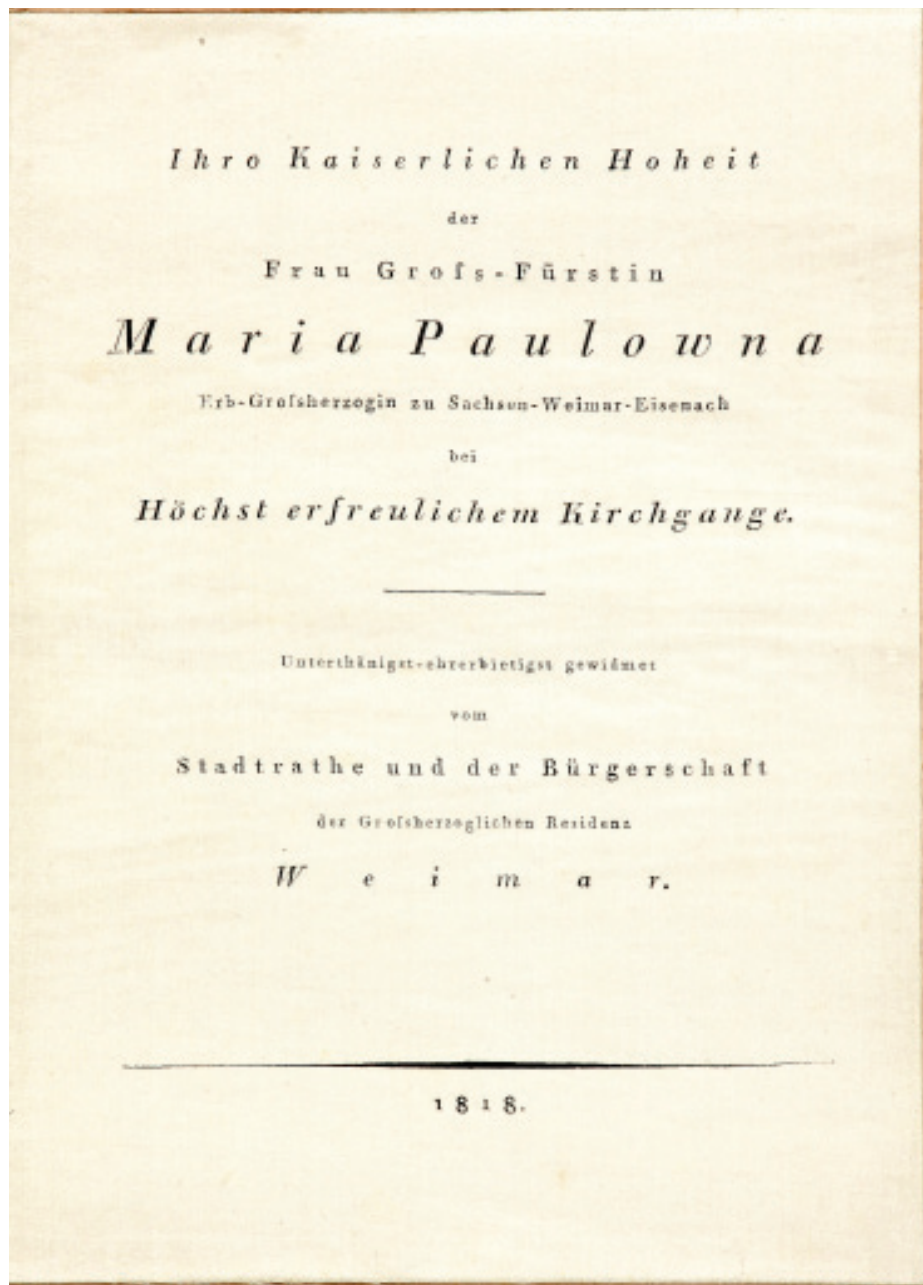
Schuebler (1689-1741), was a prominent Nuremberg mathematician, architect, and artist, who wrote many standard works on the design of houses, public buildings, and gardens. He was also engaged in various fields of applied mathematics and became a member of the Royal Prussian Academy of Sciences in 1735.

The present work is a practical introduction to all aspects of calculation including multiplication, division, trigonometry (with references to Napier), arithmetical and geometrical progressions, etc.

A very fine copy and rare with no copy in the U.S., according to OCLC.

¶ Poggendorff, II, 853.





83. (SILK PRINTING). *Ihre Kaiserlichen Hoheit der Frau Gross-Fürstin Maria Paulowna, Erb-Grossherzogin zu Sachsen-Weimar-Eisenach bei Höchst erfreulichem Kirchgange. Unterthänigst-ehrerbietigst gewidmet vom Stadtrathe und der Bürgerschaft der Grossherzoglichen Residenz Weimar.* Six leaves, printed on silk (first & final two leaves are blank). 4to (271 x 197 mm.), cont. pale pink silk over boards, covers stamped in gilt, silk paste-down endpapers, a.e.g. [Weimar?]: 1818. \$5000.00

A rare deluxe printing on silk, a poem written to celebrate the birth on 24 June 1818 of Karl Alexander, the second son of the Grand Duchess Maria Pavlovna of Russia (1786-1859) and Karl Friederich, Grand Duke of Saxe-Weimar-Eisenach (1783-1853). Maria Pavlovna was the third daughter of Tsar Paul I (1754-1801). Maria Pavlovna was raised at her father's palaces at Pavlovsk and Gatchina. Karl Alexander later inherited his father's title.

In 1804, Maria Pavlovna met and married Karl Friedrich in St. Petersburg while he was on a grand tour of Europe. In Weimar, she became a great patron of art and music and the sciences, and took a serious interest in the social welfare of the inhabitants of the Grand-Duchy. She took courses at the University of Jena, several of which were taught by Alexander von Humboldt. Franz Liszt was appointed her *Kapellmeister* following his retirement from the concert stage. Goethe considered Maria Pavlovna one of the worthiest women of his time.

A fine copy preserved in a slip-case.

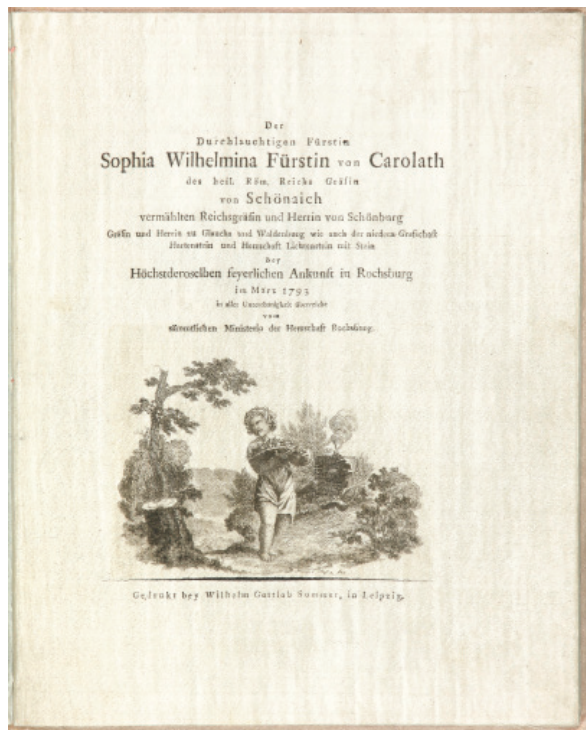
84. (SILK PRINTING). *Der Durchlauchtigen Fürstin Sophia Wilhelmina Fürstin von Carolath des heil. Rö. m. Reichs Gräfin von Schönau vermählten Reichsgräfin und Herrin von Schönburg Gräfin und Herrin zu Glaucha und Waldenburg wie auch der niedern Grafschaft Hartenstein und Herrschaft Lichtenstein mit Stein bey Höchstderoselben feyerlichen Ankunft in Rochsburg im März 1793 in aller Unterthänigkeit überreicht vom sämmtlichen Ministerio der Herrschaft Rochsburg.* Engraved vignette on title signed by Hoppe & two engraved vignettes by Christian Gottlieb Geyser serving as head- & tail-pieces to the poem. Four leaves printed on pale yellow-white silk.

4to (257 x 205 mm.), cont. pale pink silk over boards (a bit soiled), black floral design round sides, pale blue silk paste-down endpapers. Leipzig: "Gedruckt bey Wilhelm Gottlob Sommer," [1793]. \$4950.00

Apparently unique, this poem pays homage to the duchess Sophie Wilhelmine von Schönauich-Carolath (1764-95), for her visit to the small village of Rochsburg in Saxony. She was a member of the family which owned the famous Schloss Rochsburg situated above the village. It is remarkable that this small village was able to plan and have printed this quite luxurious and attractive work.

The front paste-down has a mounted piece of paper with the contemporary inscription "Dies Buch gehört Sophie Wilhelmine Gräfin von Schönburg Rochsburg gebohrne Prinzess von Carolath Schönauich Rochsburg den 5 September 1793." Three contemporary silhouette portraits (of the duchess?) loosely laid-in.

In fine condition. Not in WorldCat.



Thick Paper Copy in a Fine "Herringbone" Binding of Dark Green Morocco

85. STEWART, MATTHEW. *Tracts, Physical and Mathematical. Containing, An Explication of Several Important Points in Physical Astronomy; and, a New Method of ascertaining the Sun's Distance from the Earth, by the Theory of Gravity.* 19 folding engraved plates. vii, [1], 411 pp. Thick 8vo, a fine Scottish "herringbone" binding of cont. dark green morocco (foot of upper joint with one small & careful repair), sides richly gilt in a "herringbone" design, spine richly gilt, red morocco lettering piece on spine, a.e.g. Edinburgh: A. Millar & J. Nourse, 1761. \$12,500.00

First edition, thick paper copy, bound in dark green morocco with a most handsome contemporary Scottish "herringbone" design. Stewart (1717-85), was the successor to Colin Maclaurin in the chair of mathematics at Edinburgh and established his reputation as a mathemati-

cian by the publication of his *General Theorems* (1746). Michel Chasles considers Stewart and Robert Simson amongst the most important contributors to the progress of geometry.

"In 1761, pursuing his plan of introducing the simplicity of ancient geometrical demonstrations into astronomic investigations, he published *Tracts, Physical and Mathematical, Containing an Explication of Several Points in Physical Astronomy*, in which he developed a treatment of centripetal forces in a series of propositions requiring only a knowledge of the elements of plane geometry and of conic sections. He even tried to deal (employing geometrical methods similar to those of Newton's *Principia mathematica*) with the difficult 'three body problem' (the study of the trajectories of three masses in mutual gravitational interaction) that had defeated many eighteenth-century mathematicians."—ODNB.

"After his election to the chair [in 1746], Stewart's interests turned to astronomy and natural philosophy; and he displayed great ingenuity in devising purely geometrical proofs of results in these subjects that had previously been established by the use of algebraic and analytical methods. Examples of this kind are to be seen in [the present book]."—D.S.B., XIII, p. 54.

Fine copy with beautiful woodblock-printed bronze varnish endpapers, with thanks to Simon Beattie for this information.

Albert Tissandier's Own Copy

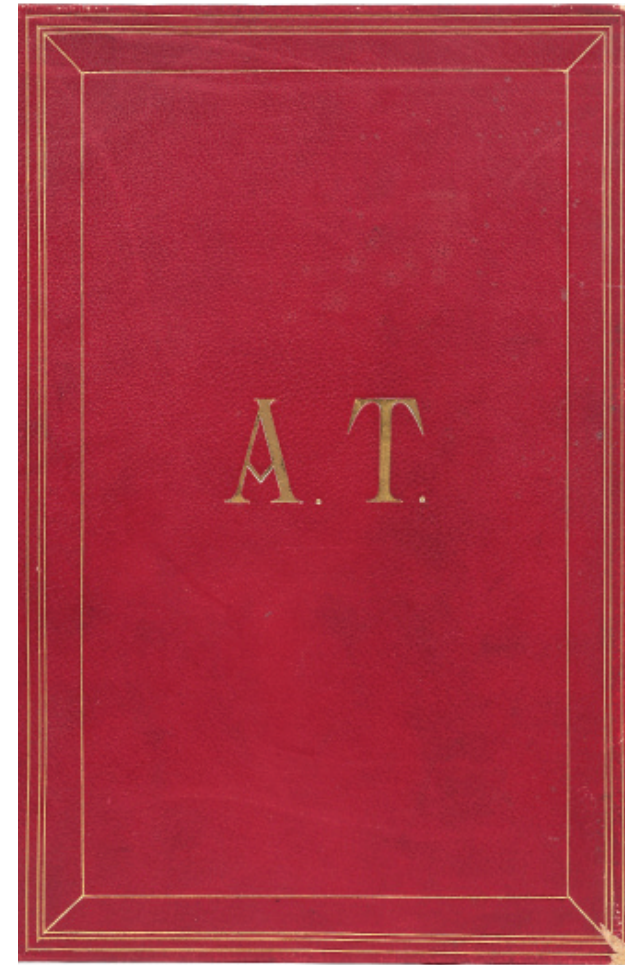
86. TISSANDIER, GASTON. *Histoire de mes Ascensions. Récit de Vingt-Quatre Voyages aériens (1868-1877) précédé de simples Notions sur les Ballons et la Navigation aérienne*. Numerous illus. & plates (several double-page) by Albert Tissandier; one folding table printed on both sides & one folding map. viii, 344 pp. Large 8vo, fine orig. red sheep (a few tiny defects), panelled in gilt, with the initials of Albert Tissandier on upper cover ("A.T."), spine nicely gilt, a.e.g. Paris: M. Dreyfous, 1878. \$2250.00

First edition, the copy of Albert Tissandier, the illustrator of this book and brother of the author. Gaston Tissandier (1843-99), chemist, meteorologist, author, and aviator, with his brother Albert, were the most famous balloonists of their time, making a number of ascensions.

They were the first to successfully power an airship using an electric motor. Gaston's history of ballooning was the standard work for many years and his bibliography was the first to be compiled on the subject of aviation.

Albert Tissandier (1839-1906), was an architect, aviator, illustrator, editor, and archaeologist. He collaborated with his adventurer brother Gaston in writing for the magazine *La Nature*, a French language scientific journal aimed at the popularization of science.

The perfect association copy.



Gauss's Copy; the Earliest Gramophone Record

87. WEBER, WILHELM. *Leges Oscillationis oriundae si duo Corpora diversa celeritate oscillantia ita conjunguntur ut oscillare non possint nisi simul et synchronice exemplo illustratae Tuborum linguatorum. Dissertatio Physica ...* One folding engraved plate (some foxing) & seven printed tables (five in the text & two on a separate folding sheet). 2 p.l., 40 pp. Large 4to, orig. green patterned boards (some foxing). [Halle]: G. Haack, [1827]. \$9500.00

First edition, and a very evocative association copy, of the rare *Habilitationschrift* by Wilhelm Weber (1804-91) on acoustics, specifically on the acoustic coupling of tongue and air cavity in reed organ pipes; his work in this area led, in a slightly roundabout way, to his close and enormously fruitful association with Gauss, which began in September of 1831. This copy belonged to Gauss — with the “Gauss-Bibliothek” stamp — on title. It is hard to imagine a more appropriate association as it led, in part, to their intimate collaboration and friendship.

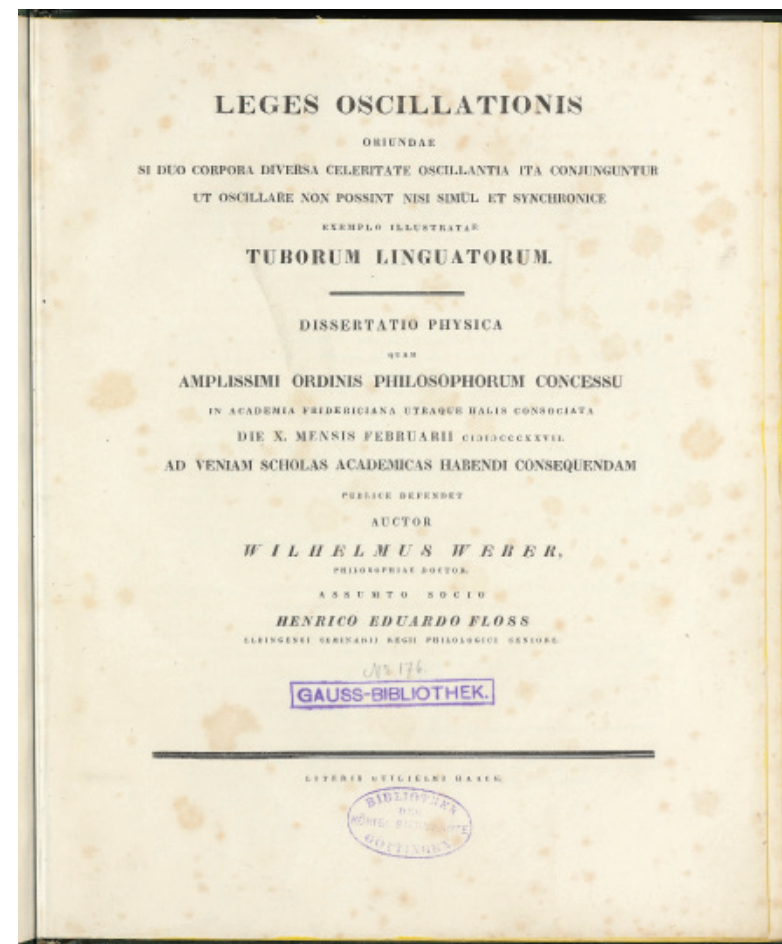
Weber met Gauss at a scientific conference organized by Alexander von Humboldt in Berlin in 1828 (this was the only scientific convention Gauss ever attended). Weber delivered a lecture in which he summed up his work on the acoustical qualities of organ pipes. It attracted the attention of both Humboldt and Gauss, both of whom attended the lecture. Gauss immediately recognized the young physicist as a worthy colleague in his new-found interest in geomagnetism. Weber moved to Göttingen in 1831 and in the following six years, the two scientists invented the telegraph, developed a magnetometer, and performed much important research in electricity and magnetism.

Weber here describes for the first time a process in which sound is engraved on a metal plate with a scraper, and reproduced in differing frequencies by passing the scraper across the grooves — the basic principle of the gramophone record. Had this process been known to scientists during the heyday of recording-apparatus research in the 19th century, our present-day phonographs would very likely have been developed at a much earlier date; at least, Edison and Berliner would have been spared some of their abortive experiments.

The plate depicts various reed organ pipes.

Fine copy. With the stamp of the Royal Observatory at Göttingen on free front endpaper (with release stamp facing on the front paste-down endpaper) and title.

¶ Gauss: D.S.B., V, pp. 304-06. Weber: D.S.B., XIV, pp. 203-09.



Selective Subject Index

- Acoustics: 87
Aeronautics: 86
Agriculture: 62
Alchemy: 26
Algebra: 43
Architecture: 27, 35, 49
Art: 11
Astrology: 48, 81
Astronomy: 4-6, 9, 18, 21, 23, 29, 32, 36, 40, 48, 56, 57, 60, 61, 63, 69, 75, 76, 81, 85
Bibliography: 54
Biography: 54, 86
Biology: 14-16, 47
Bookbinding: 13, 36, 46, 50, 54, 61, 83-86
Botany: 15, 37, 59, 64
Bridges: 71
Calculus: 2, 3, 43
Cancer: 73
Chemistry: 8, 12, 17, 25, 26, 55, 70
Color Theory: 11, 66, 67
Comets: 36, 81
Crystallography: 56
Dibner items: 57, 68
Dictionaries: 37, 50
Dyeing & Bleaching: 26
Early Printed Books (before 1601): 9, 13, 25, 31, 37, 48, 54, 62, 69, 70, 76, 79, 80
Ecology: 64
Economics: 26, 38, 77
Electricity & Magnetism: 25, 26, 32, 58, 60, 68
Embryology: 16, 78
En Français dans le Texte items: 1, 8, 34, 57, 74
Engineering: 35, 71
Entomology: 14
Epidemics & Plagues: 46
Evolution: 14, 25
Galileo: 40
Garrison-Morton items: 14, 16, 24, 73, 74
Gastronomy: 8, 49
Gems: 25, 26, 30
Geology: 25, 26, 34, 44, 45, 56
Geometry: 19, 21, 25, 31, 69, 85
Glass: 25
Graphic Arts: 49, 83, 84
History: 38, 54, 86
Hoover items: 26, 34, 55
Horblit items: 57, 68
Horology: 11
Horticulture: 62
Hydraulics: 6, 11, 25, 35, 56
Inoculation & Vaccination: 46
Instruments: 22, 24, 25, 36, 40, 42, 47, 50, 51, 76
Judaica: 79
Law: 72
Literature: 48, 54, 61
Machines: 27, 51
Magic: 28
Manuscripts, Autographs, & Annotated Books: 13, 36, 37, 39, 42-44, 46, 53, 54, 58, 61, 76, 78, 79, 87
Mathematics: 2-5, 7, 9, 18, 19, 21, 25, 29, 31-33, 43, 57, 63, 65, 69, 75, 77, 82, 85
Mechanics: 1-3, 6, 11, 17, 20, 23, 25-27, 51, 57, 69, 71, 85
Medicine: 11, 14, 16, 25, 41, 46, 66, 70, 73, 74
Metallurgy: 11, 25, 26, 51
Meteorology: 2, 3, 58
Microscopy: 24, 47
Military History: 14, 39
Mineralogy: 25, 26, 30, 44, 55
Mining: 26, 72
Music: 10, 25, 50, 87
Natural History: 14-16, 24, 26, 30, 34, 37, 44, 45, 56, 59, 62, 64, 78
Newtoniana: 4, 11, 19, 63, 69
Ophthalmology: 66, 67
Optics: 22, 32, 66, 67
Pharmacology: 11, 26, 55, 70
Philosophy: 79
Photography: 39, 42, 49, 53
Physics: 1-3, 6, 17, 20, 22, 27, 32, 57, 66-68, 71, 85, 87
Printing & the Mind of Man items: 1, 57, 68
Probability: 65
Psychiatry & Psychology: 74
Pyrotechnics: 11
Religion: 13, 79, 81
Silk: 38, 83, 84
Statistics: 65
Technology: 8, 25, 27, 38, 39, 49, 51, 53, 71, 72, 87
Tennis: 80
Textbooks: 12, 48
Textiles: 38, 83, 84
Urology: 41
Vellum, Books & MS. on: 13
Wine & Beer: 49
Women: 83, 84
Zoology: 25



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