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Catalogue 183

Proofs

Science, Medicine, Natural History,

Engineering & Bibliography

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The Horblit Copy

1. **ACADÉMIE ROYALE DES SCIENCES, Paris.** *Mémoires... Année 1823. Tome VI.* Two folding engraved plates. 3 p.l., clxxvi, [3], 612 pp. Large 4to, orig. printed wrappers (rather frayed), uncut. Paris: Firmin Didot, 1827. \$2500.00

“Of particular importance to this collection is Navier’s ‘Mémoire sur les lois du mouvement des fluides.’ This classic paper on fluid mechanics, contains his calculations about fluid flow, and gives his equations for motion of a viscous fluid. Also discovered by Stokes, these calculations are known today as the Navier-Stokes Equations. Navier analyzed the motion of a fluid in much the same fashion as Euler, but considered in addition a hypothetical attraction or repulsion between adjacent molecules...

“Also of importance is Ampere’s ‘Mémoire sur la théorie mathématique des phénomènes électro-dynamique, uniquement déduite de l’expérience...’ which

seeks to provide mathematical foundations for the relationship he had discovered between the phenomena of electricity and magnetism. His discovery resulted from a series of ingenious experiments which are described in the text. This represents the first formulation of the laws of the action of electric currents, and the memoir can be seen as the cornerstone of electrodynamics. This brings together his memoirs read before the Academy 26 December 1820, 10 June 1822, 22 December 1823, 12 September and 23 November of 1825 . . .

“Poisson’s ‘Mémoire sur la théorie du magnétisme en mouvement’ concerns attractive force and formulates new equations for the solution of problems therein. This work influenced the researches of Green (1828) and Gauss (1829). Also in this volume is his ‘Mémoire sur le calcul numérique des intégrales définies’ in which he sets out to improve the method of quadratures . . .

“The following memoirs are also of interest: Legendre’s ‘Recherches sur quelques objets d’analyse indéterminée et particulièrement sur le théorème de Fermat;’ Laplace’s ‘Mémoires sur le développement de l’anomalie vraie et du rayon vecteur elliptique, en séries ordonnées suivant les puissances de l’excentricité;’ as well as Cauchy’s ‘Mémoire sur les développements des fonctions en séries périodiques’ . . .

“The second part of the volume contains a history of the Academy with Fourier’s elegy for William Herschel and Cuvier’s for Duhamel.”—Roberts & Trent, *Bibliotheca Mechanica*, p. 2.

Very good copy, preserved in a box. Book label of Harrison D. Horblit. Ex *Bibliotheca Mechanica*.

2. AGUDIO, Francesco, comp. *Catalogo del Gabinetto Anatomico-Pathologico della R. Scuola di Ostetricia in Milano*. Numerous tables in the text. 42, xix pp., one leaf of index. Small folio, orig. printed blue wrappers (a little frayed). Milan: D. Salvi, 1862. \$375.00

First edition of this very rare catalogue of the anatomico-pathological preparations in the Royal School of Obstetrics at Milan, consisting of specimens, wax preparations, and drawings of deformed pelvises, embryos, genital organs, etc. The section on pelvises lists 145 specimens with extensive descriptions and tables of measurements. The final pages contains a long description of a fetus of Siamese twins.

Very good. OCLC locates only the copy at NLM.

Large Paper Copy

3. (ALDENHAM, Henry Hucks Gibbs, Baron). *A Catalogue of some Printed Books and Manuscripts at St. Dunstan’s, Regent’s Park, and Aldenham House, Herts.* 2 p.l., 199, 3, [1] pp. Large 4to, orig. green morocco-backed

cloth (joints rubbed), flat spine gilt, t.e.g., others uncut. London: [Privately Printed], 1888. \$500.00

The second (of several) catalogues describing the famous collection formed by Gibbs (1818-1907), merchant, scholar, and bibliophile, who bought largely from Quaritch. The later catalogues do not always supersede the 1888 edition because descriptions of the rarer items are not always given in as much detail (see De Ricci, p. 166). The present catalogue is extremely scarce.

Bound in this copy is a 4-page Addenda with Errata.

A very nice copy, printed on large paper (4to format instead of large 8vo), inscribed by the owner to Henry Martin Gibbs. A very rare second part — no copy in *N.U.C.* — was issued in 1890.

4. ANDERSON, Henry James. *Mathematical Investigation of the Motion of Solids on Supporting Surfaces, with a complete Solution of the Cases in which the Oscillations are of small Extent . . . First published in the Transactions of the American Philosophical Society . . . Part II, Vol. III, New Series.* 70 pp. Large 4to, cont. cloth-backed green boards (text leaves quite foxed). Philadelphia: J. Kay, 1828. \$450.00

First separate edition. "After reviewing the history of the study of oscillatory motion, Anderson offers his own solutions to the problems of the motion of solids on surfaces in cases of perfect sliding and perfect rolling, with particular attention to small oscillatory movements."—Roberts & Trent, *Bibliotheca Mechanica*, p. 11.

Anderson (1799-1875), was professor of mathematics and astronomy at Columbia University.

Good copy. Contemporary signature of Jas. H. Bell on title. Ex *Bibliotheca Mechanica*.

Presentation Copy with Annotations

5. AUBUISSON DE VOISINS, Jean François d'. [From the half-title]: "Mémoire sur la Mesure des Hauteurs a l'Aide du Baromètre." 1 p.l., 74, [7] pp. Large 4to, cont. sheep-backed paste-paper boards (ends of spine a little worn, some foxing), spine gilt, green leather lettering piece on spine. [Paris: 1810]. \$750.00

First edition, read before the Institut on 26 March and 9 April, 1810. Presentation copy, inscribed on the half-title "A Monsieur Valles, son ami et ancien comrade, D'Aubuisson" (name cropped). Aubuisson de Voisins (1769-1841), studied under Werner, taking his courses in mineralogy, geology, and

mining, and was appointed chief of the mineralogical district of Toulouse in 1811, an administrative post covering the entire Pyrenees region. He made important contributions to mining, geology, and hydraulics.

This rare work describes a barometer used to measure altitude. Page 15 contains annotations in the hand of d'Aubuisson and pages 32-33 have been scored through by him.

Very good copy. Ex Bibliotheca Mechanica.

• *D.S.B.*, I, pp. 327-28.

"Un Fort Bon Catalogue"

6. (AUCTION CATALOGUE: **CAILLARD, A.B.**). *Catalogue des Livres rares et précieux de la Bibliothèque de feu M. Ant. Bern. Caillard...* 2 p.l., 4, [v]-xxxiii, 423 pp. 8vo, cont. polished calf (upper joint and head & foot caps very carefully repaired), sides decorated in gilt, flat spine gilt, red morocco lettering piece on spine. Paris: De Bure père et fils, 1810.

\$1850.00

A reprint, with additions, of the privately printed catalogue (issued in 1805 and limited to 25 copies only) of the library of Antoine Bernard Caillard (1737-1807), French diplomat and man of letters. The present catalogue (2650 lots and limited to 1200 copies) was published for the auction which was held in 1810. This was an important library containing notable incunabula, classical texts, scientific and natural history works, and voyages in the finest possible condition and often printed on large paper. Also included are fine bindings and MSS. There are significant holdings of bibliography.

A very fine and pretty copy; it has the four-page schedule of the sale, which is very rare. Presentation copy, inscribed on the half-title: "Donné à Monsieur Boucher de la Marinière, par son ami S.C. Caillard."

• Brunet, I, 1643. *N.B.G.*, VIII, pp. 108-09—"Il avait formé à grands frais une bibliothèque magnifique." Grolier Club, *Printed Catalogues of French Book Auctions...1643-1830*, 498. Peignot, p. 87—"On y trouve quelques notes bibliographiques plus ou moins exactes. Destiné pour une vente, c'est un fort bon catalogue."

7. (AUCTION CATALOGUE: [MÉON, **Dominique Martin**]). *Catalogue des Livres précieux, singuliers et rares, tant Imprimés que Manuscrits, qui composaient la Bibliothèque de M. dont la vente se fera...le 15 Novembre 1803...et jours suivans...* xxiv, 522, 4 pp., one leaf of errata. 8vo, slightly later sheep-backed marbled boards (minor rubbing), flat spine gilt, uncut.

Paris, Bleuet jeune, 1803. \$2500.00

The very uncommon sale catalogue of the library of Méon (1748-1829), who is described in a contemporary note on the title as "Commis au Bureau de la Guerre." Méon, though employed in the War Ministry, was a scholar specializing in early French literature. He had taken advantage of the disorder of the French Revolution to buy quantities of valuable books cheaply. But by 1799, he was destitute and obliged to send his precious collection to auction. According to the sales notice, the collection was second only to the duc de la Vallière's library from the points of view of variety, choice of copies, and excellence of early editions. The sale catalogue describes many early French romances and plays, belles-lettres, and historical writings. His bibliographical knowledge later earned him a position at the Bibliothèque Impériale, which dismissed him for poor librarianship. But in 1826, now "Royale," reappointed him, eventually granting him a pension. Méon was the editor of several important texts, including the *Le Roman du Renard* (1825).

This is an interesting copy, priced throughout in a contemporary hand. Quite often, buyers' names are supplied and there are many notes throughout in the same hand, furnishing bibliographical details or notes on condition. This copy also has the four-page "Ordre des Vacations" and errata leaf. 4166 lots.

Fine copy.

• Brunet, III, 1639. Grolier Club, *Printed Catalogues of French Book Auctions... 1643-1830*, 446. N.B.G., 34, 1020-21. Peignot, p. 113—"Catalogue curieux pour les livres bizarres et singuliers."

A Spaniard's Library Sold in Stockholm

8. (AUCTION CATALOGUE: MORENO Y DAOIZ). *Förteckning på framl. Kongl. Spanska Ministern de Moreno y Daoiz's Böcker, Musikalier, Chartor, Gravyrer, Ritningar, Taflor, Diverse Konststycken m. m. som försäljas a Auktion I Hof-Marskalken Baron Focks hus på Blasieholmen, I Mars månad 1825*. 1 p.l., 94 pp. Small 8vo, stitched as issued. Stockholm: C. Deleen, 1825. \$500.00

A very rare sale catalogue listing the large book collection as well as paintings, drawings, engravings and furniture of Moreno y Daoiz (d. 1824). The collector had been head of the Spanish embassy in Stockholm from the end of the 1780s and was actively involved in Swedish free-masonry.

3081 lots of books, 315 lots of printed music, 21 lots of maps, 33 lots of prints and paintings.

Fine copy. No copy in N.U.C. or OCLC.

• Almquist 4523.

One of Twenty Large & Fine Paper Copies

9. (AUCTION CATALOGUE: OURCHES). *Catalogue des Livres rares, précieux et bien conditionnés du Cabinet de M.*** . . .* par J.-Ch. Brunet. xvi, 304 pp., 2 leaves. Large 8vo, orig. boards (extremities a little worn), red morocco lettering piece on spine, uncut. Paris: Brunet, 1811. \$2950.00

A famous collection, rich in 15th-century books including a Gutenberg Bible (lot 2); other early printed books, often-times printed on vellum; and a grand series of *éditions de luxe* and natural history books. Léon d'Ourches lived in Nancy, close to the border of Germany which enabled him to purchase many of the monuments of the earliest printers.

Very good large and fine paper copy, one of twenty, according to Brunet and confirmed by Graesse, printed on "papier Jésus de Hollande." The final two leaves are inserted: this rare bifolium contains the schedule and conditions of the sale and the errata.

• Brunet, I, 1645—"Ce cabinet riche en éditions du XV^e siècle a produit 115,006 fr." Horne, p. 715—"This catalogue, which is very ably executed by M. Brunet, comprises 1571 articles. They consisted of some of the most antient editions of the 15th century, a fine series of most of the Greek and Latin classics, on large paper, books printed on vellum, and some splendidly illuminated MSS. beside numerous costly works on natural history. The whole were in very fine condition, and produced exorbitant sums." Grolier Club, *Printed Catalogues of French Book Auctions . . . 1643-1830*, 516—(small paper copy). Peignot, p. 482—"Ce catalogue, composé de 1571 articles, peut être mis à côté des ouvrages du même genre les plus estimés."

10. (AUCTION CATALOGUE: T., C., Docteur en Médecine). *Catalogue des Livres de la Bibliothèque de Monsieur C.T. Docteur en Médecine. Dont la vente se fera . . . le lundi 3 Août . . .* 4 p.l., 176 pp. 8vo, attractive antique half-calf & speckled boards, spine gilt, green morocco lettering piece on spine. Paris: Prault, 1761. \$2500.00

The extremely scarce sale catalogue of the library of a certain Dr. C.T. Strangely enough, this catalogue lists only a handful of medical books. The library's main strengths are in French and Italian poetry, French history, and a small but select collection of pornography.

Some spotting, but a fine copy. 1735 lots and priced throughout in a contemporary hand.

• Grolier Club, *Printed Catalogues of French Book Auctions . . . 1643-1830*, 160—(which states the catalogue includes paintings, drawings, prints, and medals but I find no trace of them).

11. (AUCTION CATALOGUE: WEIGEL, T.O.). *Katalog frühester Erzeugnisse der Druckerkunst* [with facing title in French]. 12 lithographed plates (mostly folding or double-page). viii pp., 1 leaf, 274 pp. 8vo, orig. printed wrappers bound in cont. half-calf & marbled boards, spine nicely gilt, green morocco lettering piece on spine. Leipzig: T.O. Weigel, 1872.
\$600.00

The collection of Theodor Oswald Weigel (1812-81), was devoted to early graphics and incunabula illustrating the development of the printing and graphic arts from its beginnings to ca. 1500. Repeated attempts to sell the collection *en bloc* to a German museum or gallery failed and therefore Weigel decided to sell it at auction for which the present catalogue was compiled. Its riches are — today — almost beyond imagination: 508 graphic masterpieces of the 15th century, many unique, and a further 25 selected incunabula, broadsides (including some printers' announcements), and early illustrated books. The sale realized the extraordinary sum of 81,000 taler.

A very fine and handsome copy. With a 4-page small 8vo letter tipped-in dated 29 July [18]72 from William Brenchley Rye (1818-1901), Keeper of Printed Books at the British Museum, to Francis Capper Brooke (1810-86), the Suffolk antiquary and book collector, discussing purchases made by the Museum at the Weigel sale (we learn from *D.N.B.* that the Weigel sale was the chief event of Rye's term of office). With a collation note on the inside of the upper wrapper, initialled and dated "F.C.B. 2 Aug. 1872." Brooke's 20,000 volume library was bought long after his death by Quaritch.

A Classic of Engineering

12. BÉLIDOR, Bernard Forest de. *Architecture Hydraulique, ou l'Art de conduire, d'élever, et de menager les Eaux pour les differens besoins de la Vie*. Three engraved frontis. (one is a port. of the author), 219 folding engraved plates, & many fine engraved headpieces. Titles printed in red & black. Four vols. Large 4to, modern morocco-backed boards (some browning & foxing). Paris: C.A. Jombert, 1737-39-50-53. \$1750.00

First edition of the most widely used and influential engineering text of the 18th and early 19th centuries. It is "one of the earliest scientific books in the field of engineering. Concentrating on civil construction he considers transportation, shipbuilding, waterways and water supply, ornamental fountains, windmills and pumps, epitomizing their state on the eve of the Industrial Revolution."—Roberts & Trent, *Bibliotheca Mechanica*, p. 30.

This work "proved to be invaluable to architects, builders, and engineers. [It amounted] to rationalized engineering handbooks in which the man in charge of a construction might look up model specifications for a foundation or a cornice, a pediment or an arch; fine diagrams he could follow or adapt; and

consult job analyses and work plans for dividing and directing the labor."—*D.S.B.*, I, p. 582.

This was the first work of its kind to make practical use of the integral calculus.

Good set. Signature removed from head of each title. Small oval embossed stamp of the Peabody Institute in lower corners of frontispieces and titles. Ex Bibliotheca Mechanica.

13. BEMISS, Elijah. *The Dyer's Companion. In Two Parts. Part First, containing a General Plan of Dying Wool and Woollen, Cotton and Linen Cloths, Yarn and Thread. Also, Directions for Milling and Finishing, Stamping and Bleaching Cloths. Part Second, contains Many useful Receipts on Dying, Staining, Painting, &c.* viii, [5]-307 pp. 8vo, cont. American mottled sheep (minor browning throughout), red morocco lettering piece on spine. New York: E. Duyckinck, 1815. \$2500.00

"Second edition, enlarged and improved." The first edition appeared in 1806. Bemiss was a Connecticut dyer and claims in the Preface that this is the first book on the subject to appear in America. Actually, it is the third earliest and is a very comprehensive collection of dyeing recipes with information on dyeing techniques and equipment.

Very nice copy.

♣ Cole 75—"A book of detailed instructions presented in a form useful to practical dyers." Rink, *Technical America*, 1852. Ron, *Bibliotheca Tinctoria*, 87.

14. BERNSTORFF, Andreas Peter af, Greve. *L'Economie de la Nature.* One folding engraved plate. xiv, 214 pp. 8vo, orig. marbled wrappers (some fraying), uncut. Amsterdam & Paris: P.F. Didot le jeune, Durand, & Mérigot, 1783. \$450.00

First edition of this very rare work on nature, ecology, and the laws of physics. Bernstorff (1735-97), Danish statesman and politician, was a noted guardian of civil and political liberty. He was appointed foreign minister in 1784 and, as the foremost member of the Danish cabinet, essentially governed the country until his death.

The present book was written while he was out of office during the years 1780-84.

Very good copy.

A Fine Uncut Set in Original State

- 15. BORELLI, Giovanni Alfonso.** *De Motu Animalium*. 18 folding engraved plates. 6 p.l., 376, [11] pp.; 2 p.l., 520 pp. Two vols. 4to, cont. semi-stiff boards (early rebacking with paper, occasional minor foxing), entirely uncut. Rome: A. Bernabo, 1680-81. \$12,500.00

First edition, and a very fine set in original state, of this famous treatise in which the principles of mechanics were first applied to the muscular system of animals.

"Published in the year of his death, Borelli's treatise presented the application of mechanics to the motion of the limbs of animals based largely on Galileo's mechanics. He began with the center of motion, the muscle, and then applied its forces to the linkage of bones with the same exactness as forces applied to levers. This analysis evolved into a system describing an animal's entire mobility covering the motions of walking, running, jumping, weight-lifting, bird flight, fish motion and insect creeping. He held that nerve stimulation was related to the contraction and swelling of a muscle and that some chemical process was associated with it. He also believed that heartbeat was a simple muscular contraction and that the circulatory system was hydraulic in principle."—Dibner, *Heralds of Science*, 190.

Attractive sets, like the present one, are scarce on the market. Preserved in two morocco-backed boxes. Ex Bibliotheca Mechanica.

♣ Cushing B499. Garrison-Morton 762. Horblit 13. Roberts & Trent, *Bibliotheca Mechanica*, pp. 42-43.

- 16. (BORROMEO, Anton Maria).** *Notizia de' Novellieri Italiani posseduti dal Conte Anton-Maria Borromeo, Gentiluomo Padovano con alcune Novelle inedite*. 1 p.l., [iii]-xxi pp., 1 leaf, 243 pp. 8vo, modern vellum-backed cloth (small faint stain on title), uncut. Bassano: 1794. \$450.00

The first catalogue describing Count Borromeo's collection which is, according to Archer Taylor, the "foundation of the bibliography of the Italian novellieri."—*Book Catalogues*, p. 138. It was Borromeo's interest in the Italian novellieri which revived the taste for this literary genre amongst his contemporaries and caused many of the novels to be newly printed and imitated. After the death of Borromeo in 1813, Payne and Foss, the English booksellers, acquired the collection which was sold at auction in London in 1817.

Very good copy.

♣ Brunet, I, 1121. Peignot, p. 449—"fort curieuse."

To Be Used at West Point

17. **BOUCHARLAT, Jean Louis.** *An Elementary Treatise on Mechanics.* Translated from the French...with Additions and Emendations, designed to adapt it to the Use of the Cadets of the U.S. Military Academy. By Edward H. Courtenay. Nine folding engraved plates with 254 figures (slightly foxed). 432 pp. 8vo, cont. mottled sheep (extremities a bit rubbed, some foxing), spine gilt, red morocco lettering piece on spine. New York: J. & J. Harper, 1833. \$250.00

First edition in English of this popular work which went through several French editions as well (1st ed.: 1815). Boucharlat (d. 1848) was professor of mathematics at the Military School at Paris. The translator, Courtenay, was professor of natural and experimental philosophy at West Point.

Apart from the inevitable foxing, a nice copy. Ex Bibliotheca Mechanica.

♣ Poggendorff, I, 252. Roberts & Trent, *Bibliotheca Mechanica*, p. 48—"Courtenay amended the text to conform with West Point usage and added works by other authors such as Poisson and Navier. Girvin notes that before this translation, the West Point cadets used the text in French."

An Auto-Bibliography

18. **BOUILLAUD, Jean Baptiste.** *Notice sur les Titres et Travaux de M. le Docteur J. Bouillaud, Candidat a la Place vacante dans la Section de Médecine et de Chirurgie de l'Académie des Sciences.* 82 pp. 4to, orig. printed wrappers. Paris: E. Martinet, 1868. \$350.00

First edition. Bouillaud (1796-1881), is one of the important figures in the history of 19th-century French medicine. He identified the anterior lobes as the speech center and gave classical accounts of aphasia and rheumatic fever ("Bouillaud's syndrome"). In 1868 Bouillaud was a candidate for membership in the section of medicine and surgery of the French Academy of Sciences. In support of his candidacy he submitted to the Academy a bibliography of his publications which is divided into two parts. The first part lists all the memoirs Bouillaud published in different periodicals from 1823 to 1866; the second part contains a list of his books from his *Traité des Maladies du Coeur* (1824) to the *Traité de Nosographie médicale* (1846). All entries are fully annotated by the author and his commentaries often extend over several pages.

Very good copy and surprisingly rare. Owner's stamp of the psychiatrist J. Falret (1824-1902) on front cover.

19. **BROUGHAM, Henry Peter, Baron Brougham & Vaux.** *General Theorems, chiefly Porisms, in the Higher Geometry...from the Philosophical Transactions.* One folding engraved plate. 21 pp. Large 4to, attractive antique half-calf & boards. [London: 1798]. \$750.00

First separate edition, an offprint with new pagination. Presentation copy, inscribed by Brougham "With best compts from the Author" (inscription a little cropped). Brougham (1778-1868), showed an unusually precocious interest in experimental science as a youth and by the age of twenty had contributed three papers, of which this is the third, to the *Philosophical Transactions*. By the age of twenty-five he had been made a fellow of the Royal Society. Later he concentrated on law and politics and became Lord Chancellor.

Fine copy and rare; no copy of this offprint is located in OCLC. Ex Bibliotheca Mechanica.

20. **(BYROM, John).** *A Catalogue of the Library of the late John Byrom, Esq., M.A., F.R.S., formerly Fellow of Trinity College, Cambridge, Preserved at Kersall Cell, Lancashire.* Engraved frontis. of Kersall Cell. 2 p.l., [3]-249 pp. 4to, orig. blind-stamped cloth (neatly rebacked with the orig. spine laid-down). [London]: Printed for Private Circulation Only, 1848. \$450.00

The rare catalogue of the library of John Byrom (1692-1763), poet, inventor of a novel and successful shorthand system, and a Fellow of the Royal Society. His library remained in the possession of his descendants at his house at Broughton near Manchester and included many works by his friends Bishop Hoadly, Richard Bentley, John Wesley, Anthony Collins, and William Law.

Very good copy. Bookplate of Giles Shaw.

☛ Martin, p. 529.

21. **(CAPUCHIN ORDER).** *Bibliotheca Scriptorum Ordinis Minorum S. Francisci Capuccinorum...* By Dionigi, da Genova & ed. by Bernardo da Bologna. Finely engraved allegorical frontis. & numerous engraved headpieces. 11 p.l. (incl. frontis.), 322, [1] pp. Small folio, 19th cent. half-vellum & boards. Venice: S. Coleti, 1747.

[bound with]:

- (—). ...*Appendix*... [By Johann Maria von Regensburg]. 56 pp. Small folio. Rome: Bertinelli, 1852. \$1750.00

Third and best edition of the first work and first edition of the *Appendix*. This is the earliest and, for several centuries, the standard bio-bibliographical guide to members of the Capuchin order. About 3000 authors are listed, each with a

biographical sketch and a list of their writings. The first edition appeared in Geneva in 1680 and there was a 1691 second edition.

Fine copies.

♣ Besterman, *The Beginnings of Systematic Bibliography*, pp. 55-56. Besterman 1135.

One of His Scarcest Books

22. CARDANO, Girolamo. *Liber de Immortalitate Animorum*. Woodcut printer's device on title & another printer's device on verso of final leaf (otherwise blank). 308, [10] pp. 8vo, cont. vellum over boards (final 40 leaves with a small puncture in blank margin, final few leaves with minor marginal defects). Lyons: S. Gryphius, 1545. \$5500.00

First edition of one of Cardano's scarcest and most provoking works; one of his earliest publications, this book is concerned with the immortality of the soul. Cardano distinguishes in man "between the *mens*, or spirit, and the soul which is the seat of the sensitive faculties including the *ratio*. The latter belongs to the body and perishes with it, while the former is immaterial and immortal and partakes of the Divine. Moreover, one and the same spirit dwells in all men."—*Catholic Encyclopedia*, Vol. III, p. 332.

Very good copy. 17th century signature of De Mareste d'Alge on title (with his rather wonderful bookplate on front paste down endpaper) and another ownership inscription of a monastery on title dated 1718.

♣ Thorndike, V, p. 545 & VI, p. 511.

23. CAUCHY, Augustin Louis. [Drop-title]: "Mémoire sur la Rectification des Courbes et la Quadrature des Surfaces courbes... présenté le 22 Octobre 1832." Pages [3]-15. 4to, later boards. [Paris: Institut de France, Paris, Académie des sciences, *Mémoires*, 1850, Vol. 22]. \$550.00

This seems to be an excerpt from the *Mémoires* of the Paris Académie des Sciences. This is one of Cauchy's most important contributions to calculus in which he describes curves, their rectification, and quadrature.

Fine copy. Rare.

24. CESSART, Louis Alexandre de. *Description des Travaux Hydrauliques...* Finely engraved port. of the author, 67 folding engraved plates (some quite large, plate 27 in Vol. I with an overlay flap), & one

folding engraved table. 3 p.l., vii, 316 pp.; 2 p.l., xvi, 358 pp. Two vols. Thick large 4to, modern half-morocco & marbled boards (some foxing & browning). Paris: E. Collin, A.A. Renouard, Bernard & Magimel, 1806-08. \$1500.00

First edition of this beautifully illustrated record of Cessart's engineering work. "Cessart [1719-1806], played a key role in the development of construction techniques, particularly of bridges and marine works. His first major achievement was on Voglie's Saumur bridge where it was found impossible to use cofferdams for some piers. Cessart invented a sawing machine to cut off piles with precision below water level so that an even bed could be prepared for a caisson. Although Labelye had earlier pioneered caisson foundations for Westminster bridge these sat directly on the river bed and were subject to settlement. Cessart's method ensured much greater success and he also applied the technique for the first time to marine works, notably quay walls at Rouen, scouring sluices at Le Tréport and Dieppe and the great jetty walls at Dieppe. The saw itself was used independently by many other engineers in France . . .

"However, Cessart's two most famous achievements were the great Cherbourg breakwater and the Pont des Arts in Paris. The breakwater, which was begun in 1783 was intended to provide refuge for the French fleet. Detached from land it was nearly two miles in length and probably the most difficult civil engineering project undertaken in 18th century France. Cessart designed a series of huge, coneshaped timber caissons which were floated out, sunk, and then filled with stones. He describes this immensely elaborate and difficult operation and the whole history of the project. The Pont des Arts, opened in 1804 and the first cast-iron bridge in France, is no less remarkable an achievement. Cessart, now 82 years old, was eager to introduce this new structural material and construction technique to France and because of his great reputation (and age) succeeded in persuading the Government to take the risk of building it."—Elton Engineering Books, *Cat. 14*, item 23.

Good set. Ex Bibliotheca Mechanica.

♣ Roberts & Trent, *Bibliotheca Mechanica*, pp. 87-88.

The Work of Cochin

25. (COCHIN, Charles Nicolas). *Catalogue de l'Oeuvre de Ch. Nic. Cochin fils, Ecuyer, Chevalier de l'Ordre du Roy, Censeur Royal, Garde des Desseins du Cabinet de Sa Majesté, Secrétaire & Historiographe de l'Académie Royale de peinture & de sculpture*. By Charles Antoine Jombert. Engraved vignette on title & one engraved headpiece. 144, [1] pp. 8vo, cont. sheep-backed marbled boards (rubbed). Paris: Prault, 1770. \$1250.00

First edition of the earliest catalogue of the work of Charles Nicolas Cochin (1715-90), painter, engraver, draughtsman, and the most celebrated member of

this famous and large family of artists. The catalogue was compiled by Cochin's friend, Jombert (1712-84), editor, publisher, bookseller, and man of letters.

A very good and fresh copy from the library of His Serene Highness Prince Fürstenberg at Donaueschingen with his stamp on title.

"Copernicus' First Printed Scientific Work"

26. COPERNICUS, Nicolaus. *De Lateribus et Angulis Triangulorum, tum planorum rectilineorum, tum sphaericorum, libellus eruditissimus & utilissimus, cum ad plerasque Ptolemaei demonstrationes intelligendas . . . Additus est Canon semissium subtensarum rectorum linearum in circulo.* Title within an elaborate woodcut border & numerous woodcut diagrams in the text. [30] leaves. 4to, fine 18th-cent. French-style green morocco, triple gilt fillets round sides, spine gilt, a.e.g. Wittenberg: J. Lufft, 1542. \$350,000.00

First edition of Copernicus' first original publication, containing the first appearance of any part of the text of *De Revolutionibus* and Rheticus' first published trigonometric tables.

"When Rheticus returned to Wittenberg for the opening of the winter semester, he was elected dean of the liberal arts faculty on 18 October 1541. In early 1542 he separately published — under the title *De lateribus et angulis triangulorum* — the section on plane and spherical trigonometry in Copernicus' *De revolutionibus*. To this brief discussion of the *Sides and Angles of Triangles* [the present work] Rheticus added a table of half-chords subtended in a circle. Such a half-chord is actually a sine, although both Copernicus and Rheticus studiously avoided the use of that term. The table of sines in the *Sides and Angles of Triangles* differs from the corresponding table in *De revolutionibus* by increasing the length of the radius from one hundred thousand to ten million and by diminishing the interval of the central angle from 10' to 1'. Furthermore, by indicating the complementary angle at the foot of the columns and at the right-hand side of the page, the 1542 table became the first to give the cosine directly, although that term is not mentioned. Rheticus did not ascribe the authorship of this table to Copernicus nor, presumably out of modesty, to himself. Nevertheless, the table was undoubtedly his doing. His independent place in the history of mathematics is due precisely to his computation of innovative and monumental trigonometrical tables."—*D.S.B.*, XI, p. 396.

"This is Copernicus' first printed scientific work. Like most of the ephemeral textbooks from this period, *De lateribus* is quite scarce."—Gingerich, *Science in the Age of Copernicus*, 22.

A fine and large copy with several lower margins uncut.

☛ Zinner 1795.

Coriolis on Machines

27. **CORIOLIS, Gaspard Gustave de.** *Du Calcul de l'Effet des Machines, ou Considérations sur l'Emploi des Moteurs et sur leur Évaluation, pour servir d'Introduction à l'Étude spéciale des Machines.* Tables in the text. 2 p.l., 8, viii, 270 pp., one leaf of errata. Large 4to, cont. blue sheep-backed marbled boards (joints rubbed, occasional foxing as usual due to the quality of the paper), flat spine gilt. Paris: Carilian-Goeury, 1829. \$2750.00

First edition, and quite scarce, of the first and principal book of the mathematician Coriolis (1792-1843). "Coriolis' first work was inspired by Lazare Carnot, and was intended to fill the need for a work which would provide the theoretical material on the use of motors not generally presented in courses in mechanics, nor completely developed in works specially devoted to machines.

"The introductory chapter deals with fundamental aspects of statics and dynamics in their relation to motors, and the conservation of live force, which Coriolis translates as the transmission of work. The second chapter concerns the amount of work to be derived from natural forces, while the third is largely devoted to the consequences of the transmission of work. Chapter four provides a more specific application of the theories presented in the earlier chapters, calculating the amount of work to be derived from various motors, the means of measuring the amount of work and of determining any loss of work."—Roberts & Trent, *Bibliotheca Mechanica*, pp. 78-79.

A very good copy, preserved in a morocco-backed box. Ex Bibliotheca Mechanica.

• D.S.B., III, pp. 416-19.

28. **CREMONA, Luigi.** *Graphical Statics. Two Treatises on the Graphical Calculus and Reciprocal Figures in Graphical Statics . . .* Translated by Thomas Hudson Beare. Diagrams in the text. xi, 161 p. 8vo, orig. cloth (extremities a bit worn), spine gilt. Oxford: at the Clarendon Press, 1890. \$250.00

First edition in English (1st ed., in Italian: Torino, 1874). Cremona (1830-1903), was a professor of mathematics at Cremona, Bologna, Milano, and Rome. His "main contributions to mathematics lie in the areas of birational transformations, graphic statics, and projective geometry . . . Cremona's main contribution to graphic statics seems to have been the skillful use of the funicular diagrams, or the reciprocal figure . . . his *Graphical Statics* contains not only signed lines and signed angles, which are fairly well known, but also the concept of signed and weighted areas. The development of the concepts of centroids of figures is elegant and clear."—D.S.B., III, pp. 469-69.

Nice copy. Ex Bibliotheca Mechanica.

*Romé de l'Isle's First Mineralogical Work;
Presentation Copy with Prices*

29. (DAVILA, P.F.). *Catalogue systématique et raisonné des Curiosités de la Nature et de l'Art, qui composent le Cabinet de M. Davila...* Thirty engraved plates (many folding). xxxv, [1], 571 pp.; vi, 656 pp.; vi, 290 pp., 3 p.l., 286, [1] pp. Three vols. 8vo, cont. mottled calf (foot of spine of Vol. III with a bit of wear), triple gilt fillet round sides, spines gilt, a.e.g., red morocco lettering pieces on spines. Paris: Briasson, 1767. \$10,000.00

First edition, and a very handsome set, of this lavish and detailed catalogue. "In 1767 Romé was employed, on Sage's recommendation, to draw up a catalogue of the curiosities that had been collected by Pedro Francisco Davila, who wished to sell his cabinet of natural history before returning to Peru. The work ran to three volumes, in the second of which Romé, in agreement with Linnaeus, stressed the importance of crystalline form in mineralogical description."—*D.S.B.*, XI, p. 520.

During Romé's early years, he found steady employment by preparing at least fourteen other mineralogical catalogues. Davila's enormous collection contained scientific instruments (26 items), medals, prints, sculpture, illuminated MSS., Oriental MSS., and books (402 lots) as well as natural history objects. In the Preface to Vol. I, Davila writes that he hopes to sell the collection *en bloc* but, if no person comes forward, the collection will be sold at auction beginning 12 November. The second part of the third volume is devoted to the classical bronzes and medals (catalogued by Abbé Grimaud) and the prints and drawings (catalogued by M. Remy).

The present set is priced throughout in a contemporary hand; it is the first time I have seen a set so annotated. The prices furnish invaluable information regarding the market of the period.

Fine set and very scarce on the market. This is a presentation copy from Davila, inscribed on the first title: "Pour Monsieur Hulin de la part de son tres humble et tres obeissant serviteur Davila."

• Laissus, "Les Cabinets d'Histoire Naturelle" in Taton, ed., *Enseignement et diffusion des sciences en France au dix-huitième siècle* (1986), p. 668—"le cabinet compte alors parmi les plus riches de France: le catalogue de ce remarquable ensemble emplit trois gros in-8, le premier consacré aux règnes animal et végétal, le second aux minéraux et le troisième aux fossiles." Wilson, *The History of Mineral Collecting*, p. 209—(erroneously calling for 7 plates only).

30. DELANGES, Paolo. *Meccanica Pratica in cui si Dimostra la Maniera di determinare l'Equilibrio delle Macchine, Computando le Resistenze degli Sfregamenti.* Two folding engraved plates. xiii, [1], 159, [1] pp. Large 4to,

cont. semi-stiff blue boards. Verona: Heirs of M. Moroni, 1783.

[bound with]:

—. *La Trisegante Nuova Curva, e Pensieri sulla Formula Cardanica*. One folding engraved plate. 28 pp. Large 4to. Verona: Heirs of M. Moroni, 1783. \$1750.00

First editions; both are quite uncommon. Delanges (d. 1810), was professor of mathematics at the military college at Verona and served as director of the hydraulic commission.

“The first work contains the first separate appearances of three papers by Delanges: ‘Esperienze per determinare le leggi colle quali procede la resistenza dello sfregamento del legno, e de’ metalli, e quella prodotto dalla durezza e ruvidita delle funi,’ ‘Difesa e conferma delle leggi seguite dalla resistenza dello sfregamento de’ solidi, dedotte dalle sperienze esposte nella prima Sezione,’ ‘Dell’equilibrio delle macchine, considerando in esse le resistenze degli sfregamenti’ . . .

“The second work appears to be the first publication on the curve which Delanges named the “trisegante’.”—Roberts & Trent, *Bibliotheca Mechanica*, p. 88.

The second work is concerned with the trisection of any angle, one of the three famous problems which faced the ancient Greek mathematicians. This was a topic which interested Cardano and Delanges’ monograph is based on the earlier mathematician’s discoveries.

Fine copies, preserved in a calf-backed box. Ex Bibliotheca Mechanica.

♣ Riccardi, I, 400-01.

A Rare & Popular Work on Medicaments

31. DUPUIS, Guillaume. *De Medicamentorum quomodocunque purgantium facultatibus, nusquam antea neque dictis, neque per ordinem digestis Libri Duo*. Woodcut vignette on title depicting Hippocrates & Galen. 4 p.l., 179 pp. Small 4to, antique reversed calf (a few headlines shaved). Lyon: M. Bonhomme, 1552. \$6750.00

First edition of this very popular and rare book on medicaments; it was reprinted for more than one hundred years. Dupuis (or Puteanus) was professor of medicine at the University of Grenoble where he had the reputation as an excellent physician. Dupuis “was another who came to the defense of Mesue against Manard and Fuchs as to the use of aloes and rhubarb. He further asserted that a good part of recent physicians had overwhelmed medicine with innumerable errors, basing their judgment not on reason but witnesses, as if there were no art, no method handed down teaching physicians to know the

qualities and properties of medicinal simples."—Thorndike, V, pp. 449-50.

There are a number of references to rhubarb in the text.

Fine copy with some contemporary marginal annotations (some cropped).

• Partington, II, p. 97. Wellcome, I, 5300.

32. EIFFEL, Gustave. *La Résistance de l'Air et l'Aviation. Expériences effectuées au Laboratoire du Champ-de-Mars.* Frontis. & 28 double-page folding plates (including 16bis & a duplicate of plate XXVI on slick tissue paper) & numerous diagrams & tables in the text. 2 p.l., vii, 153 pp. Small folio, orig. (or cont.?) red half-cloth. Paris: H. Dunod & E. Pinat, 1910.

[bound with]:

— *Complément.* One folding colored plate & numerous diagrams in the text. 3 p.l., 98 pp. Small folio. Paris: H. Dunod & E. Pinat, 1911.

\$500.00

First edition describing Eiffel's famous aerodynamic researches. Fine copy. Ex Bibliotheca Mechanica.

*The First Manual of Analytical and Metallurgical
Chemistry*

33. ERCKER, Lazarus. *Beschreibung Allerfurnemisten Mineralischen Ertzt unnd Bergkwercks arten, wie dieselbigen, und eine jede insonderheit, ihrer Natur und Eygenschafft nach, auff alle Metalla Probirt, unnd im kleinen Fewr sollen versucht werden...* Fine woodcut on title of a metallurgical laboratory and 41 fine & large woodcuts in the text. Title printed in red & black. 1 p.l., 134, [4] leaves. Small folio, cont. vellum over boards (occasional light browning). Frankfurt am Main: G. Tampach, 1629. \$6500.00

Fourth edition of this finely illustrated technological work; the first edition, issued in 1574 in Prague, is an extremely rare book.

This is the first manual of analytical and metallurgical chemistry. Ercker (ca.1530-94), held various mining posts at Dresden, Goslar in the Tyrol, Prague, and elsewhere during a twenty year period. Because of these positions, Ercker acquired extensive experience in chemistry and metallurgy. The present work — the author's *magnum opus* — offers "a systematic review of the methods of testing alloys and minerals of silver, gold, copper, antimony, mercury, bismuth, and lead; of obtaining and refining these metals, as well as of obtaining acids, salts, and other compounds. The last chapter is devoted to saltpeter. Ercker described laboratory procedures and equipment, gave an account of preparing

the cupel, of constructing furnaces, and of the assaying balance and the method of operating it. He used as his model Agricola's *De re metallica*, yet he was quite original and included only the procedures he himself had tested. Ercker was so hostile to alchemy that he did not use alchemical symbols . . ."—*D.S.B.*, IV, p. 393.

The attractive woodcuts depict apparatus including furnaces, balances, crucibles, etc.

A very fine copy.

♣ Cisco & Smith (trans.), *Lazarus Ercker's Treatise on Ores and Assaying* (Chicago: 1951). Darmstaedter, *Berg-, Probir- und Kunstbüchlein*, p. 92. Dibner, *Heralds of Science*, 89—(1st ed.). Ferguson, I, pp. 245—(no copy of this ed. in the Young collection). Hoover 282. Partington, I, pp. 104-07.

*A Very Large Copy of "An Epoch-Making Book"
From the Horblit Library*

34. EUCLIDES. *Elementa Geometrica*. Second leaf with a fine three-sided woodcut border, over 500 woodcut diagrams in the margins, & woodcut initials throughout. Second leaf with two lines printed in red. Gothic type. 45 lines. 137 leaves, lacking the final blank. Folio (305 x 213 mm.), early 19th cent. calf-backed marbled boards (second leaf carefully re-margined at head with no loss of woodcut image), spine gilt. Venice: E. Ratdolt, 25 May 1482. \$200,000.00

First edition and a magnificent large and fresh copy of this important book from the library of Harrison D. Horblit (sale Sotheby's, 1974, Part II, no. 341).

"An epoch-making book from many points of view. It was the first attempt — and a highly successful one — to produce a long mathematical book illustrated by diagrams. In his dedicatory epistle to the Doge Ratdolt says that he had often wondered why the great output of the Venetian printing presses included so few and so insignificant mathematical works. He had discovered that this was due to the difficulty of printing the diagrams without which such books were almost unintelligible, and he had set himself to overcome the difficulty. He certainly did overcome it; and he did more. He not only produced a very beautiful book, but he set a standard for the production of mathematical books which lasted for a generation or longer."—Thomas-Stanford, *Early Editions of Euclid's Elements*, p. 3.

Provenance: Early Italian arms drawn in the roundel of the woodcut border of second leaf, with the abbreviated signature Bern. Bal., 1587. Early 20th century bookplate of Charles and Mary Lacaita, Selham, Sussex. Later bookplate of Harrison D. Horblit.

This copy has dimensions identical to the Freilich example, described in the recent sale catalogue as "one of the largest . . . copies known of the 1482 Euclid." Preserved in a handsome morocco box.

♣ Dibner, *Heralds of Science*, 100—"the oldest textbook in science, 2000 years old

and still in use." Evans, *First Editions of Epochal Achievements in the History of Science* (1934), 1. Goff E-113. Hoover 287. Horblit 27. Klebs 383.1. *Printing & the Mind of Man* 25—"an outstandingly fine piece of printing." Sparrow, *Milestones of Science*, 59. Thomas-Stanford 1a.

*His Third & Final Contribution to
Analytical Mathematics;
An Uncut Set*

35. EULER, Leonhard. *Institutionum Calculi Integralis*. One folding engraved plate. 2 p.l., 542 pp.; 2 p.l., 526, [8] pp.; 4 p.l., 639 pp. Three vols. in two. Large 4to, cont. speckled boards (neatly rebacked & recornered in antique mottled calf by Aquarius), entirely uncut, spines gilt. St. Petersburg: Impensis Academia Imperialis Scientiarum, 1768-69-70.

\$11,500.00

First edition of the third and final classic contribution by Euler to analytical mathematics. "This series of works was completed by the publication in three volumes in 1768 to 1770 of the *Institutiones Calculi Integralis*, in which the results of several of Euler's earlier memoirs on the same subject and on differential equations are included. This, like the similar treatise on the differential calculus, summed up what was then known on the subject, but many of the theorems were recast and the proofs improved. The Beta and Gamma functions were invented by Euler and are discussed here . . ."—Ball, *A Short Account of the History of Mathematics*, p. 396.

This work "exhibits Euler's numerous discoveries in the theory of both ordinary and partial differential equations, which were especially useful in mechanics."—*D.S.B.*, IV, p. 478.

The second edition of this work appeared posthumously between 1792 and 1794 with a fourth volume of unpublished material. This fourth volume is sometimes mistakenly described as belonging to the first edition.

Some unimportant worming to first leaves of Vol. I but a fine and large set. C.W. Turner (University of Keele) bookplate.

*"Profoundly Influenced Contemporary Philosophy"
Uncut Copy in Original State*

36. [EULER, Leonhard]. *Lettres a une Princesse d'Allemagne sur Divers Sujets de Physique & de Philosophie*. Twelve folding woodcut plates & woodcut diagrams in the text. xii, 314 pp.; xiv, 340 pp.; xiv, [2], 404 pp. Three vols. 8vo, cont. wrappers, entirely uncut. St. Petersburg:

l'Académie Impériale des Sciences, 1768-68-72. \$35,000.00

First edition of an extremely rare book in commerce; this is the finest set I have ever seen. It is bound in contemporary wrappers and entirely uncut; the condition is fine and fresh. The margins are absolutely huge.

This famous work, which is concerned with cosmology and physics, consists of a series of letters addressed to the Princess of Anhalt-Dessau, to whom Euler had given lessons in physics. Euler attacked Leibniz's monadology here. Euler's *Lettres à une Princesse d'Allemagne* "had an immense success and profoundly influenced contemporary philosophy."—*Printing & the Mind of Man* 196n. It ran to twelve editions in the original French, nine in English, six in German, four in Russian, and two in both Dutch and Swedish. There were also Italian, Spanish, and Danish editions.

A fine set preserved in a half-morocco box. Ex Bibliotheca Mechanica.

☛ Houzeau & Lancaster 8897.

*One of the Most Famous & Attractive
of All Geological Books*

37. FAUJAS DE SAINT-FOND, Barthélemy. *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, [4] pp. Large folio, cont. mottled calf, triple gilt fillet round sides, spine richly gilt, green 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 (the quarto issue published at the same time is more common). The final four pages contain the list of subscribers. Our copy is superior to the Freilich copy which made \$10,800.

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

Red Morocco

38. FÉLIBIEN, André, Sieur des Avaux et de Javeroy. *Des Principes de l'Architecture, de la Sculpture, de la Peinture, et des autres Arts qui en dépendent. Avec un Dictionnaire des termes propres à chacun de ces Arts.* Engraved frontis. & 65 finely engraved full-page illus. in the text. Title printed in red & black. 12 p.l. (incl. frontis.), 542 pp. 4to, early 18th cent. French red morocco, triple gilt fillet round sides, gilt fleurons in each corner, spine gilt. Paris: chez la Veuve & J.B. Coignard, fils, 1699.

\$5250.00

"The *Principes*, first published in 1676, is a handbook of the principles and practices of the three arts of architecture, sculpture, and painting. By far the most important section is that on architecture. The author states that the book is written for the general public: its purpose is to do away with craft "secrets" and "mysteries," to make the many crafts associated with the arts intelligible to the layman, and by implication to give these crafts some uniformity. It is not only an early treatise written for the layman, but one of a group of treatises emphasizing practicality over principles . . .

"The fact that the author of the book was a person of considerable distinction in academic and court circles, and that the work was dedicated to Colbert's son, then *surintendant des bâtiments*, suggests political interest in a systematization of the techniques as well as the products of the crafts. However, Félibien's approach to his subject is as personal as it may be official. It is in marked contrast to the selective and exclusive approach of the architectural treatises which preceded it, and which focused on principles of design rather than of execution, and to the handbooks, which were concerned with a single craft, and with drawing and measuring rather than with tools. The contents of this work are unique, although they would be imitated immediately in England by Joseph Moxon . . .

"Félibien began his project with a proposal to collect trade terms in a dictionary. He soon realized that since his dictionary was intended to instruct, he would need to include a description of each trade and an essay on the principles of that art with which the trade was associated. In addition, he found it necessary to turn to craftsmen for explanations of their various trades, as well as to written authorities . . .

"The first section, on architecture, is in part a development of theoretical material from earlier architectural treatises. Chapter 1 is concerned with the history of architecture. Here Félibien considers not only the conventional view of architecture as a series of monuments that will confirm the importance of the reign of the king (Louis XIV), but also sees it as an older craft tradition, referred to by Philibert de L'Orme and Alexandre Francine, in which God is the sovereign Architect of the Universe, and geometry is emphasized as a fundamental discipline. Chapters 2 through 10 are devoted to an exposition of the orders. These are still close to the view of Fréart de Chambray and Abraham

Bosse, that the Ancients established a single interpretation for each of the orders, and that each had its special beauty; the Moderns, on the other hand, differed among each other in their solution to the problem of the proportions of the orders. Like Fréart, he ranks Palladio first among the Moderns . . .

“But Félibien, despite the preferential place and attention he gives to the orders in his introduction, states that priority in architecture should be given to siting, materials, and use; only after these are satisfied should character and the elements of beauty, which he defines as the relation of parts, just proportions, and symmetry, be considered. Chapter 11 is devoted to the types of building, 12 to materials, 13 to military engineering, and 14 through 22 to the trades (crafts). Following this introduction are engraved illustrations of the tools of each trade, with a list of the names of each tool on the facing page . . .

“The sections on sculpture and painting repeat this format, but not the size nor the scope of the architectural section. The dictionary, which had been proposed as the original project, forms the second part of the work . . .

“The *Principes* achieved instant popularity; it was reprinted in 1690, 1697, and 1699. In 1774 it still held sufficient authority that J.B. Quélard would base a part of his *Encyclopédia* on it.”—*The Mark J. Millard Architectural Collection. Volume I. French Books Sixteenth through Nineteenth Centuries*, 71.

A very fine copy. This is the 1699 reissue of the 1697 third edition, being identical apart from the new title-page.

39. FERGUSON, James. *Select Mechanical Exercises: shewing how to construct different Clocks, Orreries, and Sun-Dials, on Plain and Easy Principles. With several Miscellaneous Articles; and New Tables, I. For expeditiously computing the Time of any New or Full Moon within the Limits of 6000 Years before and after the 18th Century. II. For graduating and examining the usual Lines on the Sector, Plain Scale, and Gunter . . . To which is prefixed, A short Account of the Life of the Author.* Nine folding engraved plates. 5 p.l. (the first a blank), xliii, [1], 272 pp. 8vo, cont. mottled calf (joints cracked but strong), spine richly gilt, red leather label on spine (flaked). London: W. Strahan & T. Cadell, 1773. \$1250.00

First edition. Ferguson (1710-76), a skilled designer of clocks and planispheres, was an accomplished public lecturer and expounder of Newtonian ideas. He lectured extensively in London and the provinces and was the unofficial “popularizer in residence” to the court of George III. His models of the planetary system, several of which are described and illustrated in the present volume, were classics of engineering design whose accuracy far surpassed anything previously available.

The preliminary leaves contain Ferguson’s valuable autobiography, which is the chief source for his life and works.

Very good copy. Faint and mostly marginal dampstaining to final few leaves.

Ex Bibliotheca Mechanica.

• *D.S.B.*, IV, pp. 565-66. Roberts & Trent, *Bibliotheca Mechanica*, p. 115—"The first plate illustrates a clock invented by Benjamin Franklin, which has only three wheels and two pinions in the whole movement. The other eight plates show devices invented by Ferguson himself."

An Important Work on Crystallography

40. FRANKENHEIM, Moritz Ludwig. *Die Lehre von der Cohäsion, umfassend die Elasticität der Gase, die Elasticität und Cohärenz der flüssigen und festen Körper und die Krystallkunde, nebst vielen neuen Tabellen über alle Theile der Cohäsionslehre, in's besondere über die Elasticität und die Festigkeit.* 2 p.l., vi, 502 pp. 8vo, cont. grey paste-paper boards, red paper label on spine. Breslau: A. Schulz, 1835. \$1350.00

First edition. Frankenheim (1801-69), professor of physics at the University of Breslau, determined the constants of capillarity for a great number of liquids using glass tubes and glass walls. "His importance lies especially in the field of crystallography. In his work *Die Lehre von der Cohäsion* . . . (1835), he was the first to examine whether or not the geometrically possible types of crystal lattices agree in their symmetry relations with those actually observed in crystals. He showed that there could be only fifteen different 'nodal,' i.e., space lattice, type configurations. . . In 1856 he corrected himself: there could be only fourteen, because two of the proposed monoclinic subdivisions proved to be identical."—*D.S.B.*, V, p. 124.

Very good copy. Ex Bibliotheca Mechanica.

Machinery in France

41. GALLON, Jean Gaffin. *Machines et Inventions approuvées par l'Académie Royale des Sciences, depuis son établissement jusqu'à présent; avec leur Description.* 432 engraved plates (mostly folding). Titles printed in red & black. Six vols. Large 4to, cont. mottled sheep, spines richly gilt, red & green morocco lettering pieces on spines. Paris: G. Martin et al., 1735. \$13,500.00

First edition, and a very attractive set, of the most important record of the history of machinery and inventions in France for the latter 17th and first half of the 18th century. In 1729, the Academy commissioned the engineer Gallon (1706-75), to edit all descriptions of machines examined and approved by the Academy.

Gallon's work documents the technological explosion that occurred in France

in the arts, sciences, engineering, and manufacturing. New scientific instruments, clocks, textile machinery, paper-making machines, hydraulic engineering devices, steam shovels, street lights, umbrellas, and calculating machines are among the many inventions covered.

The work includes the first published illustrations of Pascal's calculating machine (with five plates) together with descriptions and illustrations of calculating machines by Perrault, Lespine, De Hillerin, and De Mean.

A nice set in uniform bindings. A seventh volume was posthumously published in 1777 and is not present here for obvious reasons. Plate 307 with a long clean tear.

• Poggendorff, I, 838.

The Foundation of Chemical Thermodynamics

42. GIBBS, Josiah Willard. "On the Equilibrium of Heterogeneous Substances" in *Transactions of the Connecticut Academy of Arts and Sciences*, Vol. III, Parts 1 & 2, pp. 108-248 & 343-524. Two vols. 8vo, orig. printed wrappers (wrappers detached but in good condition), uncut. New Haven: 1876-78. \$5000.00

First printing of this epochal paper, complete in the two parts; it comprises the foundation work of chemical thermodynamics.

A brilliant mathematician, Gibbs (1839-1903), introduced the phase rule to solve the intricate problem of the equilibrium of such mixtures as chemical solutions and metal alloys. The mathematical formulas of the phase rule enabled scientists to determine in advance the exact concentrations of substances and the proper temperatures and pressures necessary to produce stable chemical mixtures. Ironically, Gibbs' paper was ignored by his American colleagues and was not recognized in European scientific circles until more than ten years after its publication, yet his impact upon modern industrial technology can hardly be overemphasized.

His paper led directly to the modern manufacture of plastics, drugs, dyes, and organic solvents; enabled medical research to find the equilibrium of salts in blood and other tissues; and made possible the exploitation of salt deposits throughout the world. Gibbs' mathematical equations spared scientists from undertaking thousands of experiments in order to ascertain the precise conditions for successful chemical processes.

"In this single memoir of some 300 pages he vastly extended the domain covered by thermodynamics, including chemical, elastic, surface, electromagnetic, and electrochemical phenomena in a single system."—*D.S.B., V*, p. 389.

Fine copies preserved in a blue morocco-backed slipcase. Library call numbers

in ink on spines. Ex Bibliotheca Mechanica.

• Dibner, *Heralds of Science*, 49. Evans, *Epochal Achievements*, 60. Horblit 40. Roberts & Trent, *Bibliotheca Mechanica*, p. 138. Sparrow, *Milestones of Science*, 84.

The First Great American Book on Naval Architecture

43. GRIFFITHS, John Willis. *Treatise on Marine and Naval Architecture, or, Theory and Practice blended in Ship Building.* Lithographed frontis., 45 black & white plates, and two printed tables. 420, ii pp. Large 4to, orig. cloth (extremities with very minor wear, some foxing due to the quality of the paper). New York: D. Appleton, 1852. \$2250.00

“Third edition” of the first great American book on naval architecture (1st ed.: 1849). Griffiths (1809-82), was one of the earliest outstanding naval architects in America and, during the early 1850s, his steamships were the fastest and finest in the world.

“Through his writings Griffiths did more than any one else to put shipbuilding in America on a scientific basis, in place of the ‘rule of thumb’ methods then in vogue. He was not only an influential theorist, however, but a practical designer of ships as well, and one of the first in the United States outside of naval constructors like Joshua Humphreys, to specialize in designing. Most of his contemporaries, like Donald McKay, Samuel Hall, and Jacob Bell, owned shipyards and actually built the ships they designed . . . Griffiths, however, with his particular inventive genius and bold originality, was content to draw the plans and let others execute them. He showed amazing versatility in that period of constant innovation, designing outstanding vessels of many sorts — sail and steam, wood and iron, war and commerce. Though the *Ann McKim*, built at Baltimore in 1832, is often called the pioneer clipper, Griffiths is credited with designing the first ‘extreme clipper ship,’ the *Rainbow*, 750 tons, launched in 1845 for the China trade . . . To secure increased speed by reducing resistance, he gave these ships slender bows and sterns rising high above the water, concave bow waterlines and ‘the greatest breadth at a point considerably further aft than had hitherto been considered practicable’ (Clark, post, p. 65). Conservative skeptics attacked these innovations, questioning the safety of such sharp, slender ships, but they proved to be the fastest afloat and strongly influenced the subsequent development of the American clipper. Griffiths then turned to steamships, where again his influence was important . . . His writings and the success of his ships brought him orders from all parts of the world.”—*D.A.B.*, IV, pp. 626-27.

This book is very attractively illustrated with forty-five striking black & white plates, depicting various parts of ships and matters of design.

A fresh copy of a book which does not survive well. Surprisingly rare.

*The Invention of the Air Pump and the
Electric Generator;
A Most Handsome Copy*

44. GUERICKE, Otto von. *Experimenta Nova (ut vocantur) Magdeburgica de Vacuo Spatio Primum à R.P. Gaspare Schotto . . . nunc verò ab ipso Auctore Perfectiùs edita, variisque aliis Experimentis aucta. Quibus accesserunt simul certa quaedam De Aeris Pondere circa Terram; de Virtutibus Mundanis, & Systemate Mundi Planetario; sicut & de Stellis Fixis, ac Spatio illo Immenso, quod tam intra quam extra eas funditur.* Engraved title, fine engraved port. of the author, two double-page engraved plates, & 20 engravings in the text (many full-page). 8 p.l. (including the engraved title), 244, [4] pp., 1 leaf of errata. Folio, cont. calf (small careful repair to upper cover), arms in gilt on upper cover, lower cover with arabesque stamp in gilt, spine gilt with "F v S" stamped in gilt in five compartments, contrasting leather lettering piece. Amsterdam: J. Janssonium a Waesberge, 1672.

\$65,000.00

First edition, and a really fine and handsome copy, of one of the great classics of science. This is the nicest copy of this book I have seen for many years.

This book is notable for its importance in the fields of electricity and air pressure and for its account of the discovery of the vacuum pump. Guericke describes here his electrical machine by which he generated the first visible and audible electric discharges (illustrated here). "This remarkable work on experimental philosophy ranks next to Gilbert's in the number and importance of the electrical discoveries described. Electric conduction and repulsion, the discharging power of points, the dissipation of charge by flames, the light due to electrification, the crepitating noises of small sparks are all recognized."—Wheeler Gift Cat. 170.

Also described is his famous air-pump with which he created a vacuum, something (or nothing) which had been sought since antiquity. This air-pump became fundamentally important for the study of the physical properties of gases. Guericke was able to demonstrate here that air had weight and determined its density. The applications in meteorology were enormous.

Guericke was also a devoted Copernican and this book contains his important astronomical investigations.

Contemporary ownership inscription of Rudolph, Graf von Abensperg und Traun, chamberlain of the imperial court on free front endpaper. An earlier member of Rudolph's family was Otto Ferdinand, Graf von Abensperg und Traun, field marshal under Frederick the Great.

• Dibner, *Heralds of Science*, 55 (pp. 30 & 67). Dibner, *Founding Fathers of Electrical Science*, pp. 13-14. D.S.B., V, pp. 574-76. Evans, *Exhibition of First Editions of Epochal Achievements in the History of Science* (1934), 30. Horblit 44. Sparrow, *Milestones of Science*, p. 16.

Extra Illustrated in a Deluxe Presentation Binding

45. **GZOWSKI, Casimir Stanislaus.** *Description of the International Bridge, constructed over the Niagara River, near Fort Erie, Canada, and Buffalo, U.S. of America.* 21 lithographed plates (mostly folding). 5 p.l., [3]-65, [1] pp. Small folio, orig. red morocco (joints & corners with some wear), sides panelled & richly decorated in gilt, a.e.g. Toronto: Copp, Clark, 1873. \$2500.00

First edition. "The International Bridge, opened 1873, was the second railway bridge to cross the Niagara River and was built by the Grand Trunk Railway Co. of Canada to link with the American network of lines centred on Buffalo. Designed by E. P. Hannaford, the main bridge consisted of a series of eight wrought-iron Pratt trusses carried on masonry piers. Seven of the spans, varying in length between 193 ½ ft and 248 ft, were fixed and the eighth (218 ft) was a swinging span. There was also a smaller two-span bridge over the Erie Canal. The ironwork was all manufactured by the Phoenixville Co. of Philadelphia and the structure made extensive use of their famous Phoenix column. This official account of the bridge is unusual in that it was written by the contractor, Gzowski of Toronto, who was, of course, only too well acquainted with the extremely difficult conditions under which this bridge was built. The Niagara River is exceptionally deep and fast-flowing, subject to sudden floods and with currents varying from 5 ½ to 12 miles per hour. Furthermore, huge rafts of timber floating down constantly threatened the installations all summer and construction had to cease entirely during the winter because of the ice. Because it was impossible to build staging in the river, the trusses had to be built on shore and floated out on pontoons while the piers had to be designed as ice-breakers. The main problem lay in the founding of these piers and eventually three different solutions were selected, according to the condition of the river bed at the various positions. As well as describing the construction of this remarkable bridge, whose iron trusses were replaced by steel in 1901, Gzowski also gives the reasons for the selection of the site and the type of truss used and a history of the project."—Elton, *Cat.* 9, 68.

Gzowski (1813-98), a native of St. Petersburg, was compelled to emigrate for political reasons. He was involved in a number of canal and railroad projects in the United States before moving to Toronto in the 1840s.

This copy is one of the limited presentation examples in a handsome red morocco binding. Additionally, our copy has two large contemporary photographs of the newly completed structure tipped in at the front.

Very good copy. Ex Bibliotheca Mechanica.

• Roberts & Trent, *Bibliotheca Mechanica*, p. 153.

Kepler's First Important Optical Work

46. **KEPLER, Johannes.** *Ad Vitellionem Paralipomena, quibus Astronomiae Pars Optica traditur . . . de modo visionis, & humorum oculi usu, contra Opticos & Anatomicos.* Woodcut device on title, one engraved plate showing various anatomical sections of the eye, numerous woodcut diagrams in the text, & two folding printed tables. 8 p.l., 449, [18] pp. 4to, antique reversed calf (some foxing & browning throughout as is usual). Frankfurt: C. Marnius & Heirs of J. Aubrius, 1604. \$22,500.00

First edition of Kepler's first important optical work and a highly significant book in the history of ophthalmology. This is a good and large copy.

It is divided into two parts. The first part — the "Appendix to Witelo" — is a treatise on vision and the human eye in which is shown for the first time how the retina is essential to sight, the part the lens plays in refraction, and that the convergence of luminous rays before reaching the retina is the cause of myopia. Kepler describes the nature of central and peripheral vision and demonstrates the part that the vitreous plays in keeping the retina taut.

Part Two — the "Astronomica pars Optica" — comprises six astronomical chapters. They "include not only a discussion of parallax, astronomical refraction, and his eclipse instruments but also the annual variation in the apparent size of the sun. Since the changing size of the solar image is inversely proportional to the sun's distance, this key problem was closely related to his planetary theory; unfortunately, his observational results were not decisive."—*D.S.B.*, VIII, pp. 298-99.

This book "contains the first correct physiological explanation of the defects of sight, with a theory of vision, the first suggestion of the undulatory theory of light, an approximately correct formula of refraction (pointing out the relation between the sine of incident and refracted rays), the first announcement of one of the principal axioms of photometry, his method of calculating eclipses, still in use, etc. etc."—*Sotheran* 10,097.

Bookplate of Marcel Destombes.

♣ Caspar 18. Cinti 13. Zinner 3993.

*"The Foundation of all Planetary Calculations
for over a Century"—Sparrow*

47. **KEPLER, Johannes.** *Tabulae Rudolphinae, quibus Astronomicae Scientiae, Temporum longinquitate collapsae Restauratio continetur . . .* Finely engraved allegorical frontispiece & numerous woodcut diagrams in the text. 8 p.l., 120 pp., 4 leaves [numbered 121-25 & 3 unnumbered pp. of the "Sportula"], 115 (i.e. 119) pp. Folio, handsome antique calf, spine

richly gilt. Ulm: J. Saur, 1627. \$55,000.00

First edition of the work which provided the chief vehicle for the recognition of Kepler's astronomical accomplishments; it contains the first astronomical tables to be based on Kepler's three laws of planetary motion and is the first of Kepler's books to employ logarithms.

"The printed volume of the *Tabulae Rudolphinae* contains 120 folio pages of text in the form of precepts and 119 pages of tables. Besides the planetary, solar, and lunar tables and the associated tables of logarithms it includes Tycho Brahe's catalog of 1,000 fixed stars, a chronological synopsis, and a list of geographical positions. In some of the copies there is also a foldout map of the world... the map was engraved in 1630 but apparently was not distributed until many years later. This work stands alone among Kepler's books in having an engraved frontispiece — filled with intricate baroque symbolism."—*D.S.B.*, VII, p. 305.

A fine and very tall copy. The world map is not present in this copy as usual (see above for explanation).

♣ Caspar 79. Sparrow, *Milestones of Science*, 116.

A Major Reference Catalogue

48. (KIRCHER, A.). *Athanasius Kircher (1602-1680). Jesuit Scholar. An Exhibition of his Works in the Harold B. Lee Library Collections at Brigham Young University*. Introduction and Descriptions by Brian L. Merrill. Illus. xxxviii, 74 pp. Large 8vo, orig. illustrated wrappers. Provo: 1989.

\$250.00

This catalogue has become a work of permanent reference. The Introduction contains a very full biographical sketch of Kircher, with much information not readily available. A list of his major works is provided.

The balance of the catalogue is devoted to careful descriptions of B.Y.U.'s collection of Kircher — 31 items in all — with title-page transcriptions, pagination collations, and invaluable annotations regarding the importance of each work, provenance, binding, and references.

Now out-of-print and very difficult to find.

49. [KRAZ, Georg]. *Tractatus de Viribus Corporum*. Four folding engraved plates. 12 p.l., 300, [2] pp. 8vo, cont. marbled sheep (rubbed), spine richly gilt. N.p.: 1770. \$500.00

Second edition (1st ed.: 1759); both are very rare. OCLC locates only one copy of the first edition (at Munich) and no copy of our second edition. Kraz (1713-1766), a Jesuit, was professor of mathematics and Hebrew at the University of Ingolstadt. He wrote several other scientific works.

"The *Tractatus de Viribus Corporum* concerns the equilibrium of solid

bodies . . . In it Kraz discusses vibration, deflection, and the bending of beams, and makes reference to various authorities, among them Musschenbroek and Varignon."—Roberts & Trent, *Bibliotheca Mechanica*, p. 188.

Very good copies. Two old German library stamps on title. Ex Bibliotheca Mechanica.

• Poggendorff, I, 1315-16.

50. LA HIRE, Philippe de. *Gnomoniques, or the Art of Drawing Sun-Dials on all sorts of Planes by Different Methods. With the Geometrical Demonstrations of all the Operations . . . Rendred into English and Illustrated by an Example in Numbers.* By John Leek. Five folding engraved plates. 8 p.l., 108, [44], 15 pp. Small 8vo, cont. panelled sheep (joints with a short split each but strong, corners a bit worn). London: R. Northcott, 1685.

\$3000.00

First edition in English (1st ed.: Paris, 1682) of this important work on sundials, their proper design, and construction. Large parts of the work are devoted to instructions for determining the correct position of the lines on the dial-plate.

The translator, John Leake (fl. 1650-86), was established in London as a mathematical practitioner by 1650 and in 1655 he designed an elaborate sundial for erection in Leadenhall Street (illustrated in Joseph Moxon's *Tutor*). He was chosen as first Master of the new mathematical school founded at Christ's Hospital in 1677.

La Hire (1640-1718), astronomer, mathematician, and physicist, "was, for nearly half a century, one of the principal animators of scientific life in France."—*D.S.B.*, VII, p. 578.

A fine unpressed copy. Horblit bookplate.

• Taylor, *Mathematical Practitioners of Tudor & Stuart England*, 442 (& see pp. 236-37 for Leake).

"First Book on Theory of Elasticity"

51. LAMÉ, Gabriel. *Leçons sur la Théorie mathématique de l'Élasticité des Corps solides.* One folding lithographed plate. xvi, 335 pp. 8vo, orig. printed wrappers (upper wrapper detached, spine somewhat frayed, some foxing), uncut. Paris: Bachelier, 1852.

\$1500.00

First edition. "The first book on theory of elasticity, this work is the product of Lamé's investigations of a spherical elastic envelope subject to a given distribution of load. Based on an earlier memoir written in conjunction with Clapeyron, it gives a clear and concise presentation of theoretical results dealing with elastic deformations of isotropic materials. In the present work 'the form of the equations was somewhat changed since Lamé had come to the conclusion

that to determine the elastic properties of an isotropic material, two elastic constants were required.' He introduces problems on vibrations, discusses the motions of strings, membranes, and bars, as well as the propagation of waves in an elastic medium. In addition, the book covers curvilinear coordinates and deformations of spherical shells in more depth than was possible in the memoir . . .

"These lessons on the elasticity of solid bodies formed part of the course in mathematical physics Lamé taught at the Faculty of Sciences. Todhunter said that the 'work of Lamé cannot be too highly commended,' praised his mathematical investigations as clear and convincing, and complimented the general reflections for 'their elegance of language and depth of thought'."—Roberts & Trent, *Bibliotheca Mechanica*, p. 194.

Lamé (1795-1870), was professor of physics at the École Polytechnique in Paris and made original contributions to differential geometry, number theory, thermodynamics, and applied mechanics. His name is immortalized by the "Lamé Equations" for determining the strength of thick cylinders.

Very good copy, preserved in a morocco-backed box. Ex Bibliotheca Mechanica.

• D.S.B., VII, pp. 601-02.

Complete with the Supplement

52. LANGSDORF, Karl Christian. *Lehrbuch der Hydraulik mit beständiger Rücksicht auf die Erfahrung.* 51 engraved plates (many folding, some quite large; one plate with a tear neatly repaired). cx, 655 pp. Large thick 4to, cont. marbled boards (joints at head nicely repaired), contrasting leather lettering piece on spine. Altenburg: Richter, 1794.

[bound with]:

— *Fortsetzung.* Finely engraved frontis. port. of the author & two engraved plates. xx, 657-816 pp. Large 4to. Altenburg: Richter, 1796.

\$1950.00

First edition — and a complete copy — of the author's major work on hydraulics; this was one of the most complete treatises on the subject of the period. Langsdorf (1757-1834), was professor of engineering at Erlangen and later became professor of mathematics at Heidelberg.

This set contains the rare *Fortsetzung* which is not found in most copies.

Very good copies. Ex Bibliotheca Mechanica.

• Roberts & Trent, *Bibliotheca Mechanica*, pp. 195-96.

53. **LARDNER, Dionysius.** *A Treatise on Hydrostatics and Pneumatics.* Engraved title & illus. in the text. [iii]-viii, 353, [1] pp. Small 8vo, cont. half-morocco & marbled boards, spine gilt, black leather lettering piece on spine. London: Longman et al., 1831. \$250.00

First edition. "This is a systematic textbook devoted to hydrostatics, hydraulics, and pneumatics. Of interest are his descriptions of pneumatic machines such as the suction pump, fire engine, siphon, air gun, balloon, and diving bell."—Roberts & Trent, *Bibliotheca Mechanica*, p. 199.

"Elected in 1827 to the chair of natural philosophy and astronomy in the recently founded London University... he was a man of great and versatile ability, master of a lucid style, and as a populariser of science did excellent work."—*D.N.B.*, XI, p. 586.

Nice copy. Half-title lacking. Ex Bibliotheca Mechanica.

*"Cet Ouvrage Très-Estimé"—Brunet;
The Huzard Copy*

54. **LEDERMUELLER, Martin Frobenius.** *Amusement Microscopique tant pour l'Esprit, que pour les Yeux...* Finely engraved frontis. & 152 plates, all finely handcolored. Three vols. in one. 4 p.l., 126, [4] pp.; 138, [2] pp.; 4 p.l., 118, [2], 23, [1] pp. Large 4to, cont. mottled calf (a few unimportant abrasions), triple gilt fillet round sides, spine gilt, green morocco lettering pieces on spine, a.e.g. Nuremberg: A.W. Winterschmidt, 1764-66-68. \$13,500.00

First edition in French of this famous and beautifully illustrated microscopical work; this was the copy of Jean-Baptiste Huzard (1755-1838), French agronomist and inspector-general of the national veterinarian schools, who formed a magnificent library of over 40,000 volumes mostly devoted to natural history, agriculture, rural economy, and medicine (his sale in 1842).

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 from the author's drawings, depict a wide range of objects under magnification including insects, plants, fungi, minerals, cochineal, mites, hydra, mollusks, etc. Several microscopes and apparatus are also illustrated.

A very fine and handsome copy. This set lacks as is usual the *Traité physique et microscopique de l'asbeste* (1776) which Brunet says "manque souvent."

• Brunet, III, 918-19. Clay & Court, *The History of the Microscope*, pp. 154, 182, & 183.

55. LOWNDES, William. *A Catalogue of Books, Pamphlets, Prints, Oratorios and Plays; Printed for and Sold by W. Lowndes, No. 77, Fleet-Street, London.* 24 pp. Small 8vo, disbound. London: not before 1789.

\$1250.00

William Lowndes (1753?-1823), bookseller at 77 Fleet Street and Bedford Street, Covent Garden, was the eldest son of Thomas Lowndes (1719-84) and father of the famous bibliographer William Thomas Lowndes. He came from a well-known bookselling family, originally from Cheshire, of which several members were liverymen of the Stationers' Company. He and his father were noted dramatic publishers and had an extensive circulating library. Over the years, they acquired a considerable fortune.

This catalogue lists about 1500 publications of Lowndes, mostly drama, but a number of practical books as well.

Fine copy. Contemporary inscription on final leaf "Mary Edwards her book."

An "Extraordinary Poem" with Fine Woodcuts of Plants

56. MACER FLORIDUS. *De Herbarum Virtutibus Aemilii Macri Veronensis elegantissima poesis, cum succincta admodum difficultium & obscurorum locorum, D. Georgii Pictorii...expositione...& in lucem edita. Cum Carmine de Herba quadam exotica...D. Georgio Pictorio Villingano autore.* 52 fine woodcuts in the text & woodcut printer's device on verso of final leaf. 8 p.l., 206, [2] pp. Small 8vo, 17th or 18th cent. semi-stiff boards (a bit of foxing here & there). Basel: [S. Henricpetri, 1581].

\$12,500.00

A handsomely illustrated edition of this popular medieval verse herbal, here edited by Georg Pictorius (or Jörg Maler; ca. 1500-69), a native of Villingen in the Black Forest who was first a schoolmaster at Freiburg im Breisgau and then later studied medicine. He later became physician to the archducal court at Ensisheim. Pictorius first published his edition in 1559; this is the second edition.

The *Macer Floridus* authorship has never been determined, but it is generally assumed, without much evidence, to be the work of Odo, Bishop of Meung and to have been composed in the 11th century. This "extraordinary poem" (Green, *History of Botanical Science*, p. 90) is in the form of Latin hexameters and describes some 77 plants and their medical properties. It was one of the most popular medical and botanical works of medieval times, probably because its easily memorized verses allowed ready knowledge of a compact body of herb lore, comparable to the other great versified compendium of medical knowledge, the *Regimen Sanitatis* of the School of Salerno.

The *Macer Floridus* is "of importance as one of the earliest Western documents showing a revival of interest in botany."—Hunt, I, p. 4. The woodcuts are finely cut, delicate and lively, and much in the character of the best done in Brunfels

and Fuchs, though a good deal smaller.

Fine and fresh copy.

☛ For Pictorius, see Thorndike, VI, pp. 399-406.

Large Paper Copy

57. MACLAURIN, Colin. *An Account of Sir Isaac Newton's Philosophical Discoveries, in Four Books* . . . published from the Author's Manuscript Papers, by Patrick Murdoch, M.A. and F.R.S. Six folding engraved plates. 14 p.l., xx, 392 pp. Large 4to, attractive antique calf, spine gilt, red morocco lettering piece on spine. London: Printed for the Author's Children, 1748. \$2500.00

First edition, a fine large paper copy, measuring 275 x 225 mm. This is a study of Newton's discoveries, written by a friend and disciple. Maclaurin (1698-1746), was the greatest of the 18th-century writers on fluxions after Newton; his *Treatise on Fluxions* (1742) has been described as the earliest logical and systematic publication of the Newtonian methods. Newton had great respect for Maclaurin's mathematical abilities, and he personally recommended him for a professorship at the University of Edinburgh.

The "Account of the Life and Writings of the Author" by Murdoch, which serves as a preface, is the chief authority for the life and writings of Maclaurin.

An attractive copy. Ex Bibliotheca Mechanica.

☛ Babson 85.

58. MAREY, Étienne Jules. *La Circulation du Sang a l'État physiologique et dans les Maladies*. 358 illus. in the text. 2 p.l., iii, 745 pp. Thick 8vo, cont. morocco-backed marbled boards (some foxing), spine gilt. Paris: G. Masson, 1881. \$750.00

First edition of Marey's classic work on the mechanics and hydraulics of the circulatory system, the relationship of heart rate and blood pressure, the heartbeat, respiration, and muscle contraction. Marey (1830-1904), was one of the great French physiologists of the 19th century and the present work is the culmination of his lifelong study of the circulation. His adoption and advocacy of graphical recording were of the greatest importance for the development of experimental physiology.

Fine copy. Ex Bibliotheca Mechanica.

☛ *D.S.B.*, IX, pp. 101-03. Garrison-Morton 783.

The Fine Earl of Bute — Horblit Copy
With His Important Contribution to the Theory of Numbers

59. **MERSENNE, Marin.** *Cogitata Physico Mathematica. In quibus tam naturae quàm artis effectus admirandi certissimis demonstrationibus explicantur.* Numerous woodcuts in the text. Five parts in one vol. Large thick 4to, cont. blind-stamped vellum, arabesque device in center of each cover. Paris: A. Bertier, 1644.

[bound with]:

— . *Universae Geometriae, Mixtaeque Mathematicae Synopsis: et Bini Refractionum Demonstratarum Tractatus.* 16 p.l., 589 pp. Large 4to. Paris: A. Bertier, 1644. \$35,000.00

First editions and very rare in such fine condition. These two works are important compendia of texts by Mersenne, including several of his most important works on mathematics, optics, physics, and music. The *Universae Geometriae* is considered to be a supplement to the *Cogitata* and they are oftentimes found bound together.

“This collection comprises *De Mensuris, Ponderibus & Nummis Hebraicis, Graecis & Romanis ad Gallica redactis, Hydraulica Pneumatica; arsque navigandi. Harmonia Theorica, Practica, et Mechanica phaenomena; F. Marini Mersenni Minimi Tractatus Mechanicus Theoricus et Practicus; his . . . Ballistica, et Acontismologia and Universae Geometriae, Mixtaeque Mathematicae Synopsis, et Bini Refractionvm . . .*

“Mersenne’s parallel discussions of light and vision run throughout the *Cogitata* and the *Universae geometriae*. His close English connections are revealed by the inclusion in the optical section of *Universae Geometriae* of unpublished work by Walter Warner and a version of Hobbes’ treatise on optics.”—Roberts & Trent, *Bibliotheca Mechanica*, p. 223.

The preface to the *Cogitata* contains the first appearance of his famous statement about perfect numbers, known as “Mersenne’s Numbers.” The search for Mersenne numbers — prime numbers — that occur in decreasing frequency the higher they are is still ongoing, with huge computations utilizing the full capacity of the most advanced computers. Prime numbers, once regarded as numerological oddities, are now of crucial importance for encrypted electronic communication. See Ball, *A Short Account of the History of Mathematics*, pp. 306-07.

“An exceedingly interesting collection...Mersenne was in constant correspondence with all the most celebrated men of his time, namely Galileo, Torricelli, Pascal, Descartes, Fermat, Roberval, &c. and in this collection has published, besides his own writings, most important works and letters of his eminent friends not to be found elsewhere, and including, not only their discoveries, but also their scientific quarrels...these volumes [are] highly important for the history of science.”—Libri sale catalogue, 1861.

The *Cogitata* is illustrated with numerous woodcuts showing musical instruments, music, and geometrical diagrams.

Fine copies, handsomely bound. With the armorial bookplate of John Stuart, third Earl of Bute (1713-92). Bute formed a magnificent scientific library (see *D.N.B.*). Book label of Harrison D. Horblit. Ex libris Bibliotheca Mechanica. Very occasionally another much slighter work by Mersenne — his *Novarum Observationum Physico-Mathematicarum* (1647) — is bound-in following the *Universae Geometriae*. It is not present here.

♣ Mottelay, p. 122.

60. [MESMER, Franz Anton, supposed ed.]. *Recueil des Pièces les plus intéressantes sur le Magnétisme animal*. [11], 8-468 pp. (lacking the license leaf at end). 8vo, 19th-cent. green sheep-backed marbled boards (sides rubbed, final four leaves with a marginal stain), flat spine gilt. [Paris]: 1784. \$650.00

First edition of this important collection of early treatises on animal magnetism. Along with Mesmer's *Mémoire sur la Découverte du Magnétisme animal*, it contains the texts of ten essays in favor of Mesmer's treatment by Court de Gebelin, Bergasse, Gérardin, Moulinié, Orelut, Tissart du Rouvre, and others. At the end a six-page letter by Mesmer is printed, dated 16 August, no year.

Good copy. Signature of "Delhôme," dated 20 August 1784 on title.

♣ Caillet 9198—(giving a list of the essays). Poggendorff, II, 128. No copy in the Norman collection.

*An Important Reference Work on Mineralogy
& the History of Collecting*

61. (MINERALOGY). *The History of Mineral Collecting 1530-1799. With Notes on Twelve Hundred Early Mineral Collectors*. By Wendell E. Wilson. Plates in color & many facsimiles in the text. 264 pp. Large 4to, orig. cloth over boards. Tucson: The Mineralogical Record, 1994. \$125.00

First edition, hard-bound issue, of this extremely important and useful history of mineral collecting. This is the best book on the subject. Well indexed.

Out-of-print.

62. MOEBIUS, August Ferdinand. *Der barycentrische Calcul ein neues Hilfsmittel zur analytischen Behandlung der Geometrie, dargestellt und insbesondere auf die Bildung neuer Classen von Aufgaben und die Entwicklung mehrerer Eigenschaften der Kegelschnitte angewendet...* Four folding lithographed plates (slightly foxed). xxiv, 454 pp., 1 leaf of errata (several preliminary leaves misbound at end). 8vo, modern blue morocco-backed

marbled boards (lightly foxed throughout), uncut. Leipzig: J.A. Barth, 1827. \$1500.00

First edition. "The present volume represents not only Möbius' most important contribution, but the source of much of his later work. He had developed the fundamental ideas for his barycentric calculus in 1818 and by 1821 had decided that they warranted a book-length treatment. Since barycentric coordinates are a form of homogenous coordinate, Möbius is recognized by Feuerbach and Plücker as a discoverer of homogenous coordinates."—Roberts & Trent, *Bibliotheca Mechanica*, p. 227.

Very good copy. Perforated stamp of the Franklin Institute on title. Ex Bibliotheca Mechanica.

• D.S.B., IX, pp. 429-31.

"Extremely Important"

63. MOIGNO, François Napoléon Marie. *Leçons de Mécanique Analytique . . . rédigées principalement d'après les Méthodes d'Augustin Cauchy, et étendues aux Travaux les plus récents. Statique.* Two folding lithographed plates. xl, 727 pp. 8vo, cont. morocco-backed marbled boards (minor foxing), flat spine gilt. Paris: Gauthier-Villars, 1868. \$950.00

First edition and surprisingly rare. "This extremely important text is based on the lectures on mechanics delivered by Augustin Cauchy between 1820 and 1830 at the École Polytechnique and at the Faculté des Sciences. Cauchy's devoted student, Moigno, edited most of the work from his master's original autograph notes. However, Moigno has augmented the section dealing with integral and differential calculus with the work of other authors on analytical mechanics, and to Cauchy's demonstration of virtual velocities he has adjoined that of Ampère. Other material derives from the work of Lamé, Broch, Rankine, Jullien, and Dirichlet. This work reveals the progress made in mechanics through the recent advancement of mathematical analysis . . .

"St. Venant wrote the two chapters on elasticity in this book; Timoshenko calls them the 'best résumé of Cauchy's work in theory of elasticity,' further praising their presentation of the history of the equations of elasticity. —Timoshenko, 104, 108, 232."—Roberts & Trent, *Bibliotheca Mechanica*, p. 227.

Fine and attractive copy. Ex Bibliotheca Mechanica.

The Fundamental Law of Electric Circuits

64. 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.

65. PARACELSUS. *Spittal Büch* . . . Durch den, rechter ordenlicher kunst, liebenden Herren, Adamen von Bodenstein, Philosophen unnd der artzney Doctorn in druck geben. Title printed in red & black. Woodcut printer’s device on recto of final leaf (otherwise blank). [83] pp. Small 4to, modern morocco (minor foxing), gilt. Mulhouse: P. Schmid, 1562. \$12,500.00

First edition of an important work, notable for its contributions to hygiene and medical ethics. Paracelsus exhorts the physicians to practice empiricism in treating diseases instead of blindly following fixed rules based on the ancients.

A nice copy of an early work in the Paracelsus canon; it was frequently reprinted.

♣ Sudhoff 44.

The Great Surgery

66. PARACELSUS. *Erster [—Ander—Dritte] Theil der grossen Wundartzeney . . . von allen Wunden, Stich, Schüsz, Brendt, Thierbissz, Beinbrüch* . . . Fine woodcut vignette (each different) on titles & several full-page woodcut illus. in the text. Titles printed in red & black. 12 p.l., 116 leaves (the last blank); 12 p.l. (the last blank), 129, [1] leaves; 74 unnumbered leaves (the last blank). Three parts in one vol. 4to, later limp vellum, yapp edges. [Colophon in Part II: Frankfurt am Main: G.

Raben & the Heirs of W. Hanen, [1562].] \$12,500.00

A very rare and somewhat complicated edition (see below); it contains fine woodcuts on the titles and the woodcut of surgical instruments. The first printing of the text appeared in 1536 in Augsburg (see Grolier Club, *One Hundred Books Famous in Medicine*, 16).

This is Paracelsus's greatest work and the only major book by him published during his lifetime. Paracelsus was responsible for the most violent reform in Renaissance medicine. In this book, Paracelsus deals with the complete treatment of wounds caused by piercing, shooting, burning, animals bites, bone fracture, and other injuries.

While many historians of medicine give Paré credit for first recognizing the importance of cleanliness and the self-healing properties of wounds, it was Paracelsus, a generation before, who first recommended that wounds might well heal without extensive treatment. "Among Paracelsus' practical achievements was his management of wounds and chronic ulcers. These conditions were overtreated at the time, and Paracelsus' success lay in his conservative, noninterventionist approach, which was based upon his belief in natural healing power and *mumia*, an active principle in tissues."—*D.S.B.*, X, pp. 306-07.

"Paracelsus bitterly deplored the separation of surgery from medicine, and strove constantly to weld the two disciplines together. He personally practiced, as well as wrote, on both subjects . . . In his wound management, he strongly believed, as did Hippocrates, that healing was solely the property of nature, and that the doctor could only assist the natural forces, primarily by supplying nutrition and in preventing complications."—Zimmermann & Veit, *Great Ideas in the History of Surgery*, pp. 173-74.

This edition seems to have been issued at the same time or before Sudhoff 49-51. Just the first signature of Part III is the same as Sudhoff 51. The remainder of the signatures (B-T) are from Sudhoff 29 (1553); the publishers Raben and Hanen had taken over the unsold copies from the original publisher Herman Gölfferich and printed new preliminary leaves.

Fine and fresh copy.

☛ Sudhoff 52.

Wound Management

67. PARACELUS. *Drei Bücher von Wunden und Schäden, sampt allen iren Zufellen, und derselben vollkommener Cur...vormals nie im Truck ausgangen. Mit einer Vorrede... Adami von Bodenstein.* Title printed in red & black with a woodcut of doctors examining a patient, and two other full-page woodcuts of a battle-scene & surgical instruments. 4 p.l., 68 leaves. Small 4to, modern limp vellum (title neatly backed strengthening inner margin, final leaf cleaned & carefully repaired in inner margin).

Frankfurt: Heirs of C. Egenolff, 1563. \$13,500.00

First edition of one of the most important and influential medical texts of Paracelsus in which he describes his theory of wound management and also states the importance of chemical substances in treatment. Paracelsus was the first to recommend the use of pharmaceutical products to cure disease.

"Among Paracelsus' practical achievements was his management of wounds and chronic ulcers. These conditions were overtreated at the time, and Paracelsus' success lay in his conservative, noninterventionist approach, which was based upon his belief in natural healing power and *mumia*, an active principle in tissues . . . Chemical therapy had been used chiefly externally by the ancients, but Paracelsus recognized the superiority of chemicals taken internally over the traditional, mostly herbal internal medicines. He imposed strict controls upon their use, however, holding that chemicals must be given only in moderate doses . . . and only in detoxified form."—*D.S.B.*, X, pp. 306-07.

Paracelsus makes constant reference to *mumia* in this book and speaks of caring for the spirit or morale of the patient. He includes a chapter on cancers.

A very good and clean copy. Marginal notes of leaf 65 shaved and a few small stains.

♣ Sudhoff 53.

68. PARKINSON, Thomas. *A System of Mechanics and Hydrostatics, being the Substance of Lectures upon those Branches of Natural Philosophy.* 34 folding engraved plates & one folding engraved map. 5 p.l., 255, [1] pp.; 192 pp. Two parts in one vol. Large 4to, cont. half-calf & marbled boards (nicely rebacked), spine gilt, green morocco lettering piece on spine. Cambridge: printed by J. Archdeacon, 1789. \$1250.00

First complete edition; the *System of Mechanics* first appeared in 1785. Parkinson (1745-1830), mathematician, was tutor at Christ's College, Cambridge from 1777 to 1791 and a member of the Royal Society. This book was designed to be used as a textbook at Cambridge. It is a complete introduction to mechanics and hydrostatics with sections on the laws of motion, elasticity, levers, wheels, wedges, screws, percussion, the motion of fluids, pumps (including the air pump), barometers, thermometers, etc.

The excellent plates illustrate the various principles and instruments.

Very good copy.

♣ Roberts & Trent, *Bibliotheca Mechanica*, p. 246.

A Popular & Successful Dyeing Handbook

69. PARNELL, Edward Andrew. *Dyeing and Calico-Printing.* 23 printed textile samples pasted-in. viii, [5]-228 pp. 8vo, orig. green blind-stamped

cloth, spine lettered in gilt. London: Taylor, Walton, & Maberly, 1849.
\$1750.00

First separate edition, "reprinted from Parnell's 'Applied Chemistry in Manufactures, Arts, and Domestic Economy,' 1844." This handbook on dyeing and textile printing was very successful with a translation into German and several American editions.

The twenty-three samples are in fine and fresh condition (with some offsetting on to opposite pages).

Fine and fresh copy.

♣ Not in Ron, *Bibliotheca Tinctoria*.

A Comprehensive Work

70. PECCHIO, Francesco Maria. *Tractatus de Aquaeductu. Quomodo constituatur. Ex quibus Aquis. Quot modis. Quis possit constituere. De praescriptione decennali, vicenalis, & immemorabili. De Possessorio, & Petitorio in materia Aquarum.* Numerous full-page woodcuts (16 folding). 20 p.l. (1st leaf blank), 412, [62] pp.; 20 p.l., 466, lxxvi pp.; 16 p.l., 291, [68] pp.; 6 p.l., lxxix, 570, [9] pp. Four vols. Folio, 18th–cent. half-sheep & boards (a little rubbed, some occasional dampstaining), spines gilt, green & brown leather lettering pieces on spines. Pavia: J.A. Magri, [1670]-86.

\$12,500.00

First edition of this rare and comprehensive work on aqueducts and canals, the regulation of rivers, problems of hydraulics, and water rights. Because of Italy's mountainous geography and extensive coastline, the science of training and regulating rivers developed to its highest degree in Italy by the end of the 17th century. This book is, we believe, the most extensive work on the subject of the time. Pecchio (fl. 1690), was archdeacon at Pavia and a professor at the city's gymnasium.

The numerous woodcuts are attractively naive.

Fine set. Ex Bibliotheca Mechanica.

♣ Riccardi, II, 254. Sotheran, *First Supplement*, 6874—"rare."

Reigned Supreme for 300 Years

The First Edition to be Edited by Andreas Alexander

71. PECKHAM, John. *Perspective communis.* [Edited by Andreas Alexander]. Numerous geometrical woodcuts in the outer margins of the text & woodcut printer's device on recto of final leaf. 38 unnumbered leaves. Small folio, modern pigskin over boards (a few minor stains).

[Leipzig: Martin Herbipolensis, 1504]. \$15,000.00

A rare and handsome early edition of this classic work on optics; it was the most influential text on the subject for three hundred years. This is the first edition to be edited by Andreas Alexander (ca. 1475-ca. 1504), who prepared this edition to instruct students at the University of Leipzig where he had recently been appointed to the faculty of arts (see Lindberg, *Theories of Vision from al-Kindi to Kepler*, p. 121). Leipzig had, in the 15th and early 16th century, a vigorous tradition of presenting regular lectures on the *Perspectiva communis*.

"The work on which Pecham's fame has chiefly rested is the *Perspectiva communis*, probably written between 1277 and 1279 during Pecham's professorship at the papal curia. In the first book Pecham discussed the propagation of light and color, the anatomy and physiology of the eye, the act of visual perception, physical requirements for vision, the psychology of vision, and the errors of direct vision. In book II he discussed vision by reflected rays and presented a careful and sophisticated analysis of image formation by reflection. Book III was devoted to the phenomena of refraction, the rainbow, and the Milky Way . . .

"The central feature of Pecham's optical system and the dominant theme of book I of the *Perspectiva communis* is the theory of direct vision. Here, as elsewhere, Pecham endeavored to reconcile all the available authorities — Aristotle, Euclid, Augustine, al-Kindi, Ibn al-Haytham, Ibn Rushd, Grosseteste, and Bacon . . .

"Pecham's optical system included significantly more than a theory of direct vision. He briefly discussed the doctrine of species; treated at length the propagation of rays; and developed a theory to explain how solar radiation, when passing through noncircular apertures, gives rise to circular images. He expressed the full law of reflection and applied it to image formation by plane, spherical, cylindrical, and conical mirrors; in this analysis he revealed an implicit understanding of the nature of the focal point of a concave mirror . . .

"Pecham's success was greatest in the case of the *Perspectiva communis*. This text . . . went through twelve printed editions, including a translation into Italian, between 1482 and 1665. It was used and cited by many medieval and Renaissance natural philosophers, including Dominicus de Clavasio, Henry of Langenstein, Blasius of Parma, Lorenzo Ghiberti, Leonardo da Vinci, Albert Brudzewski, Francesco Maurolico, Giambattista della Porta, Girolamo Fabrici, Johannes Kepler, Willebrord Snellius, and G.B. Riccioli . . . The *Perspectiva communis* was the most widely used of all optical texts from the early fourteenth until the close of the sixteenth century, and it remains today the best index of what was known to the scientific community in general on the subject."—*D.S.B.*, X, pp. 475-76.

Peckham (ca. 1230-1292), took his degrees at Paris and Oxford and in 1279 was elected archbishop of Canterbury. The first edition of the text was published ca. 1482-83.

Very good copy preserved in a red morocco-backed box. This edition is very

rare.

• Smith, *History of Mathematics*, II, p. 341—"The work that had the greatest influence upon the subject of perspective in the Middle Ages was the *Perspective communis*."

*Too Shocking to Publish in the Catholic World;
The Marquis de Ménéars' Copy in Morocco
With Arms*

72. POMPONAZZI, Pietro. *Opera. De Naturalium Effectuum admirandorum causis, seu de Incantationibus Liber. Item de Fato: Libero arbitrio: Praedestinatione: Providentia Dei, Libri V.* [Edited by Guglielmo Gratarolo]. 32 p.l. (of which 4 are blank), 1015, [1] pp. 8vo, 17th cent. greenish brown morocco with the arms of Jean Jacques Charron, Marquis de Ménéars, stamped in gilt on both covers, triple gilt fillet round sides, spine richly gilt with the cipher of Charron repeated in four compartments, a.e.g. Basel: [H. Petrus, 1567]. \$12,500.00

First collected edition of many of the most controversial writings of Pomponazzi (1462-1525), a native of Mantua and a philosopher who taught at Padua, Ferrara, and Bologna. Lynn Thorndike, in his *A History of Magic and Experimental Science*, devotes an entire chapter (Vol. V, pp. 94-110) to Pomponazzi whose writings helped pave the way for the new, exact scientific conception of natural occurrences.

This is an unusually fine copy, having belonged to Jean Jacques Charron, Marquis de Ménéars (1643-1718), President of the Paris Parliament, brother-in-law of the great Colbert, and one of the outstanding French bibliophiles of the epoch. Charron "enriched his cabinet," to use Guigard's expression, by acquiring the entire Bibliotheca Thuana, minus those lots which Bishop Huet and P.D. Verthamon had purchased on the first day of its sale. His library was sold by auction in 1720.

The first text — *On the Causes of Natural Effects, or, On Incantations* — was written in 1520 in reply to a physician of Mantua who had asked his fellow townsman what explanation could be given on Peripatetic grounds for certain marvelous cures and seemingly miraculous events. The physician and alchemist Gratarolo (1516?-68?), found this controversial text in manuscript in Padua and brought it north with him when he fled Italy in 1555. The text was finally published in Basel under Protestant rather than Catholic auspices.

Pomponazzi's doctrines on immortality, first set forth in *De Immortalitate* (1516), yielded cries of outrage from prominent philosophers and theologians and caused the immortality controversy, one of the most important debates prior to the Reformation.

In the present work, Pomponazzi "investigated seemingly miraculous events reported by contemporary witnesses, pagan literature, and Christian doctrine.

He developed naturalistic explanations for all these occurrences except, at first, the Christian miracles . . . The Christian religion, which at first appeared as a final truth, above time and corruption, is now depicted as having a perfectly natural origin. All religions, said Pomponazzi, are born, flourish, and die. Their birth is produced not by the fiat of a personal deity but by the eternal movements of the heavens, guided by the Intelligences . . .

"If religions arise naturally, it follows that their doctrines many also have a natural basis, a human rather than a divine origin. In fact, the doctrines about angels and demons are not eternal truths but simply fictions."—*D.S.B.*, XI, pp. 72-74—(& see the entire article regarding this interesting man and his ideas).

The second text — *De Fato* (on fate and free will) — was written in 1520 and published here for the first time. It was equally controversial. Pomponazzi claimed that all effects which are called fortuitous have certain and determined causes. In other words, chance events are really under the stars.

Fine copy. First few leaves with light marginal dampstaining. Later bookplates of "Charles Butler of Warren Wood, Hatfield" and "S.E. Henry J. Reynaud, Geneve."

• *Catholic Encyclopedia*, Vol. XII, p. 227. Charron: Guigard, II, pp. 125-26.

Poncelet's Water Wheel

73. PONCELET, Jean Victor. *Mémoire sur les Roues hydrauliques à Aubes courbes, mues par-dessous, suivi d'Expériences sur les Effets mécaniques de ces roues . . . Nouvelle Édition revue, corrigée. et augmentée d'un Second Mémoire sur des Expériences en grand relatives à la nouvelle Roue, contenant une Instruction pratique sur la Manière de procéder à son Établissement.* Two folding engraved plates. vii, 146 pp. Large 4to, attractive antique calf-backed marbled boards. Metz: Thiel, 1827. \$1500.00

First collected edition of these two works on an improved water wheel designed by the author. The wheel was virtually an undershot wheel converted into a kind of turbine and was used for falls up to 6 feet and its efficiency approached 65 percent.

Poncelet (1788-1867), made important contributions to geometry, hydraulics, the theory of machines, and industrial mechanics (see *D.S.B.*, XI, pp. 76-82 for a long and excellent discussion).

Fine copy. Ex Bibliotheca Mechanica.

A Rare Elizabethan Book of Secrets

74. A PROFITABLE BOOKE *declaring dyvers approved remedies, to take out spottes and staines, in Silkes, Velvets, Linnen and Woollen Clothes. With divers colours how to die Velvets and Sylkes, Linnen and woollen, Fustian and*

Threade. Also to dresse Leather, and to colour Felles. How to Gild, Grave, Sowder, and Vernishe. And to harden and make softe Yron and Steele. Very necessarie for all men, specially for those which hath or shall have any doinges therein: with a perfite table hereunto, to finde all things readye, not the like revealde in English heeretofore. Taken out of Dutche, and englished by L.M. Typographical device on title & two fine initials. Printed in black letter throughout. 1 p.l., 78, [6] pp. Small 4to, fine modern red morocco (title a little soiled, corner of A4 neatly repaired with loss of the page numbers & one letter of text), dentelles gilt, a.e.g. London: T. Purfoote, 1588.

\$22,500.00

Second edition of one of the earliest English books of “secrets” or manuals of practical arts. First published in 1583; only three copies of the first edition are known, none in America (NSTC 17590: L, O, G2). Of the present edition, the NSTC (17591) records six copies: L16 (title-page mutilated), O, G2; F (lacks title-page), HD, Y. There were further editions in 1596 and 1605 (both also very rare).

The first 17 pages contain recipes for soaps, for removing spots and stains from clothes, and for taking “oilie spots out of parchment or writing paper,” etc. Pages 18-58 are devoted to recipes for dyeing wool, linen, and silk, making dyes of various colors (purple, black, green, etc.), staining and gilding leather, and so forth. Included are instructions “to make a faire brasill colour, to worke on cloth or paper.”

Pages 59-78 deal with methods of hardening and softening iron and steel, particularly for making tools; there are also suggestions for gilding and engraving on metal. The last six pages contain an alphabetical index.

Books of this sort are perishable by nature and copies seldom appear on the market; many of those which do survive in institutional libraries are in less than perfect condition.

This is largely a translation from Dutch by Leonard Mascall, who also wrote on various agricultural topics. Ferguson states that some of the text, especially on cleaning and dyeing, is entirely new.

A fine copy of a book of considerable rarity.

♣ Ferguson, *Biographical Notes on Histories of Inventions and Books of Secrets*, Fifth Supp., pp. 9-14. Ferguson, *Some Early Treatises on Technological Chemistry* (1888), pp. 23-25 & Supplement V (1916), pp. 3-5. Ron, *Bibliotheca Tinctoria*, 718.

Earth Thrust

75. **PRONY, Gaspard Clair François Marie Riche.** *Recherches sur la Poussée des Terres, et sur la Forme et les Dimensions a donner aux Murs de Revêtement; suivies d'une méthode pratique, à la portée des Ouvriers qui ont quelque habitude de se servir de la règle et du compas, pour résoudre très-*

facilement les principaux Problèmes relatifs à la forme et aux dimensions des Murs de revêtement. One engraved plate (one corner faintly dampstained). 44 pp. Small folio, attractive antique half-calf & speckled boards, spine gilt. Paris: de l'Imprimerie de la République, 1802.

\$1500.00

First edition and rather uncommon. "Written in response to Coulomb's memoir of 1773 on applications of mechanics to construction problems, which touched on the problem of earth movement. In it, Prony gives a new analysis of the problem of such movements and the design of retaining walls, providing a graphic method for easily determining the profiles of such walls. While the design of retaining walls had been treated earlier in Prony's *Architecture Hydraulique*, he had continued to be interested in the problem, and this contribution presents a revision of the earlier theory."—Roberts & Trent, *Bibliotheca Mechanica*, p. 269.

Fine copy. Ex Bibliotheca Mechanica.

• D.S.B., XI, p. 164—"In this treatise on earth thrust, Prony simplified Coulomb's analysis by assuming that the curve of maximum thrust is a straight line rather than some unknown curve that could only be found by using the calculus of variations. This simplification led him to conclude that the line of maximum thrust bisects the complement of the angle of repose."

76. PRONY, Gaspard Clair François Marie Riche. *Mémoire sur le Jaugeage des Eaux courantes.* One folding engraved plate. 1 p.l., 68 pp. Large 4to, attractive antique calf-backed marbled boards, spine lettered in gilt. Paris: de l'Imprimerie de la République, 1802. \$1250.00

First edition. This work "concerns the measuring of flow by practical means without relying on hypothetical formulae. Prony gives a brief and critical history of the subject from Archimedes and Frontinus to Vitruvius, Torricelli, Galileo, Bernouilli, Du Buat &c. He then goes on to describe the use of the Venturi meter in measuring flow on site, drawing on Venturi's crucial and recently published paper of 1798, 'Recherches expérimentales sur le principe de la communication latérale du mouvement dans les fluides.' This work demonstrated Venturi's newly-discovered natural law that fluids under pressure passing through converging pipes gain speed and lose head and vice versa for diverging pipes."—Julia Elton in *Weinreb Cat.* 50, 194.

Fine copy. Ex Bibliotheca Mechanica.

• D.S.B., XI, pp. 163-66.

77. PRONY, Gaspard Clair François Marie Riche. [Drop-title]: "Nouveaux Moyens d'augmenter la précision des Observations

barométriques. — Nivellement barométrique de la traversée du Mont-Cénis, depuis Suze jusqu'à Lans-le-Bourg. — Nouvelles Formules barométriques." 14 pp. 8vo, bound in modern wrappers. N.p.: n.d. [?extract from the *Journal des Mines*, no. 206, February 1814?]. \$350.00

First separate edition, presentation copy, inscribed "A Monsieur [Mallet?] de la part de l'Auteur" and with a three-line note on page 13 critical of some of the figures, both in Prony's hand.

"This article presents new means of increasing the precision of barometric observations, together with a barometric survey of Mont-Cénis from Suz to Lans-le-Bourg, as well as some new barometric formulas."—Roberts & Trent, *Bibliotheca Mechanica*, p. 270.

Very good copy, preserved in a morocco-backed box. The first four lines of the inscription have been cropped. Ex Bibliotheca Mechanica.

The Great Quebec Cantilever Bridge

78. (QUEBEC BRIDGE). *The Quebec Bridge over the St. Lawrence River near the City of Quebec on the Line of the Canadian National Railways. Report of the Government Board of Engineers.* **Text vol.:** Photographic frontis. & numerous photographic illus., diagrams, & tables in the text. 259 pp. **Plate vol.:** 3 p.l. of text & 111 folding lithographed plates. Two vols. Large oblong 4to, orig. cloth (a little spotted). N.p.: 1918. \$1250.00

The Quebec Bridge, spanning the St. Lawrence about nine miles above Quebec, replaced an earlier structure designed by Thomas Cooper in 1900 to carry the railway over the river. On 29 August 1907 it collapsed without warning in a matter of only fifteen seconds, killing several men and making bridge history as the most spectacular structural failure to that time. A photograph of the ruins shows the entire bridge virtually unrecognizable as such, the structure compressed into a compact mass of steel spaghetti.

As a result of the investigation, the detailing of compression members in particular and bridge engineering in general were raised to a much higher level of scientific analysis and design.

The second bridge, designed by Ralph Modjeski and completed in 1917, was its successor. A cantilever structure, it was based on the Forth Bridge, and it too had its problems. The 5000 ton center span collapsed into the river on 11 September 1916 as it was being hoisted vertically into position. One of the photographs in the book shows it at the precise moment when it struck the water. A new span was successfully lifted almost exactly a year later, the final pins being driven in on 20 September 1917. On 17 October the first train crossed the bridge; a regular freight service began on 3 December; and on 22 August 1919 the bridge was formally opened by the Prince of Wales. With a span of 1800 feet between the two main piers it was the largest of its kind in the world. This

is the final report of the Board of Engineers, headed by Ralph Modjeski, and it forms the definitive account of the bridge, with a survey of the historical background and the story of the earlier structure, followed by all the technical information of the new one. The text is amply supported by the working drawings and many excellent photographs of the earlier bridge, the two disasters, progress of construction, first train crossing, the official opening etc. Fine set. Ex Bibliotheca Mechanica.

*A Beautifully Illustrated Technological Work;
A Fine and Fresh Copy*

79. RAMELLI, Agostino. *Le Diverse et Artificiose Machine . . .* composte in lingua Italiana et Francese. Engraved title within architectural border, full-page port. of the author signed with the monogram of Léonard Gualtier on verso of title, 194 engravings in the text of which 20 are double-page & the remainder full-page. Each page of text enclosed by a border of type ornaments. 16 p.l., 338 pp. Folio, 18th-cent half-sheep & patterned boards (occasional light browning), spine gilt, green leather lettering piece on spine. Paris: "In Casa del'autore," 1588. \$45,000.00

First edition, and a very fine and fresh copy, of *The Various and Ingenious Machines* of Ramelli (c. 1531-90), one of the most beautiful as well as one of the earliest and most important pictorial technical works to be printed. This book contains depictions of "pumps, fountains, derricks, bridges, mills, hydraulic machinery, cannon and arquebuses, cranes and pneumatic devices. For industrial enterprises there are shown logging mills, metal-working machines, continuous-bucket conveyors, looms for spinning and weaving, bellows, saws and foundry equipment . . . the engravings are among the best in technological illustration."—Dibner, *Heralds of Science*, 173.

A fine copy of an extremely influential work. The impressions of the plates are very rich and dark. Bookplate of Carl Sahlin. Ex Bibliotheca Mechanica.

♣ Mortimer 452.

80. RUMFORD, Benjamin Thompson, Count. *Mémoires sur la Chaleur.* Several woodcuts in the text. lxxviii, 166 pp. 8vo, cont. sheep-backed paste-paper boards (upper joint slightly cracked, foot of lower joint a little worn), flat spine gilt. Paris: Firmin-Didot, 1804. \$1350.00

First edition. "A series of four essays, the first being a historical notice of various experiments on heat, and a sort of scientific autobiography describing his own experiments. The paper is remarkable for its lively description of Rumford's relationships with such contemporaries as Davy, Leslie, Biot,

Bertholet, Laplace, Playfair, and De Saussure . . .

“The second essay is the translation of his *Enquiry Concerning the Nature of Heat*; while the third, ‘Mémoire sur la Chaleur,’ is a summary of his research on heat read before the Institut National 25 June 1804. The last, ‘Observations sur les Puits’ is a translation of a paper presented to the Royal Society in November of 1803, and describes the holes which form in the glaciers at Chamonix during the summer. It is related to his studies on the propagation of heat in fluids from which he concluded that water is not a conductor of heat.”—Roberts & Trent, *Bibliotheca Mechanica*, p. 286.

Very good copy. Ex Bibliotheca Mechanica.

• Neville, II, p. 546—“uncommon.”

81. SÉGUIN, Marc, aîné. *Mémoire sur les Causes et sur les Effets de la Chaleur, de la Lumière et de l'Électricité.* 2 p.l., 113 pp. 8vo, orig. printed wrappers, uncut. Paris: A. Trambly, 1865. \$350.00

First edition of the final contribution of Séguin (1786-1875), to the problem of heat and the convertibility and conservation of heat and work. This work also contains the author's presentation of his particle theories for heat, light, electricity, and magnetism.

Fine copy.

• D.S.B., XII, pp. 287-89.

Translated by Pierre Simon Girard

82. SMEATON, John. *Recherches expérimentales sur l'Eau et le Vent, considérés comme Forces motrices applicables aux Moulins et autres Machines à Mouvement circulaire, etc.; suivies d'Expériences sur la Transmission du Mouvement et la Collision des Corps . . .* Ouvrage traduit de l'anglais, et précédé d'une Introduction; par M. P.S. Girard. Five folding engraved plates. 2 p.l., xxviii, 102 pp., one leaf of errata. Large 4to, attractive antique calf-backed marbled boards, flat spine gilt. Paris: Courcier; The Hague: Immerzeel, 1810. \$1500.00

First edition in French, translated and containing for the first time the valuable introduction by Pierre Simon Girard (1765-1836), one of the leading French engineers of his generation.

This is an influential and important translation of Smeaton's famous *An Experimental Enquiry concerning the Natural Power of Water and Wind to turn Mills* (1794). His reputation largely sprang from the three seminal papers contained here. “The first and most famous, on wind and water mills, (‘justly regarded as the most masterly report ever published on this subject’, comments Samuel Smiles), established an empirical tradition, in British engineering as well as the

use of scale model testing in fluid mechanics. The second paper, which grew directly out of the first, is concerned with prime-mover experiments, particularly in relation to the concept of work, while the third on the collision of bodies, sets out successfully to measure exactly the loss of energy on impact using an instrument designed and made by Smeaton himself. In all three he is concerned to apply sound theory to practical engineering and 'in taking this position . . . was equalled by few and excelled by none (Norman Smith, 'Scientific Work' in *John Smeaton, FRS* edited by A.W. Skempton) . . .

"All three were widely disseminated and influential. Originally published in the Royal Society's *Phil. Trans.* in 1760, 1776 and 1782, this is their first appearance together. The volume was published posthumously in 1794 and followed by a second edition in 1796 . . . French translations appeared in 1810 and 1826."—Elton, *Cat. 13*, 207.

Fine copy and somewhat scarce. Ex Bibliotheca Mechanica.

83. STEINBECK, Christoph Gottlieb. *Feuersnoth- und Hülfsbuch fürs teutsche Volk und seine Freunde. Nach dem Krügelsteinschen System bearbeitet.* Woodcut vignette on title. xx, 299 pp. 8vo, cont. wrappers. Munich: J.B. Strobel, 1802. \$500.00

First edition, Munich issue (there is also a Leipzig issue) of this notable book on fire prevention. It is based on the important three-volume work of Krügelstein which appeared in 1798-1800 (see our *Cat. 76*, item 45). In the present work, Steinbeck (1766-ca.1826), a resident of Langenberg, describes fire-proof materials for use in construction, the necessity of lightning rods, the need for implementing rules for fire prevention in towns and cities, etc.

Fine copy from the Fugger family library in Augsburg. Very rare with no copy in *N.U.C.*

Revised Edition

84. TAYLOR, Archer. *Book Catalogues: Their Varieties and Uses.* Frontis. illus. 284 pp. 8vo, orig. cloth, dust-jacket. [New York]: F.C. Beil, 1987. \$45.00

Second edition, revised by Wm. P. Barlow, Jr. Mr. Barlow's corrections and additions are most useful.

Printing & Poetry in Proof

85. THIBOUST, Claude Louis. [Title from caption on page [3]]: *Regiae Scientiarum Academiae ut Coetui Academico Fusor-Typographus-Bibliopola*

eligatur. Carmen. Two finely engraved headpieces & two engraved initials. 4 leaves, unbound (a little soiled). [Paris: C.L. Thiboust, ca. 1717].
\$1250.00

First edition and extremely rare; OCLC locates only the Newberry copy. This poem gives a technical account of the different processes involved in printing. Thiboust (1667-1737), was the most important member of the distinguished family of French typographers and printers. He became a master printer "in 1685 and then became printer and publisher to the University. He turned his attention to typefounding with much success, in 1694 . . . he was a good Latin and Greek scholar."—Bigmore & Wyman, III, p. 8—(and see their comments and details regarding the 1754 translation *De Typographiae excellentia*").

The second head-piece, on page 3, depicts a printing shop and all its activities, from casting type to setting type to printing.

Accompanied by a one-page letter from Thiboust, dated 23 November 1717, presenting this and describing it as a "proof."

Fine copy.

86. THOMSON, James. *Collected Papers in Physics and Engineering* . . . selected and arranged with unpublished Material and brief Annotations by Sir Joseph Larmor and James Thomson. Frontis. port. & diagrams in the text. civ, 484 pp. 8vo, orig. blue cloth, spine stamped in gilt. Cambridge: at the University Press, 1912. \$250.00

First edition and a nice copy. "This volume of Thomson's papers includes a biographical essay and correspondence with Faraday, Maxwell, and his brother, William Thomson, Lord Kelvin. The papers on fluid motion, congelation and liquefaction, continuity of states of matter, dynamics and electricity, geology, and miscellanea, were selected with brief notes by Joseph Larmor and the author's son . . .

"Todhunter and Pearson make reference to the following papers by Thomson as of interest to their subject: 'On the Strength of Materials, as influenced by the existence or nonexistence of certain mutual strains among the particles composing them' and 'On the Elasticity and Strength of Spiral Springs and of Bars subjected to Torsion.' The first paper is among the first attempts to explain an initial state of strain and its bearing on set; it was reproduced in Lord Kelvin's article on 'Elasticity' for the *Encyclopedia Britannica*."—Roberts & Trent, *Bibliotheca Mechanica*, p. 317.

Ex Bibliotheca Mechanica.

87. U.S. NAVY DEPARTMENT, Bureau of Navigation. *Navy Scientific Papers. No. 10. Papers and Discussions on Iron Ships. Reprinted from*

Transactions of the Institution of Naval Architects. 13 folding lithographed plates. 176 pp. 8vo, orig. blue cloth, stamped in gilt on upper cover. Washington: G.P.O., 1883. \$250.00

First edition. The articles include: "On causes of Unseaworthiness in Merchant Steamers," "Twenty Minutes with Passenger Steamers 'On the Long Ferry'," "On Cellular Construction of Merchant Ships," "On the Leading Phenomena of the Wave-making Resistance of Ships," "On the Russian Imperial yacht 'Livadia'," and "On the Injuries sustained by the 'Livadia' in the Bay of Biscay."

Fine copy. With the bookplate and stamps of the Franklin Institute Library. Ex Bibliotheca Mechanica.

☛ Roberts & Trent, *Bibliotheca Mechanica*, pp. 331-32.

88. U.S. NAVY DEPARTMENT, Bureau of Navigation. *Navy Scientific Papers. No. 11. Papers and Discussions on Steel for Ship-Building. Reprinted from Transactions of the Institution of Naval Architects*. 5 folding lithographed plates & one lithographed table. 208 pp. 8vo, orig. blue cloth, stamped in gilt on upper cover. Washington, G.P.O., 1883.

\$250.00

First edition. The articles include: "On Steel for Ship-building," "On Steel in the Ship-building Yard," "On the increased use of Steel in Ship-building," "On the use of Mild Steel for Ship-building in the Dockyards of the French Navy," "The Almirante Brown, Argentine Cased Corvette," and "The Structural Arrangements and Proportions of H.M.S. Iris."

Fine copy. With the bookplate and stamps of the Franklin Institute Library. Ex Bibliotheca Mechanica.

☛ Roberts & Trent, *Bibliotheca Mechanica*, pp. 331-32.

89. U.S. NAVY DEPARTMENT, Bureau of Navigation. *Navy Scientific Papers. No. 12. Papers and Discussions on Screw Propulsion. Reprinted from Transactions of the Institution of Naval Architects*. 12 folding lithographed plates & two lithographed tables. 222 pp. 8vo, orig. blue cloth, stamped in gilt on upper cover. Washington: G.P.O., 1883. \$250.00

First edition. Some of the articles include: "On the comparative efficiency of Single and Twin-Screw Propellers in Deep-draught Ships," "On the use of Steel for Marine Boilers," "On the Steam Trials of H.M.S. *Iris*," "On Twin-Ship Propulsion," "On peculiarities of behavior of Steel used in boilers, for the Russian Yacht *Livadia*," and "On the influence of the Cut-off and Length of Stroke on the working of Steam Engines."

Fine copy. With the bookplate and stamps of the Franklin Institute Library. Ex

Bibliotheca Mechanica.

• Roberts & Trent, *Bibliotheca Mechanica*, pp. 331-32.

90. U.S. NAVY DEPARTMENT, Bureau of Navigation. *Navy Scientific Papers. No. 14. Papers and Discussions on Experiments with Steel. Reprinted from Transactions of the Institution of Naval Architects.* 82 pp. 8vo, orig. blue cloth, stamped in gilt on upper cover. Washington: G.P.O., 1883.

\$200.00

First edition. The articles include: "Experiments on steel," "On the corrosive effects of steel on iron in salt water," "On the relative corrosion of iron and steel," "On the economical advantages of steel shipbuilding," "On cracks and annealing of steel," and "On the quality of material used in shipbuilding."

Fine copy. With the bookplate and stamps of the Franklin Institute Library. Ex Bibliotheca Mechanica.

• Roberts & Trent, *Bibliotheca Mechanica*, pp. 331-32.

91. U.S. NAVY DEPARTMENT, Bureau of Navigation. *Navy Scientific Papers. No. 16. Papers and Discussions on Engines, Boilers and Torpedo Boats. Reprinted from Transactions of the Institution of Naval Architects.* 18 folding lithographed plates. 219 pp. 8vo, orig. blue cloth, stamped in gilt on upper cover. Washington: G.P.O., 1884.

\$275.00

First edition. Some of the articles include: "On the Triple Expansive Engines of the Steamship Aberdeen" by A.C. Kirk, "On Corrosion in Steam Boilers" by W.J. Norris, "On Certain Points of Importance in the Construction of Ships of War" by Capt. G.H. Noel, "On Sea-going Torpedo Boats" by J.A. Normand, "Some Experiments to test the Resistance of a first-class Torpedo Boat" by A.F. Yarrow, and "A self-propelling, self-careening Floating Dock" by G.R. Rennie.

Fine copy. With the bookplate and stamps of the Franklin Institute Library. Ex Bibliotheca Mechanica.

• Roberts & Trent, *Bibliotheca Mechanica*, pp. 331-32.

92. U.S. NAVY DEPARTMENT, Bureau of Navigation. *Navy Scientific Papers. No. 21. The Injurious Effect of a Blue Heat on Steel and Iron. Reprinted from the Proceedings of the Institution of Civil Engineers, London.* Tables in the text. 84 pp. 8vo, orig. blue cloth, stamped in gilt on upper cover. Washington: G.P.O., 1887.

\$200.00

First edition. Written by C.E. Stromeyer.

Fine copy. With the bookplate and stamps of the Franklin Institute Library. Ex

Bibliotheca Mechanica.

• Roberts & Trent, *Bibliotheca Mechanica*, pp. 331-32.

93. **U.S. NAVY DEPARTMENT, Bureau of Navigation.** *Navy Scientific Papers. No. 23. The Resistance of Ships.* Twenty folding lithographed plates. 107 pp. 8vo, orig. blue cloth, stamped in gilt on upper cover. Washington: G.P.O., 1888. \$275.00

First edition. This volume contains a collection of articles by William Froude (1810-79), one of the prominent names in hydraulic research. He established the methods for evaluating the results of towing tank tests on model ships that are still in use by naval establishments today.

Fine copy. With the bookplate and stamps of the Franklin Institute Library. Ex Bibliotheca Mechanica.

• Roberts & Trent, *Bibliotheca Mechanica*, pp. 331-32.

With Important Authorial Corrections

94. **VALERIO, Luca.** *De Centro Gravitatis Solidorum Libri Tres . . . in hac nostra editione, servata ad unguem Auctoris mente, multò correctiores.* Woodcut printer's device on title & numerous woodcut diagrams in the text. 4 p.l., 260 pp. 4to, cont. limp boards (a little soiled, unimportant marginal dampstaining). Bologna: Heirs of Ducci, 1661. \$275.00

Second edition, combining the *De Centro Gravitatis Solidorum* and the *Quadratura parabola*; this edition contains important authorial additions and corrections. These two texts had a considerable influence on Galileo and his studies on motion.

Valerio (1552-1618), who had studied under Clavius, met Galileo in Pisa in 1590 and influenced him to renew his studies on the centers of gravity. In 1609 they began an extensive correspondence on problems of motion and mathematics. It was during this time that Galileo was preparing his treatise on motion and mechanics which later became the *Discorsi* of 1638. "In December 1612, having completed his *Sunspot Letters*, Galileo considered having the Linceans print his work on centers of gravity of paraboloids, probably in the form of a letter to Luca Valerio. Ensuing correspondence shows that he sent this to Cesi, who in discussing the matter with Valerio found that he was then revising his own book on a similar subject, published in 1603-4. Galileo accordingly gracefully withdrew his work from publication at this time, for which Valerio expressed his gratitude. In fact Valerio did not reprint his book, and Galileo eventually placed his investigations of centers of gravity in an appendix to his own last book in 1638."—Drake, *Galileo at Work*, p. 202.

Valerio's influence on Galileo, through his correspondence and these two

books, was enormous, and he was singled out for praise in the *Discorsi*; where he is described as “our greatest geometer, the New Archimedes of our age.” This was high praise indeed, for Valerio was critical of Galileo’s Copernicanism and had been expelled from the Accademia dei Lincei in 1616 for his views.

“Valerio’s *De centro gravitatis* consists of the application of Archimedean methods to the determination of the volumes and centers of gravity of the various solids of rotation and their segments . . . Among the mathematicians who studied him and spoke highly of him were Cavalieri, Torricelli, and J. C. de la Faille. He also had a direct influence on Guldin, Gregorius Saint Vincent, and Tacquet.”—*D.S.B.*, XIII, pp. 560-61.

Fine copy, preserved in a calf-backed box. Ex Bibliotheca Mechanica.

• M.E. Baron, *The Origins of the Infinitesimal Calculus*, pp. 101-03. Riccardi, II, 570—“Raro e pregiato.” Roberts & Trent, *Bibliotheca Mechanica*, pp. 332-33.

A Rare & Important Engineering Journal

95. WEALE, John. *Quarterly Papers on Engineering*. Nearly 200 plates (many large & folding, several on one sheet, a few in color), ports. & illus. Six vols. Large 4to, modern cloth, t.e.g. London: J. Weale, 1844-44-45-45-46-49. \$4500.00

“This remarkable collection of long papers on a variety of engineering subjects was gathered together by John Weale, the formidable engineering and architectural publisher, in this rare and short-lived periodical. The papers reflect the major concerns of engineers during the 1840s, when there was an extraordinary explosion of creative energy in the engineering world. Thus there are several papers on the atmospheric railway, some translated from French, a paper by Henry Law on the newly-opened Thames Tunnel, a major source of information on this great project, and a paper, translated from French, on heat and its application. Another set of papers covers marine engineering, including dock building, pier construction, dredging machinery and shipbuilding while structural engineering is represented by a paper written by Weale himself on the construction of the great iron roofs of the Houses of Parliament in London. Also present are papers by William Pole on the Cornish engine and by Dishforth, who attempts to explain the reasons for the alarming undulations of the Menai bridge in stormy conditions, as well as papers on locomotives, hydraulics, the power of water-wheels and so on. An international flavour creeps in with a paper on methods for docking ships in New York and one devoted to the engineering of Holland. A notable feature is a series of biographical memoirs (with portraits) on Brindley, Chapman and Jessop, as well as on Samuel Clegg, the still-living, great gas engineer, and there is also a substantial history of the ‘Progress of machinery and manufactures in Great Britain from the Saxon era to the reign of Queen Anne’ . . .

“Alas for Weale, the project proved impossible to keep within its timescale of

publishing twice yearly at Lady-Day and Midsummer quarters and the volumes began to appear late, with suitable apologies from Weale. The sixth and final volume appeared three years after Vol. 5 and it seems likely that with the lost impetus it was hard to find authors. For this reason, there are a series of papers, some almost certainly written by Weale himself, on the harbour work of the late Sir Samuel Bentham."—Elton, *Cat. 16*, 153.

Fine set and rare. Stamp of the Patent Office Library here and there including backs of plates. Ex Bibliotheca Mechanica.

96. YALE UNIVERSITY LIBRARY. *Catalogue of Books in the Library of Yale College.* 1 p.l., [5]-100, [2] pp. 8vo, attractive modern marbled boards, black morocco lettering piece on spine. (first ten leaves waterstained, some browning due to the quality of the paper). New Haven: Printed at the Journal Office, 1823. \$350.00

The second of the 19th century catalogues of the Yale Library; this catalogue reveals the rapid growth of the Library which took place in the 19th century. About 4500 titles are listed by subject.

Good copy. Lacks half-title.

97. YOUNG, Thomas. *Hydraulic Investigations, subservient to an intended Croonian Lecture on the Motion of the Blood.* 25 pp. Large 4to, attractive antique half-calf & marbled boards (many edges uncut). London: W. Bulmer, 1808. \$750.00

First separate edition of this offprint with a title-page and new pagination from the *Philosophical Transactions*. In the present work, Young clarifies the physical laws governing the circulation of the blood.

"The versatile Young is regarded as one of the greatest of all scientists."—Garrison-Morton 1486.

Fine copy. Rare; OCLC records no copy of this offprint. Ex Bibliotheca Mechanica.

☛ *D.S.B.*, XIV, pp. 562-72.

98. YOUNG, Thomas. *On the Functions of the Heart and Arteries.* 1 p.l., 31 pp. Large 4to, attractive antique half-calf & marbled boards (many edges uncut). London: W. Bulmer, 1809. \$750.00

First separate edition of this offprint with a title-page and new pagination from the *Philosophical Transactions*. In the present work, Young further clarifies the physical laws governing the circulation of the blood.

Fine copy. Rare; OCLC records no copy of this offprint. Ex Bibliotheca

Mechanica.

• D.S.B., XIV, pp. 562-72.

99. ZANOTTI, Francesco Maria. *Della Forza de' Corpi che chiamano viva Libri Tre...al Signor Giambatista Morgagni. Ne quali libri ha procurato l'Autore, quanto ha potuto, di promuovere la quistione col solo discorso metafisico.* Engraved vignette on title & one folding engraved plate. Title printed in red & black. 1 p.l., v-xx, 311, [1] pp. Small 4to, cont. vellum over boards (two corners a little worn, binding with a little worming, first three leaves with unimportant marginal worming). Bologna: Heirs of C. Pisari, 1752.
\$950.00

First edition. This work deals with basic problems of physics, particularly the *vis-viva* issue, a subject which was extensively debated at the time. According to Riccardi, the book is of uncommon scientific interest and is a model of polished style in the format of a dialogue.

The preface contains an extended apology for having written this book in Florentine rather than Tuscan, citing the works of Castiglione, Ariosto, and Boccaccio as justification.

Zanotti (1692-1777), was professor of logic and physics at the University of Bologna. He maintained an extended correspondence with Morgagni on the question of vital forces.

Very good copy. Ex Bibliotheca Mechanica.

• Riccardi, II, 658—"Raro." Roberts & Trent, *Bibliotheca Mechanica*, p. 370.

100. ZAPF, Georg Wilhelm. *Augsburgs Buchdruckergeschichte nebst den Jahrbüchern derselben.* Eight engraved plates (several folding). 8 p.l., xlviii, 220 pp.; 4 p.l., xvi, 263, 15 pp. Two parts in one vol. Large 4to, cont. half-sheep & speckled boards (spine a little rubbed). Augsburg: C.F. Bürglen, 1786 [Part I]; C.H. Stage, 1791 [Part II].
\$950.00

First edition of this valuable bibliography of early Augsburg imprints up to 1530. Zapf (1747-1810), one of the greatest of the 18th-century bibliographers (his specialty was 15th-century printing), was a native of Augsburg. After taking an early retirement, he devoted his remaining years to bibliographical and literary research and formed an important library of incunabula and reference books.

Nice set from the library of His Serene Highness Prince Fürstenberg at Donaueschingen. Scarce.

• Bigmore & Wyman, III, p. 111.