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Catalogue 192

Proofs

Science, Medicine, Anesthesia, Natural History,

& Bibliography

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Catalogue 192

The First Bibliography of Iron & Steel

1. [ABT, Ephrem Gottfried Ludwig]. *Versuch eines systematischen Verzeichnisses der Schriften und Abhandlungen vom Eisen, als Gegenstand des Naturforschers, Berg- und Hüttenmanns, Künstlers und Handwerkers, Kaufmanns, Staatschaushälters und Gesetzgebers*. 6 p.l., 87, [4] pp. 8vo, attractive mottled calf-backed speckled boards, uncut, spine gilt, red morocco lettering piece on spine. Berlin: G.J. Decker, 1782. \$3250.00

First edition of this rare and valuable bibliography of iron and steel; according to Besterman, it is the earliest bibliography on these subjects and describes about 400 books.

“Ein mit Fleiss gesammeltes und ziemlich vollständiges Verzeichniss einzelner Schriften so wohl als in grösseren und gemischten Werken befindlicher Abhandlungen über das Eisen.”—Petzholdt, p. 566.

Fine uncut copy.

❖ Besterman 3184-85.

"There is Death in the Pot"

2. ACCUM, Frederick. *A Treatise on Adulterations of Food, and Culinary Poisons, exhibiting the Fraudulent Sophistications of Bread, Beer, Wine, Spirituous Liquors, Tea, Coffee, Cream, Confectionery, Vinegar, Mustard, Pepper, Cheese, Olive Oil, Pickles, and other Articles employed in Domestic Economy. And methods of detecting Them. The Second Edition.* Engraved title. 1 p.l., xxiv, 360 pp. & 12 pages of ads dated April 1820 inserted. 12mo, orig. green pictorial boards (rather worn, spine cracked & chipped), uncut. London: Longman, Hurst, Rees, Orme, & Brown, 1820.

\$750.00

Second edition, enlarged, of one of the earliest exposures of food adulteration, and by far the most sensational. Its scientific exposure of fraud in the food industry, supported by chemical analysis, attracted much notice, not all of it friendly, and it caused its author to flee England. The text covers not only food, but drugs and household materials such as paint and coal. The dramatic pictorial binding, preserved albeit with some damage in this copy, features the adage "There is Death in the Pot," which also appears in the vignette on the title-page. Accum's work was instrumental in the eventual passing of the Adulteration Act of 1860.

This edition, enlarged with the addition of several foodstuffs not previously covered, was published within a few months of the first edition, which sold one thousand copies in a month.

Internally a nice clean copy. Signature of Alexander Russel Aden dated May 1820 at head of title and of Matthew Hay, M.D., L.L.D. on verso.

• Cagle, *A Matter of Taste*, 532. *D.S.B.*, I, pp. 43-44—"His pioneer work on gas-lighting and food adulteration was of fundamental importance."

3. AGRICOLA, Georg. *De Re Metallica Libri XII. Quibus Officia, Instrumenta, Machinae, ac omnia denique ad Metallicam spectantia, non modo luculentissimè describuntur, sed & per effigies, suis locis insertas, adjunctis Latinis, Germanicisque appellationibus ita ob oculos ponuntur, ut clarius tradi non possint. Eiusdem de Animantibus Subterraneis Liber, ab Autore recognitus: cum Indicibus diversis...* Two woodcut plates (one folding, both slightly shaved at the fore-edge, as often) & about 270 splendid woodcuts (many full-page) in the text. Froben's woodcut device on title & on verso of final leaf. 6 p.l. (final leaf a blank), 502 pp., [37] leaves. Folio, an attractive modern binding using an old antiphonal leaf (several small wormholes in the first and last two leaves, first gathering faintly dampstained, a few

gatherings light browned). Basel: Froben, 1561. \$9500.00

Second Latin edition, corrected, of "the first systematic treatise on mining and metallurgy and one of the first technological books of modern times... The *De Re Metallica* embraces everything connected with the mining industry and metallurgical processes, including administration, prospecting, the duties of officials and companies and the manufacture of glass, sulphur and alum. The magnificent series of two hundred and seventy-three large woodcut illustrations by Hans Rudolf Manuel Deutsch add to its value. Some of the most important sections are those on mechanical engineering and the use of water-power, hauling, pumps, ventilation, blowing of furnaces, transport of ores, etc., showing a very elaborate technique" (*Printing & the Mind of Man*).

This second edition is almost a page-for-page reprint of the first, but is typographically superior and is printed on heavier paper. The woodcuts are the same as those in the first edition.

Apart from the defects mentioned, an excellent copy.

• D.S.B., I, pp. 77–79. Hoover 18. Neville I, p. 17. See *Printing & the Mind of Man* 79; Dibner, *Heralds of Science*, 88; Horblit 2b; and Sparrow, *Milestones of Science*, p. 8 for the first edition of 1556.

Priced Throughout

4. (AUCTION CATALOGUE: ASKEW, A.). *Bibliotheca Askeviana. Sive Catalogus Librorum rarissimorum Antonii Askew, M.D. Quorum Auctio fiet apud S. Baker & G. Leigh... Die Lunae 13 Februarii MDCCLXXV. & in undeviginti sequentes Dies...* vi, 149, [1] pp. 8vo, cont. marbled boards (rebacked with calf), spine gilt. London: 1775. \$950.00

A nice copy of this important sale catalogue, ruled in red and priced throughout in a contemporary hand. "Another great collector of the same generation was Dr Anthony Askew (1722-1772), who travelled on the Continent and whose achievements in the medical field are quite eclipsed by his proficiency as a classical scholar. As a book-collector, he is said to have attempted to secure a complete series of all the Greek classics ever published; he purchased privately R. Mead's Greek manuscripts, the papers of Dr Taylor and some fine early classics *codices* from the library of the Maffei family. His sale (13 February 1775) was a great success and was attended by the Paris bookseller De Bure, who bought for the Duc de La Vallière and other French collectors (including the King of France)."—De Ricci, p. 52.

The leaf of "Libri Omissi" is present. 3570 lots.

• Peignot, p. 78—"Catalogue assez curieux, surtout pour les anciennes éditions."

*One of Nine Copies on Holland Paper:
The Incunabula were studied by Henry Bradshaw*

5. (AUCTION CATALOGUE: MEYER, J. de.). *Catalogue des Livres et Manuscripts formant la Bibliothèque de feu M. Jean de Meyer*. Lithographed frontis. port. of the collector (a little foxed). 4 p.l., 177, [3] pp., 16 pp. 8vo, cont. red morocco & cloth, spine gilt, t.e.g. Ghent: C. Vyt, 1869.

[bound with]:

(—). *Catalogue des Monnaies et Médailles...* 4 p.l., 163, [1] pp. 8vo. Ghent: 1869.

[bound with]:

(—). *Catalogue de la Collection de Tableaux, Dessins, Gravures & Autographes*. 14 pp. 8vo. Ghent: 1869. \$1350.00

A special set of this important sale: one of nine copies printed on Holland paper, inscribed on the free front flyleaf by the printer Vanderhaeghen to the Comte de Kerchove de Denterghem (with his armorial bookplate). The first catalogue describes a noteworthy sale of early illuminated MSS., incunabula, and books on numismatics (1265 lots). Meyer (d. 1869), also formed a magnificent collection of coins and medals, sold in the second catalogue (1983 lots). The final catalogue describes Meyer's collection of paintings, drawings, prints, and autographs (117 lots).

Meyer's collection of incunabula was the subject of considerable study by Henry Bradshaw who published in 1870 his *A Classified Index of the Fifteenth Century Books in the Collection of the late M.J. de Meyer*.

Fine and attractive copy. Bound-in at the end of the first catalogue is the printed price list with buyers' names.

☛ Blogie 174.

6. (AUCTION CATALOGUE: REUVENS, Caspar Jacob Christian). *Bibliotheca Reuvsiana*. Compiled by Conradus Leemans. Title with lithographed port. of the collector (a little foxed). 3 p.l., lxxv, [8], 408 pp., one leaf of ads. 8vo, cont. cloth-backed marbled boards (first & last few leaves a little browned), uncut. The Hague: S. & J. Luchtmans and C.C. van der Hoek, 1838. \$1250.00

This sale catalogue is tantamount to a bibliography of Greek and Roman archeology and literature published up to that time. Reuvs (1793-1837), son of an eminent Dutch jurist, originally studied the law but switched professions and became professor of Greek, Latin, and archeology at Leyden.

The compiler of the catalogue, Leemans, has provided a valuable 75-page

biography of Reuvens. 6,234 lots of books, 86 lots of prints, 79 lots of manuscripts, and 98 portrait busts and bookcases.

Very good copy.

• N.B.G., Vol. 12, cols. 63-64.

7. BAIER, Johann Jakob. *Biographiae Professorum Medicinae qui in Academia Altorfina unquam vixerunt.* Engraved frontis. port. of the author, large engraved vignette on title, & 14 engraved plates, each with a portrait. Title printed in red & black. 6 p.l. (incl. frontis.), 195, [5] pp. 4to, attractive antique calf-backed boards, spine gilt. Nuremberg & Altdorf: J.D. Tauber, 1728. \$1350.00

First edition of this handsomely illustrated work which provides biographical accounts of the fifteen most important professors of medicine at the University of Altdorf, near Nuremberg. They include Lorenz Heister, Johann Ludwig Apinus, various members of the Hoffmann family, Johann Jakob Jantke, Georg Noessler, and Baier himself (his autobiographical account is the longest of all). For each of the fifteen professors, a finely engraved portrait has been prepared.

Baier (1677-1735), professor of medicine at Altdorf, is best known for his important studies of minerals and fossils (see *D.S.B.*, I, pp. 392-93).

Fine copy.

A Famous Rarity

8. BARBA, Albaro Alonso. *Arte de los Metales en que se enseña el verdadero beneficio de los de oro, y plata por açogue. El Modo de fundirolos Todos, y como se han de refinar, y apartar unos de otros.* Jesuit woodcut arms on title & 12 woodcuts in the text. 4 p.l., 120 numbered leaves. Title within typographical border. Small 4to, cont. vellum over boards (recased; small blank portion of title well-patched; at end five leaves with circular holes 40 mm. in diameter neatly renewed & with some text supplied in excellent facsimile; two other leaves towards end with small & careful repairs in blank margins). Madrid: en la Imprenta del Reyno, 1640. \$17,500.00

First edition of this famous rarity; it is a celebrated treatise in the history of mining and metallurgy. Palau remarks "muy rara" and mentions only a defective copy sold in 1921.

"In 1588, Barba (1569-ca. 1640), was sent by the Church to Peru...*El Arte* was the first significant treatise on metals to be written in Spanish and is the only seventeenth-century treatise that was largely original...It went through

approximately thirty editions in Spanish, English, German, and French...

"Barba excelled in his account of the treatment of silver ores by amalgamation, using processes that he himself had discovered and that were in large measure responsible for the wealth of the province... Barba was one of the first writers to advocate what amounts to a laboratory control of an entire plant process as well as the computation of all costs (including fuel, mercury, additives, depreciation of equipment, and labor) before undertaking an operation. He describes the local pre-Columbian smelting practice, and the use of the reverberatory furnace for smelting considerably before its widespread adoption."—*D.S.B.*, I, p. 448.

A good copy preserved in a box. Booklabel of J.A. Freilich.

♣ Palau 23622. Partington, II, pp. 39-40—"he gave a detailed account of the ores and minerals of South America in his book... The work was kept secret in Spain."

9. BARBA, Alvaro Alonso. *Docimasie oder, Probir- und Schmelzt-Kunst, darinnen besonders von der Röst-Schmelzt- und Scheide-Kunst, wie auch denen hierzu erforderlichen Oefen gehandelt wird.* Aus dem frantzösischen in das Teutsche übersetzt Und mit einem Anhang, wie man die nothwendige Salia, das Ertz zu schmelzen, und die Metallen zu scheiden, machen, und zurichten soll, vermehrt; Allen Berg-Bau-Liebenden, ingleichen auch andern Ertz- und Naturkundigern zum besondern Nutzen, und Vergnügen heraus gegeben von Matthia Godar... Folding engraved frontis. & seven folding engraved plates. 8 p.l., 155, [4] pp. & seven leaves with descriptive letterpress for each plate. 8vo, cont. marbled semi-stiff wrappers (spine a little defective). Vienna: P.C. Monath, 1749.

\$2500.00

First edition, from the French, of this German translation (there was a separate translation into German in 1676 from the English edition of 1674). Our edition was based on the first French edition which appeared in 1730.

Fine crisp copy of a rare book.

♣ Neville, I, p. 69.

10. BECCARIA, Giovanni Battista. *Dell' Elettricismo Artificiale, e Naturale libri due.* Woodcut device on title. 4 p.l., 245, [1] pp. 4to, cont. vellum over boards (somewhat browned as usual). Torino: F.A. Campana, 1753.

\$1000.00

First edition of Beccaria's first book. "The results of Beccaria's brief, vigorous study of electricity appeared in his first book, *Dell' elettricismo artificiale e naturale*

(1753). The volume, which Franklin praised, presents the elements of the new theory clearly and logically; illustrates them with variations of Franklin's experiments, to which Beccaria primarily added observations of the different appearances of discharges from positively and negatively electrified points; modifies secondary aspects of the theory and applies it to new territory; and seeks to explain meteorological and geophysical phenomena as manifestations of 'natural' electricity...The book also contains a long letter to the Abbé J.A. Nollet, who had raised objections against Franklin's system. The Parisian *Franklinistes* thought the letter successful, translated it into French, and thus temporarily made Beccaria the leading champion of the new system."—*D.S.B.*, I, p. 547.

Very good copy, printed on thick paper, with half-title.

♣ Wheeler Gift. Cat. 375.

First Textbook of Technology

11. BECKMANN, Johann. *Anleitung zur Technologie, oder zur Kenntniss der Handwerke, Fabriken und Manufacturen, vornehmlich derer, die mit der Landwirthschaft, Polizey and Cameralwissenschaft in nächster Verbindung stehn. Nebst Beyträgen zur Kunstgeschichte.* One folding engraved plate. 10 p.l., 515, [24] pp. 8vo, cont. half-sheep & speckled boards (rather well recased with new endpapers), flat spine gilt, contrasting leather lettering piece on spine. Vienna: J.T. Trattner, 1789. \$2250.00

"Neue, verbesserte u. mit Zusätzen vermehrte Ausgabe" (1st ed.: 1777) of the first textbook of technology, a term created by its author. Beckmann (1739-1811), taught at the University of Göttingen, where an ordinary professorship of economic sciences was established for him in 1770. He lectured on mineralogy, agriculture, technology, materials science, commerce, and general public administration.

The present book "is noteworthy for its systematic approach to the various vocations and for its descriptions of a number of trades."—*D.S.B.*, I, p. 554. Beckmann describes in great detail the processing of raw materials by individual industries, including dyeing, papermaking, brewing, soap-making, wax bleaching, as well as tobacco, porcelain, glass, saltpeter, gunpowder, sugar, and many others.

A very good copy and scarce. There were several later editions. Old library stamp cancelled on back of title.

♣ Poggendorff, I, 127-28. See Ferguson, I, p. 92.

12. BERAUD, Laurent. *Dissertation sur la Cause de l'Augmentation de Poids, que certaines Matieres acquièrent dans leur Calcination; qui a remporté le Prix au jugement de l'Académie Royale des Belles Lettres, Sciences & Arts de Bordeaux.* 98 pp. 8vo cont. marbled wrappers (spine worn), uncut. The Hague: J. Neaulme, 1748. \$750.00

Second edition. "A work of great importance in the history of chemistry" (Duveen). It is one of the rare attempts to explain, before Lavoisier, the gain in weight of metals by calcination in terms of the additional aerial matter. The author, a Jesuit, was professor of mathematics at the College of Bordeaux. His memoir was awarded a prize by the Royal Academy of Bordeaux who published the first edition in 1747. Both the first and the present second edition are very rare.

A fine copy.

♣ Cole 76. Neville I, p. 120 (both listing the first edition). Duveen, p. 66. Partington III, pp. 607–608. For a thorough evaluation of this work see McKie, "Beraut's Theory of Calcination (1747)" in *Annals of Science*, I (1936), pp. 269–293.

"Elective Affinity"

13. BERGMAN, Torbern. *A Dissertation on Elective Attractions.* Translated from the Latin by the Translator of Spallanzani's *Dissertations* [Thomas Beddoes]. Four engraved plates & three large printed tables. xiv, [2], 192 pp.; 193–382 pp., one leaf of errata. One vol. bound in two & interleaved throughout. 8vo, orig. sheep-backed marbled boards (spines worn, joints cracked), red leather labels on spines lettered in manuscript, uncut. London: J. Murray...and C. Elliot, Edinburgh, 1785. \$850.00

First edition in English of Bergman's book on elective affinity, one of his most important contributions to chemistry. He was the first to draw up tables of chemical affinity between two substances, one for wet and another for dry reactions. "Bergman was the first to recognize the effect of heat on chemical affinities and in his work he gives tables of affinities which are still recognized as being substantially correct and complete. He was also the first to introduce the idea of double affinity."—Duveen. p. 67.

This copy was evidently interleaved and bound in two volumes for the purpose of annotation, but there is no evidence regarding the original owner.

Internally a fine copy in its original binding.

♣ Cole 97. Neville I, p. 123. Partington III, p. 184, J(b).

A Rare Work on Galileo's Dialogo

- 14. BÉRIGARD, Claude Guillermet de.** *Dubitaciones in Dialogum Galilaei Galilaei Lyncei...ubi notatur Simplicii vel praevaricatio, vel simplicitas, quod nullum efficax superesse Peripateticis argumentum ad terrae immobilitatem probandam tam facile concesserit.* 68 pp., one leaf of errata & printer's license, & one blank leaf. Small 4to, cont. semi-stiff boards. Florence: P. Nestus, 1632. \$45,000.00

First edition and a marvelous copy in original state of one of the great rarities in the Galileian literature. This is the first published criticism of Galileo's *Dialogo*, issued just a few months after the publication of Galileo's great book.

Bérigard (d. 1664), studied medicine and philosophy at Aix-en-Provence and was summoned to Tuscany in 1625 where he taught philosophy at Pisa. "In 1632 Bérigard published the *Dubitaciones*, concerning Galileo's *Dialogue Concerning the Two Chief World Systems* (condemned in 1633). Galileo himself is quoted as saying to Elie Diodati (25 July 1634) that it was more out of obligation than conviction. Bérigard, who must have known Galileo personally, always praised him, but remained firmly convinced of the earth's immobility."—*D.S.B.*, II, p. 13. The text contains many references to Kepler, Copernicus, and Tycho Brahe.

Bérigard moved to Padua in 1640 where he became well-known as a teacher and succeeded Liceti in 1653. In his remaining years, he followed Gassendi in reviving atomism. A great scholar, Bérigard remained deeply involved in preparing the future for a rational physics.

A fine and large copy of this rare book. Errata leaf and final blank present.

♣ Cinti 90—(with an excellent account of the contents of the book).

"This Classic Work"

- 15. BERTHIER, Pierre.** *Traité des Essais par la Voie Sèche; ou des Propriétés, de la Composition et de l'Essai des Substances Métalliques et des Combustibles.* 13 folding engraved plates. xxiii, [1], 654 pp.; xxxv, [3], 1008 pp. Two vols. 8vo, cont. marbled boards (heads & tails of spines very neatly restored, occasional browning or foxing), spines decorated in gilt. Paris: Thomine, 1834. \$950.00

First edition. Berthier (1782-1861), professor of assaying and chief of the laboratory at the École des Mines, did important work on mineral analysis and compounds of metals. The present work "was widely used by mineralogists and mining engineers because his analytical procedures were simple, relatively accurate, and practical."—*D.S.B.*, II, p. 72.

Fine and handsome set. Signature of "Chasalle" on both titles.

♣ Neville, I, p. 135—"This classic work." Partington, IV, p. 98—"Berthier's book on assaying and chemical metallurgy, including some general chemistry, is still

quoted in large treatises.”

A Proper Basis for Chemistry

16. **BERTHOLLET, Claude Louis, Comte.** *Essai de Statique Chimique*. viii, 543 pp.; viii, 555, [1] pp. Two vols. 8vo, cont. mauve calf (spines faded to brown, short crack at top of one joint), sides blind-stamped with an ornate floral pattern, flat spines gilt, single gilt fillet round sides, ornate ex-libris of the Collège Royale d'Orléans in centers of upper covers. Paris: Firmin Didot, 1803. \$1750.00

First edition of Berthollet's most important work in which he attempted to provide a proper basis for chemistry, so that its experimental results could be viewed in light of theoretical first principles. Here Berthollet laid the foundations of our understanding of the causes of chemical affinities and reactions.

A fine and attractive set of a rare and important book. There were translations into English, Italian, and German.

• Cole 122. *D.S.B.*, II, pp. 73-82. Duveen, p. 75. Neville I, p. 138—"One of the great milestone books in the development of chemical theory." Partington, III, pp. 644-46 & IV, pp. 576-79.

17. **BEWICK, Joseph.** *Geological Treatise on the District of Cleveland, in North Yorkshire, its Ferruginous Deposits, Lias, and Oolites; with some Observations on Ironstone Mining*. Two folding hand-colored charts (one very long), one very large folding colored geological map (several small tears in the folds), two folding colored plates, & two folding printed tables (one short tear in one table). xvii pp., one leaf, 194 pp. 8vo, orig. brown panelled cloth (a bit bumped & worn, spine quite neatly repaired). London: J. Weale, 1861. \$300.00

First edition. The author notes in his Preface "the vast importance of the Cleveland ironfield, destined, as it doubtless is, to exert an immense influence on the iron trade of the kingdom." By 1874 one-third of the nation's output of iron originated in Middlesborough, North Yorkshire, where about 95 blast furnaces were located.

Surgical Anesthesia

18. **BIGELOW, Henry Jacob.** "Insensibility during Surgical Operations produced by Inhalation" in *The Boston Medical and Surgical Journal*, Vol. XXXV, No. 16, pp. 309-317 & 379-382. (November 18, 1846). [9]-544 pp.

8vo, the entire volume for 1846 (lacking the general title & index), modern half-calf. Boston: D. Clapp, 1847. \$3750.00

First edition. This is the formal announcement of the discovery of surgical anaesthesia. Morton was unwilling to disclose any details of ether, his new anaesthetic agent, until he could obtain a patent, but Bigelow persuaded him to change his mind early in November 1846 when an amputation was performed. Bigelow then wrote an account of several operations, with remarks on the history, chemistry and physiology of ether, which was published in the present issue of *The Boston Medical and Surgical Journal*. In No. 18 for December 2nd 1846, J.F. Flagg published some remarks on Bigelow's paper, to which Bigelow replied in No. 19 for December 9th 1846 (pp. 379–82). The issues after No. 16 also contain other material on the new anaesthesia, including comments by Warren, who performed the first operation where anaesthesia was used by Morton. The effect of Bigelow's article was dramatic, and news of the operations under ether spread rapidly.

In No. 13 for October 28th is a letter by E.R. Smilie on "Insensibility produced by the Inhalation of the Vapor of the Ethereal Solution of Opium," but Smilie does not specifically state that he had used it in a surgical operation.

• Fulton & Stanton IV.1. Garrison-Morton 5651. Grolier Club, *One Hundred Books Famous in Medicine*, 64a.

19. BIGELOW, Henry Jacob. "Insensibility during Surgical Operations produced by Inhalation" in *The Lancet*, Vol. 1, No. 1 (January 2, 1847), pp. 5–8 and 16–17 (editorial). 702 pp. Large 4to, cont. green half-cloth. London: Printed for the Editor, and Published by G. Churchill, [1847]. \$1750.00

First English edition, and the first publication on the other side of the Atlantic, of the first account of ether anaesthesia. See Garrison-Morton 5651 for the appearance of this paper in the *Boston Medical & Surgical Journal* some six weeks previous. The present work was thus the first account published in Europe of an operation performed with the aid of ether anaesthesia.

"The original title [as in the *Boston Medical & Surgical Journal*] was not given. Jacob Bigelow, the father of H.J. Bigelow, wrote on 28 November to Francis Boott of London telling him of Morton's discovery and enclosing the text of his son's communication as it had appeared in the *Boston Daily Advertiser*. Boott forwarded Jacob Bigelow's letter and H. J. Bigelow's paper to *The Lancet* which published them both in their number for 2 January 1847. Appended to the reprint was a letter from Robert Liston to Dr. Boott dated 21 December 1846 saying that on that day he had successfully used ether during an amputation at the knee, thus recording the first operation under ether anaesthesia in Europe. Liston had learned of Bigelow's letter to Boott on Saturday, the 19th, and carried

out his first operation on Monday, the 21st!"—Fulton & Stanton.

The first reference to ether in the British press is a short paragraph in the *London Medical Gazette* for 18 December 1846, and the second is in *The Lancet* for 26 December. The two are evidently based on the same source, and are statements only (reprinted by Fulton & Stanton), rather than full accounts. In *The Lancet* for 9 January 1847, further correspondence (pp. 49–51) on Bigelow's patent is included, and in the issue for 16 January "a long and well written editorial appears excoriating both Jackson and Morton for attempting the patent" (Fulton & Stanton), and pp. 77–80 give accounts of operations under anaesthesia, including an illustration of "Mr. Hooper's Ether Inhalator, constructed according to Dr. Boott and Mr. Robinson's Instructions." The second volume for the year, in a matching binding, is also present, containing numerous papers, correspondence and references to ether anaesthesia, by physicians including Snow, Liston and Marcy.

• Fulton & Stanton IV.5.

20. BIGELOW, Henry Jacob. *Ether and Chloroform: their Discovery and Physiological Effects. From the Boston Medical and Surgical Journal; and the Transactions of the American Medical Association, Vol. I.* [:title taken from upper wrapper]. 2 p.l., [3]-27 pp.; 18 pp. 8vo, orig. cream printed wrappers. Boston: D. Clapp, 1848. \$1500.00

First complete edition and first separate editions. This paper is in two parts, the first being *Bigelow's Ether and Chloroform: A Compendium of their History, Surgical Use, Dangers, and Discovery*, and the second his *Anaesthetic Agents, their Mode of Exhibition and Physiological Effects*. Bigelow's speedy publication of Morton's discovery of ether as an anaesthetic and his subsequent advocacy of it ensured its adoption into surgical practice.

In this paper, the first part of this volume, Bigelow analyses the claims that were made for the priority of the discovery and defends Morton's claim. The second part is on other anaesthetic agents and their application and physiological effects. Both parts were published in journals earlier in 1848, but are brought together here, which is therefore the first complete edition, under the title on the wrapper, *Ether and Chloroform: their Discovery and Physiological Effects*.

• Fulton & Stanton VII, 191–193, listing the two papers separately and apparently unaware of this combined form. Garrison-Morton 5730—describing the first part, which is the first work cited on the history of anaesthesia.

Paracelsus Attacked

21. BILLICH, Anton Günther. *Observationum ac Paradoxorum chymiatricorum Libri Duo: Quorum Unus medicamentorum Chymicorum praeparatione, Alter eorundem usum succincte perspicuèque explicat.* Finely engraved title. 4 p.l. (incl. engraved title), 11-173, [1] pp. Small 4to, cont. vellum over boards. Leyden: J. Maire, 1631. \$5000.00

First edition of a rather scarce book. Billich (1598-1640), the son-in-law of Angelo Sala and private physician to the Count of Oldenburg, was one of the earliest chemists to challenge the then-prevalent Paracelsian doctrines.

"Continuing the attack on the Paracelsian *tria prima*, which he had begun in his *De Tribus Chymicorum Principiis* (Bremen, 1621), Billich here presents a number of chemical paradoxes and rejects the *tria prima* altogether. He criticizes the arrangement of chapters two to five in the first book of Jean Beguin's *Tyrocinium Chymicum*. In addition to Beguin, Billich also criticizes the various iatrochemical preparations described in the works of Croll, Du Chesne (Quercetanus), Paracelsus, and other chemists. The book contains numerous descriptions of pharmaceutical chemical preparations, from animals, vegetables, and minerals, with their supposed physiological actions on man. Rare."—Neville, I, p. 153.

Fine copy. Title with tiny tear at foot, not touching image.

• Duveen, p. 78. Ferchl, p. 46. Ferguson, I, p. 107. Partington, II, p. 280-81—"a good chemist."

Published to Up-Date Béliidor

22. BOSSUT, Charles & VIALLET, —. *Recherches sur la Construction la plus avantageuse des Diguees: Ouvrage qui a remporté le Prix quadruple proposé par l'Académie Royale des Sciences, Inscriptions & Belles-Lettres de Toulouse, par l'Année 1762.* Seven folding engraved plates. 60, [4] pp. Small folio, cont. mottled calf (short crack to upper joint at head), spine gilt, red morocco lettering piece on spine. Paris: C.A. Jombert, 1764.

[bound with]:

SILBERSCHLAG, Johann Esaias. *Théorie des Fleuves, avec l'Art de Bâtir dans leurs Eaux et de prévenir leurs Ravages...* Ouvrage traduit de l'Allemand, par M. d'Au... 13 folding engraved plates. 1 p.l., ix, [1], 130, [2] pp. Small folio (first few leaves with faint dampstaining to margins). Paris: C.A. Jombert, 1769. \$2750.00

An attractive *sammelband*, published by Jombert to up-date Béliidor's *Architecture Hydraulique* and printed in a complementary format.

I. First edition of Bossut's rare second book. Bossut (1730-1814), occupied the

chair of hydrodynamics which Turgot established for him at the Louvre. This work describes the most up-to-date techniques of dam and embankment construction (illustrated on the handsome plates), taking into account seepage, water pressure, and scouring by water. This was considered to be a standard work on the subject and was reprinted in 1800.

Bossut's co-author — Viallet — was assistant inspector of bridges and roads in Champagne.

II. First edition. Silberschlag (1721-91), a priest at Magdeburg and a member of the Royal Academy of Sciences at Berlin, wrote many books and articles on hydraulics, technology, and related scientific subjects.

This work is divided into two parts. The first is concerned with theoretical concepts of river control. Part II is devoted to practical aspects of flood prevention. The handsome plates depict various instruments, machinery, dams, dikes, canals, etc. and their construction.

Fine copies, bound together as is often the case. Stamp of Puyfaiteau on half-title and title. Ex Bibliotheca Mechanica.

• I. D.S.B., II, pp. 334-35. Poggendorff, I, 249. Rouse & Ince, *History of Hydraulics*, pp. 126-29. II. Poggendorff, II, 929-30.

Two of Boyle's Most Important Later Writings

23. BOYLE, Robert. *A Free Enquiry into the Vulgarly Receiv'd Notion of Nature; made in an Essay, address'd to a Friend.* Title within ruled border. 12 p.l., 412 pp., 2 leaves ("Advertisement" leaf bound at end). 8vo, cont. panelled calf (upper joint a little cracked, joints a little abraded, corners very carefully renewed), spine gilt, red morocco lettering piece on spine. London: H. Clark, for J. Taylor, 1685-86.

[bound with]:

— *A Disquisition about the Final Causes of Natural Things: Wherein it is Inquir'd, Whether, And (if at all) With what Cautions, a Naturalist should admit Them?...To which are Subjoyn'd, by way of Appendix, some Uncommon Observations about Vitiated Sight.* Title within ruled border. 8 p.l., 274, [6] pp. 8vo. London: H.C. for J. Taylor, 1688. \$16,500.00

An attractive *sammelband* in a contemporary binding of two of Boyle's most important later works.

I. First edition and rather scarce. "After thirty years of experimentation and observation of natural phenomena Boyle appears in this thoughtful treatise to have reached his maturity as a philosopher; had he lived some fifteen years earlier he might, with Lucretius, have entitled his message 'On the Nature of Things'; but equally well he could with his contemporary, Isaac Newton, have called it his '*Principia*'. The book deals with the laws of motion, less precisely, to

be sure, than did the forty-four-year-old Newton the following year. He tells us that the current views of Nature were incompatible both with religion and philosophy, arguing that one must distinguish between 'universal nature' and 'particular nature', the former being the result of general cosmic principles such as the laws of motion (Newton's *Principia* was published in the following year) and the latter the result of the general laws applied to a specific natural object. The growth of Boyle's theory of the universe as represented in 'Formes and Qualities', 'Cosmicall Qualities', and the present work forms an important phase in the history of natural philosophy that is little known."—Fulton, *Bibliography of Boyle*, pp. 112-13.

II. First edition of one of Boyle's most interesting books; this is the issue (no priority) with Boyle's name in full on the title. It contains the famous passage (pp. 157-58) in which Boyle relates his conversation with William Harvey on how he discovered the circulation of the blood.

"In the 'Final Causes of Natural Things' Boyle takes us into his confidence and gives us briefly his *confessio fidei* as a biologist. The work was written in his mature years, when his intellectual powers were at their height. He tells us in the preface that the *Disquisition* had been pressed upon him by Henry Oldenburg, Secretary of the Royal Society...Boyle deals briefly with Gassendi, Descartes, and others who looked upon it as presumptuous to seek after final causes...

"The treatise which follows these plain-spoken prefatory remarks is essentially a plea for a teleological interpretation of natural phenomena...The volume is replete with allusions indicating his powers of observation as a naturalist, and there are many references to physiology; perhaps the most interesting is the record of a conversation with William Harvey on how he discovered the circulation of the blood...

"Appended to the *Disquisition* is a brief tract on disturbances of vision; Boyle describes cataract, and was aware of the location of the opacity. A variety of case histories are recorded, drawn from his own experience, and the tract appears to be one of the first in which this method of teaching was employed in an ophthalmological treatise."—Fulton, *Bibliography of Boyle*, pp. 125-26.

The great English dealer Richard Gurney told me thirty years ago when I was just a beginner that the only way to have Boyle — with the exception of the impossibly rare *Sceptical Chymist* — was in contemporary bindings. Mr. Gurney said "it makes collecting Boyle so much harder and much more satisfying." These copies would satisfy him.

I. Fulton 170. II. Fulton 186A.

24. BRANDE, William Thomas. *A Manual of Chemistry; containing the Principal Facts of the Science, arranged in the Order in which They are discussed and illustrated in the Lectures at the Royal Institution of Great Britain. Second edition.* Folding engraved frontis., three engraved plates (two are

folding), & woodcut illus. in the text. xvi, 470 pp.; vii, [1], 546 pp.; viii, 350, [105] pp., one leaf with imprint. Three vols. 8vo, cont. half-calf (minor foxing), blue & green morocco labels on spines. London: J. Murray, 1821. \$400.00

Second edition, much enlarged, of the principal textbook of chemistry of its day, with a greatly expanded history of chemistry and index, and additional text. "The *Manual of Chemistry* became a hugely successful and influential textbook and formed the model for many subsequent chemical textbooks by other authors."—*O.D.N.B.* Michael Faraday was Brande's assistant at the Royal Institution, where much of this work was written in the laboratory, described in the *O.D.N.B.* as "the best-equipped laboratory in Britain." It is illustrated in the fine folding frontispiece.

A nice set but lacking the final leaf in Vol. I (containing imprint only).

• Cole 196. Duveen, p. 99. Partington IV, pp. 75–76.

The Harleian MSS.

25. BRITISH MUSEUM, LONDON. *A Catalogue of the Harleian Collection of Manuscripts, purchased by Authority of Parliament, for the Use of the Public; and preserved in the British Museum.* Two fine engraved frontis. ports. 2 p.l., 16, 21–29 pp., [2] leaves (numbered 9–10 & vii–viii respectively), [515] leaves; 2 p.l., [455] leaves. Two vols. Folio, cont. speckled calf, nicely rebaced with the orig. labels preserved, corners repaired, arms of the Signet Library on covers. London: L. Davis & C. Reymers, 1759. \$2250.00

First edition. "This collection of MSS. was commenced towards the close of the 17th century, by Robert Harley, first earl of Oxford, and on his decease was continued by his son and successor in the title, at an immense expense...Parliament voted 10,000 pounds for purchasing the Harleian MSS. for the public benefit; they form 7639 volumes in every department of literature, and those are particularly important which illustrate our national history and antiquities. The catalogue was begun in 1708, by the learned Humfrey Wanley, who was librarian to Robert and Edward, successively earls of Oxford: and on his death in 1726, after an interval of some years, it was resumed by Mr. Casley, continued by Mr. Hockley, and completed by the succeeding librarians of the British Museum. This catalogue was published in 1759, in 2 vols. folio."—Horne, p. 616.

Nice set from the Signet Library

• De Ricci, p. 36—"The manuscripts...form one of the most valuable collections in the British Museum."

26. **BROWNRIGG, William.** *Kunst Küchensalz zu zubereiten, wie es heut zu Tage in den meisten Ländern gewöhnlich ist, nebst verschiedenen vorgeschlagenen Verbesserungen durch Friedrich Wilhelm Heun.* One folding engraved plate. xxxviii, 466 pp. 8vo, slightly later marbled boards (a little rubbed, minor foxing), red & green labels on spine. Leipzig: J.F. Junius, 1776. \$750.00

First edition of Brownrigg's extensive work on the production of common salt. Brownrigg (1712-1800), "engaged in a range of scientific enquiries with practical import. His illustrated 295-page book, *The Art of Making Common Salt* (1748), covers both processes and economics and calls on government to build and manage salt works and to regulate salt quality. An abridgement was published in the *Philosophical Transactions* of the Royal Society and an edition came out in the American colonies in 1776."—*O.D.N.B.* The present German edition appears to be the only edition in a foreign language.

Our German edition contains the additions and improvements to the text by F.W. Heun, director of the Saxon salt works.

Very good copy. OCLC locates no copy in the U.S.

The "Illustrations are Exceptionally Good"

27. **BURAT, Amédée.** *Géologie appliquée. Traité du Gisement et de l'Exploitation des Minéraux Utiles. Troisième édition divisée en deux parties Géologie — Exploitation.* 64 engraved plates & maps (one colored & folding, several folding, & one double-page), one plate numbered "133" at p. 440 of Vol. I, & one folding illus. on tissue paper in Vol. II. Ca. 250 illus. in the text. 3 p.l., 528 pp.; 2 p.l., 527 pp. Two vols. 8vo, cont. red quarter morocco & marbled boards. Paris: Langlois & Leclerq, 1855.

\$500.00

Third edition. An extremely detailed treatise with many fine illustrations. Burat was professor at the École Centrale des Arts et Manufactures.

"Very scarce. Volume 1 is a textbook on applied geology. Volume 2 is a textbook on the exploration of mines. Both volumes make use of elaborate steel engravings to illustrate concepts put forth in the text. These illustrations are exceptionally good. Volume 2 shows for example drill bits, underground scenes, mining techniques, waste rock management, wenchers & hoists, picks, etc."—Schuh, *Mineralogy & Crystallography: A Bibliography, 1469 to 1920*, 1003.

Very good set.

"The First Recognition of Electrical Repulsion"

28. **CABEO, Niccolo.** *Philosophia Magnetica, in qua Magnetis Natura penitus explicatur, et Omnium quae hoc Lapide cernuntur, causae propriae afferuntur...* Engraved title & several engravings & numerous woodcuts in the text. 8 p.l., 412, [12] pp. Folio, cont. half-sheep & marbled boards (minor worming towards end), spine gilt, black leather lettering piece on spine. Ferrara: F. Succius, 1629. \$15,000.00

First edition, Jesuit issue, and a very fine copy. "Perhaps the most significant discovery of the century following Gilbert was that of electrical repulsion. This effect seems first to have been noticed incidentally by Cabeus, who, in his *Philosophia Magnetica* (1629), describes how filings attracted by excited amber sometimes recoiled to a distance of several inches after making contact."—Wolf, *A History of Science, Technology, and Philosophy*, I, p. 303.

Cabeo also relates his many experiments on the possibility of telegraphic communication by means of magnetized needles and gives the first picture of the sympathetic telegraph, an imaginary magnetic telegraph which sometimes appeared in early electrical literature, fancifully prefiguring the actual telegraph. It was supposed to operate by synchronous activation of two instruments with alphabetic dials whose needles had been magnetized by the same magnet.

Cabeo (1586-1650), taught theology and mathematics in Parma for many years until he settled in Genoa where he taught mathematics.

Handsome and large copy. There are three issues (no priority) of this book: the first issue has a royal coat-of-arms at the head of the title; the second issue has the coat-of-arms replaced by the Jesuit emblem; and the third was produced for export to Germany and has an added printed title with a Cologne imprint.

• Ferguson, I, p. 136. Neville, I, p. 232. Riccardi, I, 205-06. Wheeler Gift Cat. 97—"the first recognition of electrical repulsion."

A Very Fine Copy

29. **CASSINI DE THURY, César François.** *La Meridienne de l'Observatoire Royal de Paris, vérifiée dans toute l'étendue du Royaume par de nouvelles Observations... Avec des Observations d'Histoire Naturelle, faites dans les Provinces traversées par la Meridienne, par M. Le Monnier... Suite des Mémoires de l'Académie Royale des Sciences, Année M. DCC. XL.* 14 folding engraved plates & several finely engraved head-pieces. 4 p.l., 292, ccxxxv, [17] pp. Large 4to, fine cont. polished calf, spine handsomely gilt, contrasting morocco lettering piece on spine. Paris: H.L. Guerin & J. Guerin, 1744. \$3000.00

First edition. Cassini de Thury (1714-84), known as Cassini III, is most famous for his cartographical work which resulted in the first modern map of France.

This book formed the basis for the map.

Fine copy. Half-title lacking.

• D.S.B., III, pp. 107-09.

30. CAVALLO, Tiberius. *A Complete Treatise of Electricity in Theory and Practice; with Original Experiments.* Three folding engraved plates of apparatus from drawings by the author. xvi, viii, 412 pp., one leaf of errata & one leaf of ads. 8vo, cont. calf (joints neatly repaired, light browning, dampstain to final ten leaves). London: E. & C. Dilly, 1777.

\$850.00

First edition of Cavallo's most important work. "An excellent compendium, the *Treatise* served the needs of both the neophyte and the initiate, who found in its appendixes, valuable details about medical electricity; about Beccaria's obscure theories; and about Cavallo's forte, the design and operation of electrostatic instruments."—D.S.B., III, pp. 153-54.

Cavallo (1749–1809), the son of a Neapolitan physician, did all his scientific work in England and became a Fellow of the Royal Society in 1779.

Binding a bit marked on lower cover, but a very good copy.

• Wheeler Gift 463. Mottelay pp. 243-45.

With Additions

31. CAVALLO, Tiberius. *Trattato Completo d'Elettricità Teorica e Pratica con Sperimenti originali.* Tradotto in Italiano dall' originale Inglese con addizioni e cangiamenti fatti dall' Autore. Three folding engraved plates & one folding printed table. xx, 511, [1] pp. 8vo, cont. sheep-backed marbled boards (fore-edges & two corners a little worn), spine gilt. Florence: G. Cambiagi, 1779.

\$750.00

First edition in Italian, containing alterations and additions to the text not found in the first edition, published in English in 1777.

Nice clean copy.

• Wheeler Gift 463. Mottelay pp. 243-45.

32. CHAPTAL, Jean Antoine Claude. *Éléments de Chimie. Quatrième édition.* 3 p.l., [iii]-xcii, 361 pp.; 2 p.l., 458 pp.; 2 p.l., 496 pp. Three vols. 8vo, cont. calf-backed boards (mild foxing at beginning of Vol. I, three joints a bit cracked), spines gilt, red leather lettering pieces on spines.

Paris: Deterville, 1803. \$550.00

Fourth edition, essentially a reprint of the revised and expanded third edition. This was one of the most important textbooks of chemistry of the period; it was written for the course of chemistry which Chaptal gave at Montpellier where he was appointed to the new chair of chemistry in 1780. In this work, Chaptal “develops the general principles, pointing out their consequences and their applications. He adopts Lavoisier’s oxygen theory which he found of great benefit in both theoretical and practical chemistry. In this work he proposes that the name azote be changed to nitrogene.”—Cole, p. 105.

A very clean and attractive set.

• Cole 257. *D.S.B.*, III, pp. 198–203. Partington, III, pp. 557–560.

33. CHEVALLIER, Jean Gabriel Augustin. *Essai sur l’Art de l’Ingénieur en Instrumens de Physique expérimentale en Verre; Ouvrage traitant de tout ce qui a rapport à la construction et à la perfection de ces divers instrumens; offrant une théorie neuve et complète de l’Aréométrie et de ses différentes applications aux sciences et aux arts chimiques, boissons, teinture, saumure, tannin, vin, cidre, bière, lait, huiles, sels, vinaigres, etc., etc.* Engraved frontis. & 15 engraved plates. xvi, 618 pp. 8vo, cont. half-calf & marbled boards (title very neatly strengthened in gutter), flat spine gilt. Paris: l’Auteur, Huzard, Delaunay, & Pillet, 1819. \$2750.00

First edition of this handsomely illustrated work on chemical engineering, glass blowing, and the fabrication of all sorts of glass scientific instruments. Chevallier (1778-1848), was the leading French optician of his time, celebrated for his many inventions and for perfecting a great variety of instruments in many areas of science.

The interesting “Discours préliminaire” gives an account of all of Chevallier’s inventions and discoveries.

Fine copy.

A Classic of Metallurgy

34. CRAMER, Johann Andreas. *Elements of the Art of Assaying Metals. In Two Parts. The First containing the Theory, the Second the Practice of the said Art. The Whole deduced from the true Properties and Nature of Fossils; confirmed by the most accurate and unquestionable Experiments, explained in a natural Order, and with the utmost Clearness... To which are added, Several Notes and Observations not in the Original, particularly Useful to the English*

Reader. With an Appendix, containing a list of the chief Authors that have been published in English upon Minerals and Metals. Six folding engraved plates. 6 p.l., 200, [201]-208, 201-470, [8] pp. 8vo, cont. marbled calf, double gilt fillets round sides, spine nicely gilt, red morocco lettering piece on spine. London: T. Woodward & C. Davis, 1741. \$3950.00

First edition in English of this famous metallurgical textbook (1st ed., in Latin: 1739). Cramer (1710-77), was the first to reduce the art of assaying in metallurgy into a system and his textbook was the first of its kind. The first edition is a "profusely illustrated work [which] encompassed the entire art of assaying in two parts, one theoretical and one practical. In the preface he referred to the works of Agricola, Lazarus Ercker, and Stahl. All the instruments and apparatus of contemporary analytical chemistry were depicted and described exactly. In the *Elementa*, Cramer first described the use of the blowpipe in smelting small amounts of substances and in analyzing them."—*D.S.B., Supp.*, p. 94.

Cramer, "the greatest assayer of his time" (*A.D.B.*), was appointed director of the Brunswick Mining and Metallurgy Administration in the Harz Mountains. In 1738 and 1739, he made a long trip through England to learn more about assaying and he gave lectures in London.

The fine plates depict numerous metallurgical operations and instruments.

A very fine and fresh copy.

• *A.D.B.*, Vol. 4, pp. 547-48. Cole 300. Ferchl, p. 107. Partington, II, pp. 710-11. Poggendorff, I, 493-94.

35. CRAMER, Johann Andreas. *Anfangsgründe der Probierekunst, in zweyen Theilen abgefasst, von welchen der erste die Theorie, der andere die Ausübung, in der natürlichen Ordnung und einer sehr verständlichen Lehrart darstellt...* aus dem Lateinischen ins Deutsche übersetzt von C.E. Gellert. Six folding engraved plates. 32, 320, [18], [323]-682, [22] pp. 8vo, cont. marbled semi-stiff boards (a little rubbed). Stockholm: G. Kiesewetter, 1746. \$2250.00

First edition in German of this famous metallurgical textbook, a greatly enlarged reworking of his *Elementa Artis Docimasticae* (1st ed., in Latin: 1739), translated and with the valuable notes of C.E. Gellert, professor of metallurgical chemistry at the Freiberg Bergakademie.

Cramer (1710-77), was the first to reduce the art of assaying in metallurgy into a system and his textbook was the first of its kind. The first edition is a "profusely illustrated work [which] encompassed the entire art of assaying in two parts, one theoretical and one practical. In the preface he referred to the works of Agricola, Lazarus Ercker, and Stahl. All the instruments and apparatus of contemporary analytical chemistry were depicted and described exactly. In the *Elementa*,

Cramer first described the use of the blowpipe in smelting small amounts of substances and in analyzing them."—*D.S.B., Supp.*, p. 94.

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The fine plates depict numerous metallurgical operations and instruments.

Fine copy.

☛ *A.D.B.*, Vol. 4, pp. 547-48. Ferchl, p. 107. Hoover 238. Neville, I, p. 301—"One of the greatest works on analytical chemistry of the eighteenth century" (no copy of this ed. in the Neville collection). Partington, II, pp. 710-11. Poggendorff, I, 493-94. Schuh, *Mineralogy & Crystallography: A Bibliography, 1469 to 1920*, 1193—"Very scarce."

36. DALTON, John. *Meteorological Observations and Essays. Second Edition.* xx, 244 pp. & four pages of ads. 8vo, early (or orig.?) blue-green cloth (a few small repairs, a few stains to binding), new paper label on spine. Manchester: Printed by Harrison & Crosfield, for Baldwin & Cradock; London: 1834. \$550.00

Second edition, to which Dalton added a 48-page appendix. Dalton established the physics of the water-vapor content of the air, denying a chemical theory of the attraction of water for air and flouting the orthodox and Newtonian view. His experiments showed that the water-vapor content of air was not dependent on pressure, and that it exists in the atmosphere in an independent state. "The ideas that in a mixture of gases every gas acts as an independent entity (Dalton's law of partial pressures) and that air is not a vast chemical solvent were thus first stated in the *Meteorological Observations.*"—*D.S.B.* Dalton remarked much later that these essays contained the germs of most of his ideas later developed in his discoveries.

In the *Essays*, Dalton also included studies of the aurora, with accurate estimates of their heights, and a theory of trade winds, anticipated, unbeknown to him, by George Hadley. The meteorological observations provide detailed records of barometric pressure, temperature, wind, humidity and rainfall over a five-year period, and Dalton maintained a meteorological journal for the rest of his life.

Very good copy.

☛ Smyth, *John Dalton*, 3.

*"One of the Most Remarkable Books in the
History of Science"*

37. DAVY, Humphry. *Researches, Chemical and Philosophical; chiefly concerning Nitrous Oxide, or Dephlogisticated Nitrous Air, and its Respiration.*

One engraved plate. xvi, [2], 580 pp., 1 unnumbered leaf of errata with ads on verso. 8vo, cont. speckled calf, spine gilt, morocco label on spine. London: J. Johnson, 1800. \$7000.00

First edition of Davy's first book and one of the most important books in the history of anesthesia; "this is one of the most remarkable books in the history of science."—Fulton & Stanton, *The Centennial of Surgical Anesthesia*, I.9.

"Davy, apprenticed as a surgeon-apothecary, published the above at age 22. Two years earlier, he had experimented with various gases at the Medical Pneumatic Institution in Bristol, to determine their medical properties. He discovered that pure nitrous oxide (laughing gas) was respirable and himself breathed large quantities of it with exhilarating effects. He observed that 'it may probably be used with advantage in surgical operations.' Davy recounted (p. 465) the use of the gas in the alleviation of pain in inflamed gums induced by the eruption of a wisdom tooth, but more than 40 years passed before it or any other anaesthesia was practically demonstrated."—Dibner, *Heralds of Science*, 128.

Very good copy. Manuscript ex-libris of F. Bergere on verso of title.

• Duveen, p. 160—"excessively rare." Garrison-Morton 5646. Keys, *The History of Surgical Anesthesia*, p. 15—a "much sought-after volume... This important book not only outlined his basic researches but also suggested the possible anesthetic qualities of nitrous oxide."—& see pp. 16-18, 21, & 105.

38. DEADLY ADULTERATION and Slow Poisoning; or, Disease and Death in the Pot and the Bottle; in which the Blood-empoisoning and Life-destroying Adulterations of Wines, Spirits, Beer, Bread, Flour, Tea, Sugar, Spices, Cheesemongery, Pastry, Confectionary, Medicines, &c. &c. &c. are laid open to the Public, with Tests of Methods for Ascertaining and Detecting the fraudulent and deleterious Adulterations... By an Enemy of Fraud and Villany. 4 p.l., 187, [1] pp. 12mo, orig. blue cloth (minor foxing), printed paper label on upper cover. London: Sherwood, Gilbert, & Piper, n.d., [but not before July 1830]. \$400.00

First edition. An early work in the war on the fraudulent adulteration of foods and household materials, published ten years after Accum's book which created a sensation amongst tradesmen and consumers alike. "It was clearly based on Accum's book, but it differs from that work in that many of the allegations were made without substantial evidence. It is written in the ironical and slightly irresponsible style of many of the eighteenth century pamphlets and for this reason it has been compared unfavourably with Accum's more balanced book."—Drummond & Wilbraham, *The Englishman's Food*, p. 292—(describing only this book and Accum's as the early general works on the subject).

A very nice copy. Signature of three members of the Thomas family of

Penkerrig at top of title.

- 39. DODD, Ralph.** *Reports, with Plans, Sections, &c. of the Proposed Dry Tunnel, or Passage, from Gravesend, in Kent, to Tilbury, in Essex; demonstrating its Practicability, and Great Importance to the Two Counties, and to the Nation at Large: also on a Canal from near Gravesend to Stroud. With some Miscellaneous and Practical Observations.* Two double-page aquatint plates & one engraved map. viii, [2], 28 pp., one leaf of ads. Large 4to, modern calf-backed marbled boards, uncut. London: J. Taylor, 1798.
\$2500.00

First edition of one of the earliest serious proposals to build an underwater tunnel. "Dodd's Gravesend Tunnel project was the earliest proposal to bore a passage beneath the Thames. It probably came about as a result of his previous scheme to dig a tunnel beneath the Tyne, which attracted considerable interest as the first ever underwater tunnel scheme. The present item contains Dodd's preliminary plan and estimate for a tunnel 900 yards long and 16 feet in diameter passing 20 to 30 feet beneath the Thames, together with an account of the meeting held in Gravesend Town Hall to canvas support and his resulting revised report. The book also demonstrates the need for such a tunnel, describing its advantages over those of a bridge, and includes a shortened version of the Tyne Tunnel report as well as two aquatint plates. All this was persuasive enough to result in an Act in 1799 and a vertical shaft was dug on the Gravesend side. However, there were problems with drainage and when the uninsured pumping-engine house burned down in 1802, the project came to an end. The idea of a Thames Tunnel was revived by Robert Vazie, but it was Marc Brunel who finally brought it to fruition, though at a different site, in 1843."—Elton, *Cat.* 9, 46.

Very nice copy with the half-title and leaf of ads. Ex Bibliotheca Mechanica.
• Skempton 379.

Calcination

- 40. FACHS, Modestus.** *Probier-Büchlein...* Title printed in red & black (fore-edge of title with unimportant defects not touching text) & one folding engraved plate. 12 p.l., 181, [9] pp.; 1 p.l., 45, [1] pp. Two parts in one vol. 8vo, cont. vellum over boards (binding somewhat soiled, some browning throughout due to the quality of the paper). Leipzig: J. Gross, 1671.
\$6500.00

A relatively early edition (1st ed.: 1595) of one of the rarest and most important

of the *Probierbüchlein*; written not later than 1567, it is in this work that we find the first suggestion that tin and lead, upon heating during calcination, gain weight. This discovery was later noted and described by Jean Rey in his famously rare book of 1630 and, of course, by Lavoisier in 1772 who first correctly recognized that calcination involves combination with air. Lavoisier's conclusions marked the end of the phlogiston theory and the inauguration of a true revolution in chemistry.

"Of more interest [than the earlier *Probierbüchlein*] is a work by Modestin Fachs, master of the mint of the Prince of Anhalt, written not later than 1567... The preface by Modestin Fachs is dated 1567 and the book was published by his son Louis Wolfgang Fachs. In this is a passage to which Jean Rey drew attention saying that in the process of cupellation the total weight of the vessel, cupel, metal, and lead increases."—Partington, II, p. 67.

Appended as usual is *Rathsams Bedencken und Erklärung auf etlicher rathen und angeben, dass die Müntz Herrn geringere Müntzen sollen schlagen lassen*. This is a significant contribution to the history of monetary systems, as it describes processes for analyzing coins made of gold, silver, and various alloys.

The plate depicts an oven used for metallurgical processes.

A very good copy of an extremely rare and important book; OCLC locates one copy of this edition in the U.S. Darmstaedter cites other editions of 1622, 1636, 1669, 1678, and 1689 (all of which are rare).

♣ Darmstaedter, *Berg-, Probir- und Kunstbüchlein*, pp. 191-92—"Das Buch ist ausführlicher und vielseitiger wie die älteren Probirbüchlein." Ferguson, I, p. 261—(1622 ed.). Hoover, translation of *De Re Metallica*, pp. 613—(not knowing this ed.). See D. McKie's edition of *The Essays of Jean Rey* (1951), pp. xxviii-xxix. No edition in the Hoover collection.

41. FLOURENS, Marie Jean Pierre. *Note touchant l'Action de l'Éther sur les Centres nerveux*. [With remarks by Roux and Despretz]. The complete *Séance* for 8 March 1847, pp. 338–396. 4to, modern marbled wrappers (some foxing). [Extracted from:] *Comptes Rendus de l'Académie des Sciences*, Vol. 24, pp. 340–344. Paris: 8 March 1847. \$1350.00

First edition of Flourens' announcement that chloroform had an anaesthetic effect similar to that of ether. Little notice seems to have been taken of his paper, but later in the year Simpson independently demonstrated the value of chloroform.

♣ Fulton & Stanton VII.72. Garrison-Morton 5654.

Red Morocco with the Arms of Louis Philippe

42. FODERÀ, Michel. *Histoire de quelques Doctrines médicales comparées a celle du Docteur Broussais*. 233, [1] pp. 8vo, cont. red morocco, arms in gilt

of Louis Philippe as Duc d'Orléans, later King, on each cover, grapevine border round each cover, flat spine gilt, a.e.g. Paris: J.B. Baillière, 1821.

\$2750.00

First edition and a very fine copy in red morocco with the arms of Louis Philippe as Duc d'Orléans on each cover. Foderà (1793-1848), a native of Sicily, took his medical degree at the University of Catania and then settled in Paris. He was one of the leading critics of the controversial (and somewhat loony) theories of Broussais (1772-1838), which are fully discussed in the present work.

Fine and handsome copy. Stamp "Bibliothèque du Roi Neuilly" on title.

♣ Hirsch, II, p. 551.

"Invaluable Concordance"—Garrison

43. FOES, Anuce. *Oeconomia Hippocratis, alphabeti serie distincta. In qua Dictionum apud Hippocratem omnium, praesertim obscuriorum, usus explicatur, & velut ex amplissimo penu depromitur: ita ut Lexicon Hippocrateum merito dici possit.* Woodcut device on title & on verso of last leaf and a fine engraved portrait of the author on verso of title. 4 p.l., 694, [2] pp. Folio, cont. limp vellum (free endpapers at front quite frayed, beginning leaves with some light marginal dampstaining), ties gone. Frankfurt: Heirs of A. Wechel, 1588. \$2500.00

First edition. "Foesius spent 40 years in the preparation of this concordance to Hippocrates. It was unsurpassed until Littré's great work appeared 250 years later."—Garrison-Morton 6793. Foesius (1528-95), studied medicine at Paris and returned to his native city of Metz to become city physician. In addition to his medical duties and practice, he was a classical scholar who concentrated on the study of Hippocrates and his works.

The fine medallion portrait of Foe on the verso of the title-page was executed by the French engraver Pierre Woeiriot (ca. 1531-ca. 1589) and appears only in first editions of the book.

Very good copy.

♣ Garrison, *An Introduction to the History of Medicine*, p. 197. *Heirs of Hippocrates* 348.

"Marks an Epoch"

44. FOURIER, Jean Baptiste Joseph, Baron. *Théorie Analytique de la Chaleur.* Two engraved plates (small ink spot to blank portion on first plate). 2 p.l., xxii, 639 pp. Large 4to, cont. half-sheep & marbled boards (spine a little rubbed), flat spine gilt, black leather lettering piece on

spine. Paris: Firmin-Didot, 1822. \$35,000.00

First edition, and a fine copy of this celebrated book. "This work marks an epoch in the history of both pure and applied mathematics. It is the source of all modern methods in mathematical physics involving the integration of partial differential equations in problems where the boundary values are fixed... The gem of Fourier's great book is 'Fourier's series'."—Cajori, *A History of Mathematics*, p. 270.

Fourier's methods find their widest application to problems of vibration in heat, sound, and fluid motion.

• Dibner, *Heralds of Science*, 154. *D.S.B.*, V, pp. 93-99. *En Français dans le Texte* 232. Evans, *First Editions of Epochal Achievements in the History of Science* (1934), 37. Roberts & Trent, *Bibliotheca Mechanica*, p. 118.

45. FRISI, Paolo. *Operum*. Engraved medallion portrait on title of Vol. I & 14 folding engraved plates. 2 p.l., 466, [2] pp.; 2 p.l., 533, [3] pp.; 3 p.l., 561, [3] pp. 3 vols. Large 4to, slightly later vellum-backed marbled boards (some dustiness & occasional light foxing), arms of The Society of Writers to the Signet on covers, later red morocco lettering pieces on spines. Milan: J. Galeati, 1782-83-85. \$3000.00

First collected edition of Frisi's important scientific writings on mathematics, physics, hydraulics, and astronomy. "In physics his research must be evaluated in relation to the concepts dominant in his time, which led him to justify and interpret certain phenomena of light and aspects of electricity, referring to the vibratory motion of ether and other properties attributed to it. As an astronomer he concerned himself with the daily movement of the earth (in *De motu diurno terrae*, awarded a prize by the Berlin Academy), the obliquity of the ecliptic, the movement of the moon, the determination of the meridian circle, and matters concerning gravity in relation to Newton's general theories. His mathematical activity included studies on kinematics (composition of rotatory movements, etc.) and, notably, on isoperimetry. He also did work in hydraulics and was called upon to plan works for the regulation of rivers and canals in various parts of northern Italy. He was responsible for laying out the canal built in 1819 between Milan and Pavia."—*D.S.B.*, V, p. 195.

Frisi (1728-84), was an ardent admirer of Newton. As editor of *Il Caffè*, a newspaper that was influenced by the thought of the French Illuminati, Frisi exerted a notable influence on the cultural, social, and political life of Milan in the later part of the 18th century.

Very good set. Ex Bibliotheca Mechanica.

• Houzeau & Lancaster 3493. Riccardi, I, 490—"Bella ediz."

One of the Great Classics of French Engineering

46. **GAUTHEY, Émiland Marie.** [General title from half-title]: *Oeuvres*. 37 folding engraved plates. xxxi, 403, [1] pp.; 4 p.l., 399, [1] pp.; 4 p.l., 420 pp. Three vols. Large 4to, cont. paste-paper boards (minor wear, a bit foxed), red leather lettering pieces on spines. Paris: Firmin Didot, 1809-13-16. \$4750.00

First edition of the works of Gauthey (1732-1806), France's leading engineer of the period. This edition is especially notable for having been edited by Gauthey's grandnephew, Claude Louis Marie Navier (1785-1836), who has added his own extensive notes and commentaries which were the result of his research in analytical mechanics and its application to the strength of materials. In this edition, "Navier added notes which drew on the research of Coulomb and on the experimental tradition of eighteenth-century physics that had given him data for tables of the strength of stone and of wood. He appealed for further experiments on the strength of materials so that they could be used well in construction."—*D.S.B.*, X, p. 3—(& see pp. 2-3 for Navier's fundamental contributions to the properties of bodies which were first expressed in the present edition of his granduncle's works).

Gauthey is best-known for his role in the controversy over the dome of Ste-Geneviève (later the Panthéon Français) at Paris and for his construction of the Canal du Centre which completed the first inland route from the English Channel to the Mediterranean.

"The first two volumes contain the treatise on bridges which was to supersede Gautier's *Traité*, originally published nearly a century before, remaining the standard work on the subject until well into the 19th century and going into a third corrected edition as late as 1843. The work opens with an historical survey which gives a remarkably complete record of bridges built all over Europe before 1800. It is primarily concerned, however, with laying down a rational approach to bridge design and planning, giving general principles for foundations, curve of arches, thickness of piers and abutments, centring etc. Gauthey draws on his own considerable experience and observations, closely following the precepts of Perronet, whose pupil he was. The treatise also contains the compression tests on stone carried out with Soufflot...

"Much of the third volume, on canals, is devoted to the Canal du Centre, his major achievement in the field. Joining the Loire and Saône, it was the first link, by way of the Loire, between the Seine and the Mediterranean. 70 miles long, it required 30 locks from Digoin on the Loire to take it 250ft up to the summit level, and 50 more down the 430ft drop to Chalon-sur-Saône. Gauthey's discussion of the economic use of water to supply the very high summit, and the siting and optimum dimensions of locks to conserve as much as possible, is one of the most interesting features of the work. The volume also contains other, more general, Mémoires on locks (required reading for Ponts et Chaussées students), water supply etc. as well as appraisals of various canals such as the Briare, Orléans,

Bourgogne and Languedoc. As a whole the volumes form one of the great classic works on French engineering." – Elton, *Cat.* 5, 19.

Fine set and quite scarce on the market. Ex Bibliotheca Mechanica.

♣ Poggendorff, I, 857. Roberts & Trent, *Bibliotheca Mechanica*, pp. 133-34.

A Fine Copy

47. GERARD, John. *The Herball or Generall History of Plantes...* Finely engraved title, woodcut coat-of-arms on verso of title, finely engraved port. of Gerard on verso of final preliminary leaf, & 2144 woodcuts in the text. 10 p.l., 1392, [72] pp. Thick folio (320 x 215 mm.), mid-20th-cent. calf, black morocco lettering pieces on spine, a.e.g. London: J. Norton, 1597.
\$19,500.00

First edition and a fine and large copy, in fresh condition, of the most famous English herbal. The text was assembled by Gerard from the books of Turner, Dodoens, Pena and l'Obel, and Tabernaemontanus. The classification is that originated by l'Obel and much of the text follows closely the *Stirpium Historiae Pemptades Sex* (1583) of Dodoens, interspersed with Gerard's own notes and observations on English flowering plants, of which about 182 are additional to those recorded in earlier works. He writes principally about the medicinal and dietetic properties of plants, but he was also aware of their decorative uses.

The publisher, John Norton, obtained the majority of the woodblocks from the Frankfurt publisher Nicolaus Bassée, who had used them in the *Eicones Plantarum* of Tabernaemontanus in 1590. Other blocks were obtained at Antwerp from the set cut for the publications of l'Obel and Dodoens, and a small number of blocks (perhaps 16) were commissioned by Norton from local English cutters. One of these depicts the potato of Virginia (p. 781) and is the first published illustration of that plant.

The engraved title-page and author's portrait are by William Rogers, an artist active from about 1589 to 1604, who was the most accomplished of Tudor engravers. The title features gardeners and emblematic figures in an architectural setting, the engraved image measures 315 x 195mm. It is almost always cropped by the binder and in poor condition; the impression in our copy is in fine and fresh condition, and quite untouched by the binder.

♣ Garrison-Morton 1820. Henry, I, pp. 36-48 & no. 154. Hunt 175.

An Attractive Sammelband

48. GLAUBER, Johann Rudolf. *Operis Mineralis. Pars Prima [-Pars Tertia].* 67, [2] pp., one blank leaf; 47 pp.; 110 pp., one blank leaf. Three parts in one vol. 8vo, cont. vellum over boards, upper cover with Virgin Mary stamped in gilt within oval gilt wreath, ties gone. Amsterdam: J.

Jansson, 1651-52-52.

[bound with]:

—. *De Auri tinctura. Sive, Auro potabili vero. Quid sit & quomodo differat ab auro potabili falso & Sophistico. Quomodo Spagyricae praeparandum & quomodo in Medicina usurpandum...* 22 pp., one blank leaf. 8vo. Amsterdam: J. Jansson, 1651.

[bound with]:

—. *Pharmacopoea Spagyrica, sive Exacta descriptio, quâ ratione ex Vegetabilibus, Animalibus & Mineralibus, modo haud usitato faciliorique, utilia, efficacia, & penetrantia medicamenta fieri praepararique possint. Pars Prima [-Tertia].* 76 pp., one blank leaf; 128 pp.; 48 pp. 8vo. Amsterdam: J. Jansson, 1654-56-57. \$5500.00

A most attractive *sammelband* of three of Glauber's most important works. In 1655, after having studied in chemical laboratories in Paris, Basel, Salzburg, and Vienna, Glauber (1604-70), moved to Amsterdam where he outfitted what was surely the most impressive laboratory in Europe. He "has justly been called the best practical chemist of his day and the first industrial chemist. His instructions for the improvement of laboratory technique were instrumental in preparing the way for the chemical revolution of the next century."—*D.S.B.*, V, p. 419.

I. First edition in Latin, a German edition appeared in Frankfurt in the same year. "Very scarce... One of Glauber's most important works, the *Operis Mineralis* discusses all manner of phenomena associated with minerals and the earth. On the origin of ore deposits, Glauber is of the opinion that if this is not the actual lake of fire prepared for sinners the latter must at least be situated somewhere in the immediate vicinity. He also discusses of the arrangement of the metallic veins in the earth resembling a tree with its branches growing up from the center of the earth. He believed that base metals were continuously transforming to the nobler metals, going continuously forward in time, which in the course of time will result in the final passage to gold. Therefore, when miners found some other mineral substance other than gold, for example bismuth or tin, they have opened up an immature mineral vein. Glauber goes on to observe that if an ore body which has not been worked for some years is again opened that the exposure of the mineral veins to air causes one to frequently find an abundance of silver. It was the belief of the alchemists that the transformation from baser to nobler metals was indeed occurring in the earth's crust when the conditions were favorable. It was the alchemist's goal to recreate those conditions in the laboratory, but to cause the reaction to change more rapidly."—Schuh, *Mineralogy & Crystallography: A Biobibliography, 1469 to 1920*, 1903.

II. First edition in Latin (the first edition, in German, appeared in 1646) of this uncommon work on the therapeutic uses of gold.

III. First edition of the first three parts (of seven) of the *Pharmacopoea Spagyrica*,

one of Glauber's main pharmaceutical works. It is a collection of the medical preparations that Glauber found most reliable and were mostly products from his own laboratory. It is most unusual to have all seven parts bound together as they were published over a fifteen year period.

• I-III: Partington, II, pp. 341-61. I. Ferguson, I, p. 326. II. Duveen, p. 252. Ferguson, I, p. 323. Hoover 360. Waring, p. 280. III. *Heirs of Hippocrates* 484.

The Famous Comet of 1618

49. [GRICK, Friedrich]. *Kometoprostasiekdiketes* [:in Greek] *Oder Cometenbutzers Schützer, Das ist: Eine glaubwürdige Copey articulierter, rechtmessiger Exceptionum, probationum, & junctis refutationibus in eventum conclusionum dess guten, Unschuldigen Cometen, welcher in verwichenen 1618. Jahr erschienen...durch...Johanne Procopio übergeben.* 16 unnumbered leaves. Small 4to, modern speckled boards. [Prague]: P. Zoanettius, 1619.

\$3750.00

First edition of this very rare work, a defense of the author's earlier pamphlet (Zinner 4777) on the famous comet of 1618-19 which attracted so much attention from the leading astronomers of the time, including Galileo and Scheiner.

The author, who uses the pseudonym Johannes Procopius, states that he opposes those who profess to interpret comets as portents. Rather, Grick provides careful scientific descriptions of the comet, with accounts of its nature, origins, appearance, size, and path. There are numerous references to Tycho Brahe, Kepler, Copernicus, etc. and the author displays a good understanding of Kepler's astronomical discoveries.

There are a number of references to America. Grick also wrote a defense of the Rosicrucians in 1617.

Fine copy. Old library stamp carefully removed from blank portion of title.

• Houzeau & Lancaster 5673. Lalande, p. 177. Zinner 4778.

*The Earliest Bibliography on Balneology
& Mineral Waters*

50. GROSS, Johann Matthias. *Bibliotheca Hydrographica, cum Lexico Hydrologico...unter einer Vorrede...* Johann Jacob Baiers. 4 p.l., 52 pp. 4to, attractive antique calf-backed boards, spine gilt. Nuremberg, Altdorf, & Leipzig: "in Verlag eines guten Freundes," 1729. \$2250.00

First edition of the earliest bibliography of balneology and mineral waters; this is a very rare book and was unknown to Besterman. About six hundred titles are listed. Pages 33-52 contain a dictionary of terms used in balneology and include

place names of many mineral springs throughout Europe.

Fine copy.

♣ Petzholdt, p. 590—"Fleissige."

51. GUENTZ, Eduard Wilhelm. *Der Leichnam des Menschen in seinen physischen Verwandlungen, nach Beobachtungen und Versuchen...Erster Theil* [all published] *Der Leichnam des Neugeborenen*. Two finely hand-colored engraved plates. xvi, 278 pp. 8vo, attractive antique calf-backed speckled boards (occasional foxing), spine gilt, red morocco lettering piece on spine, uncut. Leipzig: J.A. Barth, 1827. \$1350.00

First edition. In 1839, Guentz (1800-80), who took his medical degree at Leipzig, established one of the first psychiatric clinics in Germany adjacent to Leipzig (see Hirsch, II, pp. 890-91 for more on his notable achievements in psychiatry).

The present work is concerned with pediatric forensics and methods of identifying causes of death in babies. The plate contain 48 figures depicting various symptoms.

Very good copy.

*The Invention of the Air Pump and the
Electric Generator*

52. GUERICKE, Otto von. *Experimenta Nova (ut vocantur) Magdeburgica de Vacuo Spatio Primùm 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. Dutch vellum over boards. Amsterdam: J. Janssonium a Waesberge, 1672. \$65,000.00

First edition, and a fine copy, of one of the great classics of science. Complete copies, such as ours, have become difficult to find on the market.

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 of fundamental importance 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.

Stamp of a Jesuit library at Jersey and of Ambroise Lefevre (bookseller) on blank portions of title. Bookplate of Pierre Duhem, the great historian of science.

• 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.

*The Movement of Sap in Plants and the First
Measurement of Blood Pressure*

53. HALES, Stephen. *Vegetable Staticks: Or, An Account of some Statical Experiments on the Sap in Vegetables: Being an Essay towards a Natural History of Vegetation. Also, a Specimen of an Attempt to Analyse the Air, By a great Variety of Chymio-Statical Experiments.* 19 engraved plates. 4 p.l., ii-vii, [2], 376 pp. 8vo, cont. calf (expertly rejointed), double gilt fillet round sides, spine gilt, red morocco lettering pieces on spine. London: W. & J. Innys, 1727.

[with]:

— . *Statical Essays: containing Haemastaticks; or, an Account of some Hydraulic and Hydrostatical Experiments made on the Blood and Blood-Vessels of Animals...To which is added, an Appendix, containing Observations and Experiments relating to several Subjects in the first Volume...With an Index to both Volumes.* xxii, [26], 361, [23] pp. 8vo, cont. calf (upper joint with a tiny split at head), double gilt fillet round sides, spine gilt, red morocco lettering piece on spine. London: W. Innys, R. Manby, & T. Woodward, 1733. \$20,000.00

First editions and a very fine, fresh, and crisp set in matching bindings; these are great classics of experimental science. This set belonged to the great biologist Abraham Trembley (1710-84), who is best known for his pioneer studies of hydra; he has been called "the father of experimental zoology." He has signed

the title-page at the foot of Vol. I (along with the maiden name of his wife, Strassen).

In the first volume, Hales “studied the movement of sap in plants and discovered what is now known as root pressure. He measured the amount of water lost by plants through evaporation and related this to the amount of water present in a given area of soil in which the plants were growing. He estimated rain and dewfall in this connexion, measured the rate of growth of shoots and leaves, and investigated the influence of light on plants. He experimented on gases and found that they were obtainable from plants by dry distillation. He was the first to realize that carbon dioxide was supplied to plants by the air and formed a vital part of the plant’s food supply. These experiments led the way to those of Ingenhousz and de Saussure, while his ideas on combustion and respiration facilitated the discoveries of Black, Lavoisier and Priestley...

“The second volume contains the studies in blood pressure which make Hales one of the founders of modern experimental physiology. The application of the principle of the pressure-gauge or manometer enabled him to measure blood pressure during the contraction of the heart. He computed the circulation rate and estimated the velocity of the blood in the veins, arteries and capillary vessels and by showing that the capillary vessels are liable to constriction and dilation he made an important contribution both to the study of physiology and the practice of the physician of today...Hales’s work marked the greatest advance in the physiology of the circulation between Harvey and the introduction of the mercury manometer and other instruments for the measurement of blood pressure by J. L. M. Poiseuille in 1828.”—*Printing & the Mind of Man* 189.

Uniformly bound sets of first editions are of great rarity.

• I & II: Horblit 45a & b. I: Dibner, *Heralds of Science*, 26. II: Garrison-Morton 765—“the single greatest contribution to our knowledge of the vascular system after Harvey, and led to the development of the blood-pressure measuring instruments now in universal use.”

A Lovely Copy

54. HALES, Stephen. *Haemastatique, ou la Statique des Animaux: Expériences hydrauliques faites sur des Animaux vivants. Avec un Recueil de quelques Expériences sur les Pierres que l'on trouve dans les reins et dans la vessie; et des recherches sur la nature de ces Concrétions irrégulières... Ouvrage très utile aux Médecin; traduit de l'Anglois, & augmenté de plusieurs Remarques & de deux Dissertations de Médecine, sur la Théorie de l'Inflammation, et sur la Cause de la Fievre; par Mr. De Sauvages.* One folding woodcut plate. xxiii, 352 pp. Large 4to, cont. calf, spine richly gilt, contrasting leather lettering pieces on spine. Geneva: Heirs of Cramer et

Frères Philibert, 1744. \$2250.00

First edition in French of Hales' classic work on blood pressure. The translation was by the eminent physician and botanist François Boissier de Sauvages de la Croix (1706-76), who has added his dissertations on his theories of inflammation and fever.

Very fine and pretty copy. Bound-in at the end is a copy of Carl Friedrich Hundertmark's *Liber Singularis de Incrementis Artis Medicae per Expositionem Aegrotorum apud Veteres in Vias Publicas et Templa* (Leipzig: 1749).

Estate Management

55. **HARLEY, William.** *The Harleian Dairy System; and an Account of the Various Methods of Dairy Husbandry pursued by the Dutch. Also, a new and improved Mode of Ventilating Stables. With an Appendix, containing Useful Hints (founded on the Author's Experience) for the Management of Hedge-row Fences, Fruit Trees, &c.; and the Means of rendering Barren Land fruitful.* Engraved frontis. port. of the author & five engraved plates (two are folding & two others are printed in sepia). xxxvi, 288 pp. plus two leaves of explanatory text for the plates between pages 14-15 & one leaf of explanatory text for the plate between pages 134-35. 8vo, cont. green calf (spine slightly faded), single gilt fillet round sides, spine gilt, red leather lettering piece on spine. London: J. Ridgway, 1829. \$1950.00

First edition and a very pretty copy of this classic and innovative work. Harley, a dairyman on the outskirts of Glasgow, was one of the first to weigh the milk given by his cows mornings and evenings and to test the proportion of cream in the milk. "The Harleian Dairy System was a remarkable innovation... Harley's dairy had remodelled the whole dairy system of towns."—Fussell, *The Old English Farming Books*, III, p. 152.

Fine copy. "Leigh" armorial bookplate.

♣ J.A. Symon, *Scottish Farming Past and Present*, pp. 329-30—Harley "was far in advance of the times." Robert Trow-Smith, *A History of British Livestock Husbandry 1700-1900*, pp. 305-06.

Thomas Bewick's First Book Illustrations

56. **HUTTON, Charles.** *A Treatise on Mensuration, both in Theory and Practice.* Engraved coat-of-arms at head of first leaf of dedication, one engraved plate at page 600, & numerous woodcuts in the text by Thomas Bewick. xxvi, 646 pp., one leaf of errata. 4to, cont. calf (well-rebacked, corners nicely repaired), spine gilt, red morocco lettering piece on spine.

Newcastle: Printed by T. Saint for the Author, 1770. \$1250.00

First edition of this book which is best-known as the first book illustrated by Thomas Bewick (1753-1828), the great wood engraver. Both Hutton and Bewick were natives of Newcastle. Hutton (1737-1823), foreign secretary of the Royal Society, was for many years professor of mathematics at the Royal Military Academy at Woolwich.

The present work is an elaborate textbook on geometry and trigonometry with sections on surveying and measuring at the end. There is a ten-page double-columned list of subscribers, most of whom were school masters.

Very good copy. Ex Bibliotheca Mechanica.

• D.S.B., VI, pp. 576-77.

57. KLING, Johann Peter. *Vorschriftsmäßige Behandlung der Domainen-Waldungen in der Churpfalz, eine Vorlesung am Höchsten Namensfeste des Durchlauchtigsten Churfürsten Carl Theodors...* gelesen in einer öffentlichen Sitzung der Churpfälzischen Akademie der Wissenschaften, den 6. November 1790. One folding engraved plate & one folding printed table. 54 pp. 4to, cont. green silk over boards (spine & one corner a little worn), a.e.g. Mannheim: gedruckt in der Hof- und akademischen Buchdruckerei, 1791. \$950.00

First edition and a fine copy printed on thick and blue paper. Kling was forest commissioner to the Palatinate and professor of mathematics. This is an account of the forests of the Palatinate. The engraved plate is a map of an idealized forest plan and the folding table lists each forest by district and details by column when the forests would be ready for harvesting.

Rare; OCLC lists no copy in the U.S.

58. LAMBERT, Johann Heinrich. *Hygrometrie oder Abhandlung von den Hygrometern.* Aus dem Französischen übersetzt. Engraved frontis., three folding engraved plates, & three folding printed tables. 104 pp. 8vo, cont. marbled sheep, contrasting leather lettering piece on spine. Augsburg: E. Kletts, 1774.

[bound with]:

— *Fortsetzung*... Two folding engraved plates. 72 pp. 8vo. Augsburg: E. Kletts, 1775. \$2500.00

First book edition and quite uncommon. "Lambert's *Hygrometrie* (Augsburg, 1774-1775) was first published in two parts in French as articles entitled *Essai*

d'hygrométrie. A result of his meteorological studies, this work is mostly concerned with the reliable measurement of the humidity of the atmosphere. The instrument maker G.F. Brander constructed a hygrometer according to Lambert's description."—*D.S.B.*, VII, p. 599.

The fine frontispiece depicts Brander's instrument.

Fine copies. Old library stamp on first title.

A Very Handsome Set

59. LAPLACE, Pierre Simon. *Oeuvres*. One folding lithographed plate in Vol. IV. Seven vols. Large 4to, a fine prize binding of cont. blue morocco, sides elaborately decorated in gilt, spines richly gilt, a.e.g., upper cover of Vol. I stamped in gilt "Académie des Sciences. Prix fondé par Mme la Mise de Laplace pour le 1er Elève sortant de l'École Polytechnique 1862. M. Matrot Adolphe. Né le 9 Juillet 1841 à Paris," all other covers stamped in gilt in center with the royal arms of the Académie des Sciences. Paris: Imprimerie Royale, 1843-47. \$15,000.00

First edition of the collected works of Laplace, luxuriously produced at the initiative of Laplace's widow and financed by King Louis Philippe's government.

Contained here are Laplace's epoch-making works on astrophysics, mathematics and probability theory. The first five volumes are taken up by *Traité de Mécanique Céleste*, the foundation of modern theoretical astronomy. It has been called "the eighteenth-century Almagest" and "a sequel to Newton's *Principia*" (Horblit 63). Volume Six contains his *Exposition du Systeme du Monde*, one of the most successful popularizations of science ever composed. It is Laplace's resumé of current astronomical understanding. The final and thickest volume combines the *Essai Philosophique sur les Probabilités* with the *Théorie analytique des Probabilités*, the introduction to Laplace's groundbreaking masterpiece on probability theory. "The *Essai* has certainly had a longer life and almost certainly a larger number of readers than any of Laplace's other writings. The reason for its continuing — indeed, its growing — success has clearly been the importance that probability, statistics, and stochastic analysis have increasingly assumed in science, social science, and philosophy of science."—*D.S.B.*

Adolphe Matrot (1841-96), became a high official in the French national railroad company.

A fine and handsome set.

"Discovery of the Differential Calculus"

60. LEIBNIZ, Gottfried Wilhelm. "Nova Methodus pro Maximis et Minimis," pp. 467-73 & one plate, in *Acta Eruditorum* (1684). Engraved plates (many folding). 5 p.l., 591, [7] pp. Thick 4to, cont. vellum (some

browning as is usual). Leipzig: C. Günther, 1684. \$19,500.00

First printing of this epochal work. "The controversy with Newton on priority of invention of the calculus does not detract from the superiority of Leibniz's method of notation, one retained in modern use. He applied his new method to the solution of the cubic parabola and the inverse methods of tangents and many problems left unsolved by Descartes. Fifteen years after Newton's first work in fluxions and nine after his own independent discovery, Leibniz published the above, his first announcement of the differential calculus."—Dibner, *Heralds of Science*, 109.

The controversy between Newton and Leibniz over priority of the invention of calculus is one of the most famous in the history of science.

Fine copy.

♣ Evans, *First Editions of Epochal Achievements in the History of Science* (1934), 7. Horblit 66a. *Printing & the Mind of Man* 160. Sparrow, *Milestones of Science*, 130 & plate.

61. LEONHARD, Karl Cäsar von, MERZ, Ernst Karl Friedrich, & KOPP, Johann Heinrich. *Systematisch-tabellarische Uebersicht und Charakteristik der Mineralkörper. In oryktognostischer und orologischer Hinsicht.* 3 p.l., xvi pp., 83 leaves, [84]-125 pp. Folio, cont. half-sheep & marbled boards, flat spine gilt. Frankfurt am Main: J.C. Hermann, 1806. \$2500.00

First edition and very rare; this is a systematic survey of minerals, in the form of tables, giving extensive descriptions of their external appearances and chemical qualities. Leonhard (1779-1862), professor of mineralogy at the University of Heidelberg, wrote the oryctognostic section, Merz (1776-1813), the orologic section, and Kopp (1777-1858), the chemical section.

"As a founding editor of the *Taschenbuch für die gesammte Mineralogie*, Leonhard earned a place among the foremost mineralogists of his time. His prolific writings contributed to the rise of popular interest in geology during the nineteenth century."—*D.S.B.*, VIII, p. 245.

Fine copy. From the library of His Serene Highness Prince Fürstenberg at Donaueschingen.

♣ Poggendorff, I, 1427.

Beautifully Illustrated

62. LEUPOLD, Jacob. *Theatrum Pontificiale, oder Schau-Platz der Brücken und Brücken-Baues, Das ist, Eine deutliche Anweisung, Wie man nicht nur auf mancherley Arth über Gräben, Bäche und Flüsse gelangen, auch so gar in*

Wassers-Noth mit gewissen Maschinen und besondern Habit sein Leben retten kan. Sixty finely engraved plates. 8 p.l., 153 pp., [5] pp. Folio, cont. boards (a bit soiled & rubbed). Leipzig: C. Zunkel, 1726. \$3000.00

First edition of one of the most important volumes in Leupold's series *Theatrum Machinarum*, or "Theater of Machines"; this was the most complete and richly illustrated work on engineering and machinery published, not just up until that time, but for many years to follow.

"Leupold's treatise is the most comprehensive of all the early bridge books and the first to be published in Germany. It was inspired by Gautier's influential work and covers masonry, pontoon, floating and military bridges but is particularly notable for the material on long-span timber-truss bridges. Leupold writes with authority on this type of structure, of which there was a long tradition in Germany, taking as examples some recently-built bridges and making an attempt to illustrate the behaviour of beams and trusses and to describe the properties of timber; in this he follows Galileo and anticipates Buffon."—Elton, *Cat. 2*, 58.

Leupold (1674-1727), a Leipzig mechanical engineer, established a workshop to manufacture mathematical and mechanical instruments. His numerous books describe the latest technological developments of the day.

Fine fresh copy.

63. **MACQUART, Louis Charles Henri.** *Beschreibung einer auf Befehl der Regierung nach den Norden gemachten Reise enthaltend Abhandlungen über mehrere Gegenstände der Mineralogie: Beschreibung der in die königl Sammlung abgegebenen merkwürdigsten Stücke: eine Ortsbeschreibung von Moskau mit vielen interessanten statistischen Bemerkungen...* aus dem Französischen übersetzt. Mit Anmerkungen begleitet von Fibig und Nau. Seven folding engraved plates. 2 p.l., 628 pp., [4] leaves. 8vo, cont. yellow boards. Frankfurt: Hermann, 1790. \$2500.00

First edition in German, with the valuable additions and commentaries by Johann Fibig (d. 1792) and Bernhard Sebastian Nau (1766-1845), both professors of natural history at the University of Mainz. This edition is rare with OCLC locating no copy in the U.S.

"The eight memoirs comprising the text are based on the author's travel experiences in the Urals, Siberia, the vicinity of Moscow, and Poland. Among them are several of great interest to the gemologist, e.g., the first memoir, on chalcedony pseudo-morphs after gypsum which are found in the vicinity of Cracow, Poland, with several specimens being depicted upon the first plate. A visit to the celebrated Wieliczka salt mines is narrated as well as visits to salt mines in Siberia. Memoirs three to five are mineralogically important because

they describe minerals found in a number of Siberian mines, including the Beresov deposit which formerly provided splendid specimens of crocoite which Macquart calls 'plomb rouge,' and which he analyzed without recognizing the presence of chromium. A few remarks are made on the famous copper mine at Gumeshevsk which is best known for having yielded enormous masses of malachite suitable for overlay lapidary work. The eighth memoir is gemologically most important inasmuch as it deals with the aqua marines and topazes from Adun Chilon in Transbaikalia, and provides a catalog of specimens of aquamarine and other minerals collected. Included here are remarks on the amethyst of Siberia, several specimens of which are scepter overgrowths (illustrated on a plate), and specimens from Siberia, Saxony, and Hungary included in the catalog. Other notes treat quartzes from Siberia, agates, jaspers, and ornamental stones, with a final part on geography of Moscow and vicinity and descriptions and catalogs of fossils found here and elsewhere in Russia."—Sinkankas 4117—(describing the first edition, in French, of 1789).

Macquart (1745-1818), was professor of natural history at the Central School of the Dép. of the Seine-et-Marne and conservator of the cabinets of Fontainebleau. He wrote other works on geological, mineralogical, and medical subjects.

Fine copy. Engraved bookplate of G. C. von Fechenbach.

♣ Hoover 550—(1st ed.).

64. [MAITTAIRE, Michael]. *Historia Typographorum aliquot Parisiensium Vitas et Libros complectens*. Two finely engraved plates of printers' marks. xvi pp., 2 leaves, 160 pp.; 4 p.l., 95 pp., 2 leaves, 99-160 pp., 1 leaf. Two parts in one vol. 8vo, cont. English calf (head of spine a bit worn), sides panelled in gilt, gilt fleurons in each corner, double gilt fillet round sides, spine gilt, contrasting leather lettering piece on spine. London: G. Bowyer for C. Bateman, 1717. \$1500.00

First edition of this pioneer work in the history of printing and bibliography. The first part consists of biographies of a number of 16th and 17th century Parisian printers including Simon de Colines, Michel Vascosan, Guillaume Morel, Adrien Turnèbe, Frédéric Morel, Jean Bienné, and several other members of the Morel family. The second part contains bibliographical lists of the books produced by these printers, followed by a classified catalogue of their books, arranged by subject.

Maittaire (1668-1747), classical scholar and bibliographer, was born in France but spent all his mature years in England, having been educated at Westminster and Oxford.

Fine and attractive copy.

♣ Bigmore & Wyman, II, p. 14. Peignot, p. 363—"Ouvrage recherché et assez rare maintenant."

*“A Pioneering Study in the Theory of Elasticity”
Large Paper Presentation Copy*

65. MARCHETTI, Alessandro. *De Resistentia Solidorum.* Added engraved port. of Cardinal Leopold of Tuscany, engraved Medici arms on title, & numerous woodcut diagrams in the text. 6 p.l., 127 pp. Small 4to, cont. vellum over boards (last two leaves a little foxed), panelled in gilt with fleurons in each corner & a large floral device in center, gauffered edges in gilt. Florence: V. Vangelisti & P. Matini, 1669.

\$9500.00

First edition and a precious large-paper presentation copy. Our example is inscribed on the title-page to Monsig. Felice Marchetti, quite certainly a member of the author's family. Only large paper copies of this book contain the inserted engraved portrait of Cardinal Leopold of Tuscany.

“This important work for the history of technology is a pioneering study in the theory of elasticity. It deals with the strength of materials and the problems of solids of equal resistance, a study initiated by Galileo (who is extensively praised in the preface along with Marchetti's teacher, Borelli). The work also contains a discussion of the views of Vincenzo Viviani and Guido Grandi.”—Roberts & Trent, *Bibliotheca Mechanica*, pp. 213-14.

Marchetti (1632-1714), studied under the celebrated Borelli at the University of Pisa. He was professor of logic and philosophy at Pisa and later succeeded Borelli to the chair of mathematics.

A lovely copy of this important book, preserved in a box. Ex *Bibliotheca Mechanica*.

♣ Cinti 148. Riccardi, II, 106—“Raro.” Wolf, *History of Science*, I, pp. 473-74.

*“The First Comprehensive Treatment of the Laws of Inelastic
& Elastic Impact”*

66. MARIOTTE, Edmé. *Traité de la Percussion ou Chocq des Corps. Dans lequel les principales Regles du mouvement, contraires à celles que Mr. Descartes, & quelques autres Modernes ont voulu établir, sont démontrées par leurs véritables Causes.* Two folding engraved plates. 1 p.l., 283 (i.e. 293), [1] pp. 12mo, cont. sheep, spine gilt. Paris: E. Michallet, 1673.

\$4750.00

First edition and quite rare. “The first comprehensive treatment of the laws of inelastic and elastic impact and of their application to various physical problems, it long served as the standard work on the subject and went through three editions in Mariotte's lifetime.”—*D.S.B.*, IX, p. 115.

Fine copy. Ex *Bibliotheca Mechanica*.

♣ Roberts & Trent, *Bibliotheca Mechanica*, pp. 216-17—“The first section contains

definitions of elastic and inelastic bodies, laws of elastic collision, and transmission of impulse through a chain of elastic bodies (a problem proposed by Descartes). In the second part, Mariotte tests the problem of oblique collision by employing Huygens' method of impact on a moving boat without crediting Huygens. In 1690 Huygens complained that Mariotte plagiarized his 'De motu corporum ex percussione'...however, Mariotte could have learned about Huygens' ideas from the latter's public lectures, which could have been seen as public information. The only source given due credit is Galileo. The treatise is noteworthy for its experimental orientation."

67. MAYER, Martin. *Kurtze Beschreibung dess Egerische Schleder-Sawerbrunnens, was vor Mineralien derselbe mit sich führe, was derselben Tugenden seyn, und auff was weise derselbe recht zu gebrauchen seye.* 4 p.l., 170, [2] pp. 12mo, 19th-cent. morocco by Chambolle-Duru, gilt, dentelles gilt, a.e.g. Nuremberg: W. Endter, 1637. \$2500.00

First edition. This is a very rare and early account of the mineral springs of Eger, the Czech town in western Bohemia. Mayer (fl. 1624-37), was city physician. He gives an account of the history of the springs and the waters' chemical constituents. The bulk of the book is devoted to describing the medical benefits which the waters could provide. There are numerous case histories.

Fine copy.

Handsomely Illustrated Botanical Dictionary

68. MENTZEL, Christian. *Pinax Botanonymos Polyglottos Katholikos* [:in Greek] *Index Nominum Plantarum Universalis, Diversis Terrarum, Gentiúmque Linguis, quotquot ex Auctoribus ad singula Plantarum Nomina excerpti & juxta seriem A.B.C. collocari potuerunt, ad Unum redactus...* Added engraved title, engraved title to second part, & 11 finely engraved plates. First title printed in red & black. 10 p.l. (including added engraved title), 331 pp.; 2 p.l. (incl. engraved title), [15] pp. Folio, cont. vellum over boards, single gilt fillet round sides, gilt fleurons in all corners, gilt arabesque in center of each cover, spine gilt, a.e.g. Berlin: at the expense of the Author, 1682. \$7500.00

First edition, and a lovely copy, of this handsomely illustrated dictionary of botanical terms. Mentzel (1622-1701), botanist and orientalist, studied medicine and philology in Germany. He later travelled throughout Italy and received his medical degree from Padua. Upon returning to Germany, Mentzel served as

physician to the Elector of Brandenburg. When he retired in 1658, Mentzel devoted himself to the study of botany and Chinese language and culture.

The present work is a very comprehensive dictionary of botanical names, with equivalents in Latin, German, and Greek. Mentzel has provided descriptions of the plants, references to the contemporary botanical works, etc. This book enjoyed considerable success with later editions in 1696 and 1715.

Many North and South American plants are described.

The finely engraved title is after the design of Rutger van Langenfeld.

Fine and fresh copy. Light browning.

• N.B.G., Vol. 34, cols. 1012-13. Pritzel 6093.

*“Meyer is Best Known for Having
Been Wrong”–D.S.B.*

69. MEYER, Johann Friedrich. *Chymische Versuche, zur näheren Erkenntniß des ungelöschten Kalchs, der elastischen und electrischen Materie, des allerreinsten Feuerwesens, und der ursprünglichen allgemeinen Säure. Nebst einem Anhang von den Elementen...mit dessen alchimistischen Briefen vermehrte Ausgabe.* 22, [2], 418, [28], 48 pp. 8vo, cont. half-sheep & speckled boards, spine gilt, red leather lettering piece on spine. Hannover: J.W. Schmidt, 1770. \$2750.00

Second edition (1st ed.: 1764) of a work which became the starting point for a heated controversy among the chemists of the period. In this book, Meyer (1705-65), “develops his theory of ‘acidum pingue’ which he regarded as the universal primitive acid, the cause of causticity, the matter of light, the cause of the increase in weight of metals when calcined, etc. Opposed to Joseph Black’s explanation of causticity, the theory aroused considerable controversy. Lavoisier in his *Opuscules Physiques et Chimiques*, 1774, devoted Chapter XI in Part I to Meyer’s theory, praising the book as displaying Meyer’s genius but criticizing Meyer for applying acidum pingue ‘indiscriminately to everything’.”–Cole 936.

Our edition, posthumously published, contains corrections made by the author in his own copy of the first edition.

Added at the end is Meyer’s only other publication, his *Letters on Alchemy* (1st ed.: 1767). They contain Meyer’s experiments with a view to transmutation, in which he “incidentally made some positive observations.”–Ferguson, II, p. 93.

Fine copy of a rare book. With the characteristic red stamp on verso of title of August Ferdinand, Graf von Veltheim (1741-1801), an important mining official in the Harz Mountains and the author of a number of mineralogical and mining works. He formed an important scientific library and they all seemingly have survived in fine condition.

• D.S.B., IX, pp. 346-47. Neville, II, p. 168. Partington, III, pp. 145-46.

"Set a New Standard of Accuracy"

70. MOFFETT (or MOFFET or MUFFETT), Thomas. *Insectorum sive Minimorum Animalium Theatrum: olim ab Edoardo Wottono. Conrado Gesnero. Thomaque Pennio inchoatum: Tandem Tho. Moufeti Londinâtis operâ sumptibusque maximis concinnatum, auctum, perfectum: et ad vivum expressis Iconibus suprâ quingentis illustratum.* Title with fine woodcut illus. & ca. 500 woodcut illus. in the text. 10 p.l., 326, [4] pp. Small folio, cont. English vellum over boards. London: T. Cotes, 1634. \$9500.00

First edition and a very fine unpressed copy in contemporary vellum of the first entomological book published in England; this is the first really fine and fresh copy to come on the market for many years. The book is most attractively illustrated with numerous handsome woodcuts.

This work was the best of its kind to date: it systematically analyzed the habits, habitat, breeding and economic importance of insects, and set a new standard of accuracy in the study of invertebrates.

The work has a long and complex history: when Conrad Gesner died in 1565, he left amongst his papers an unfinished book on insects, which was eventually sold to his assistant Thomas Penny. Penny also acquired the entomological notes of Edward Wotton, and had made some progress in amalgamating Gesner's and Wotton's information before his death in 1589. Penny's manuscript passed to his friend and neighbor Thomas Moffett, who completed it and began negotiating for its publication at The Hague. Moffett's negotiations apparently fell through, however, and the book was left in manuscript at his death. The manuscript remained in the Moffett family for many years, until Moffett's apothecary Darrell sold it to Sir Theodore Mayerne, who had it published in 1634.

Moffett (1553-1604), studied medicine at Cambridge and took his M.D. at Basel in 1578. In 1579 he visited Italy and Spain where he studied the silkworm.

It should be noted that Moffett's only child, Patience, is the Little Miss Muffett of the famous nursery rhyme. We can only conclude that Moffett studied live specimens.

• D.S.B., IX, pp. 440-41. Garrison-Morton 288—"Moffett travelled extensively in Europe and kept copious notes of his observations on insects. These he published in the above folio, together with many excellent woodcut illustrations. To date, this was the best work of its kind and it set a new standard of accuracy in the study of invertebrates."—Garrison-Morton 288.

The Art & Book Treasures of Nuremberg & Altdorf

71. MURR, Christoph Gottlieb von. *Beschreibung der vornehmsten Merkwürdigkeiten in des H.R. Reichs freyen Stadt Nürnberg und auf der hohen Schule zu Altdorf. Nebst einem chronologischen Verzeichnisse der von Deutschen, insonderheit Nürnbergern, erfundenen Künste, vom XIII*

Jahrhunderts bis auf jetzige Zeiten. Three folding engraved plates (on two sheets), 5 folding woodcut facsimiles, one printed table (found on the same sheet as the final woodcut facsimile), & several woodcuts in the text (two full-page). 8 p.l., 762 pp., one leaf of errata. Thick 8vo, cont. boards (corners a bit worn, light foxing). Nuremberg: J.E. Zeh, 1778. \$1500.00

First edition. This is a wonderful and detailed record of the art and book treasures of Nuremberg and Altdorf. Murr (1733-1811), art historian, wrote widely on art, library history, and manuscripts. He describes here the most important art works of the churches, museums, private art collections, natural history cabinets, and public and private libraries of these two cities. Murr has provided really useful accounts of many collections now dispersed or destroyed, including the famous *Wunderkammern* of Paul von Praun (1548-1616) and Johann George Volckamer (1616-93).

The final chapter describes the city of Altdorf, the university library, medical garden, and the chemical laboratory, as well as the museum of Christoph Jacob Trew which boasted a magnificent Chinese book on natural history, acquired by a Russian in Peking in 1742. It is described here in 35 pages with a facsimile of the Chinese title.

"This guidebook contains a reference, in its chronological section to the Ulman Stromer mill and to Stromer's diary, as well as to von Murr's earlier *Journals* in which he discusses Germany's first papermaker at greater length."—Schlosser, *An Exhibition of Books on Papermaking* (1968), no. 7.

Fine copy.

• Hunter, *Literature of Papermaking 1390-1800*, p. 40. Schwenke, *Adressbuch der Deutschen Bibliotheken*, pp. 281-82 & 116-17.

Paracelsus' Writings on the Plague

72. **PARACELsus.** *Zwey Bücher...von der Pestilenz und ihren Zufällen.* Durch...Adamen von Bodenstein, in Druck verfertigt. 55 unnumbered leaves. Small 8vo, attractive antique blind-stamped panelled calf (title with outer upper corner carefully renewed, not touching any letters, one leaf with side-note slightly cropped). [Strasbourg: P. Messerschmidt], 1564. \$11,500.00

First edition of the first printed writings of Paracelsus on the plague (the 1554 edition, Sudhoff 33, is not genuine); these are of the greatest importance in the history of medicine. Paracelsus completely reversed the traditional concept of disease by emphasizing the external cause of a disease, its selection of a particular locus, and its consequent seat.

Paracelsus considers here the origins of the plague, methods of transmission, and drugs employed to cure it.

Joined at the end are two short tracts entitled "Vom Preservatiff durch den

Schwebel" and "Von der Mummia, wider aller hand giffit." Both "Schwebel" and "Mumia" were active principles — really life powers — in tissues which aided natural healing power.

Very good copy and very rare. Stamp in gilt on inner front cover of G. Hedberg of Stockholm.

☛ Sudhoff 60.

"One of Poisson's Chief Treatises"
Presentation Copy to Flourens

73. POISSON, Siméon Denis. *Théorie Mathématique de la Chaleur.* One folding engraved plate. 2 p.l., 532, [2] pp. Large 4to, cont. sheep-backed marbled boards, vellum tips, flat spine gilt, green morocco lettering piece on spine. Paris: Bachelier, 1835. \$4500.00

First edition of Poisson's important formulation of equations describing the distribution of heat within bodies. "Poisson scored a point in this work by demonstrating how the conductivity of heat in the interior of bodies, far from being contained in the notion of flux as Fourier had held, must be derived from an absorption coefficient that restores a neglected functional dimension."—*D.S.B.*, XV, p. 488.

A very fine and handsome copy with a presentation inscription (partly cropped by the binder's knife) by Poisson to the great physician Marie Jean Pierre Flourens (1794-1867).

☛ Roberts & Trent, *Bibliotheca Mechanica*, pp. 260-61—"This is the first edition of an important work in which Poisson formulated equations for the distribution of heat in bodies. As opposed to Fourier, who maintained in his *Mémoire analytique de la chaleur* that the conductivity of heat was contained in the motion of flux, Poisson showed that it must be derived from an absorptive coefficient restoring the neglected functional dimension... One of Poisson's chief treatises."

74. PRIESTLEY, Joseph. *Versuche und Beobachtungen über verschiedene Gattungen der Luft...* Aus dem Englischen. Six engraved plates. 14 p.l., 323, [1] pp.; 12 p.l., 422 pp., one leaf of errata; 16 p.l., 336, 58, [22] pp. Three vols. in one. Thick 8vo, cont. marbled half-sheep & marbled boards (some foxing throughout), flat spine gilt, black leather lettering pieces on spine. Vienna & Leipzig: R. Gräffer, 1778-79-80. \$2500.00

First edition in German of Priestley's *Experiments and Observations on Different Kinds of Air* (1774-77), the epoch-making work which includes the discovery of oxygen and some of its properties. The translator was Christian Ludwig, who

has added a series of notes to the text.

Nice set.

• Cole 1069—(his copy lacks a plate).

How to Swim

75. PURKART, Karl & SAPORTA, Friedrich Karl, Graf von. *Vorschriften für den Schwimmunterricht*. Six fine folding engraved plates (plate 2 with a very short clean tear to image). [viii], 54 pp. 8vo, orig. printed boards (a bit soiled). Munich: 1826. \$2500.00

First edition of this rare and attractively illustrated work on swimming, written to provide instruction to the military (both Purkart and Graf von Saporta were officers). The authors outline a series of classes designed to instruct the students in all facets of swimming, including swimming with one arm only, swimming fully dressed and with backpacks, keeping weapons dry when in the water, etc.

The first five plates depict different strokes (including backstroke and breaststroke), methods of floating, and diving. The final plate depicts the idealized layout for a swimming school which includes changing rooms, platforms built over an adjacent river, diving boards, etc.

Pages vii-viii list twenty earlier works on swimming.

Fine copy in original state.

Classics of Italian Hydraulic Literature

76. RACCOLTA D'AUTORI *che Trattano del Moto dell' Acque divisa in Tre Tomi*. Engraved vignette on first title & 45 folding plates (mostly woodcut but a few engraved). xxxvii, [1], 408 pp.; 2 p.l., 713 pp.; 2 p.l., 576 pp. Three vols. 4to, cont. vellum over boards, red morocco lettering piece on spines. Florence: Tartini & Franchi, 1723. \$5000.00

First edition of this vast and important collection of Italian hydraulic literature. Because the Italians had pressing economic reasons to manage rivers, improve drainage, and construct harbors, many of the country's most skilled engineers and scientists over the centuries became involved in hydraulic projects.

The collection contains both theoretical treatises and those dealing with specific rivers, marshes, and construction projects. The authors included are Archimedes, Albizi, Galileo, Castelli, Michelini, Borelli, Montanari, Viviani, Cassini, Guglielmini, Grandi, Manfredi, Piccard, and Narducci.

Very good set. Ex Bibliotheca Mechanica.

• Riccardi, II, 330-31—"queste pregevoli compilazioni."

The First Printed Use of “÷” for Division

77. **RAHN, Johann Heinrich, Landvogt zu Kyburg.** *Teutsche Algebra, Oder Algebraische Rechenkunst, zusamt ihrem Gebrauch: Bestehend 1. In Auflösung verworner Mathematischer Aufgaben. 2. In Verhandlung allerhand Algebraischer Æquationen. 3. In Erfindung unterschiedlicher muzlicher Theorematum. Dem Teutschen Liebhaber Mathematischer Künsten nach einem neuen, und hiebevorniemalen im Trukk gesehenen Methodo zugefallen also verfasst...* Four folding printed tables & numerous woodcut diagrams in the text. 6 p.l. (two of these preliminary leaves are mis-bound at end), 188 pp., 4 leaves of errata at end. Small 4to, attractive antique calf, panelled in gilt, gilt fleurons in each corner, spine gilt. Zurich: J.J. Bodmer, 1659. \$22,500.00

First edition and an absolutely complete copy of this rare and noteworthy mathematical book; our copy has all four folding printed tables (most copies described in OCLC seem to have only three) and an extra leaf of errata not present in the Macclesfield copy (sale, Sotheby's London, 25 Oct. 2005, lot 1705, £12,000 including premium).

In this book on page 73, Rahn first introduced the symbol “÷” in print “as a sign of division; (2) the Archimedean spiral for involution; (3) the double epsilon for evolution; (4) the use of capital letters *B, D, E*, for given numbers, and small letters *a, b*, for unknown numbers; (5) the * for multiplication; (6) the first use of ∴ for ‘therefore’; (7) the three-column arrangement of which the left column contains the directions, the middle the numbers of the lines, the right the results of the operations.”—Cajori, *A History of Mathematical Notations*, I, pp. 211-12 & see illus. on p. 213 (& see sections 205, 208, 232, 237, 266, 304, 307, 328, 333, 341, 385, & 386 for Rahn's other contributions, all of which appear in the present book).

We know that Leibniz looked upon Rahn's book favorably, describing it as “an elegant algebra.” While Rahn's use of the modern division sign was not immediately adopted in Europe, in England it met a very favorable reception, with John Wallis and other English writers employing it.

Rahn (1622-76), came from a prominent Zurich family and had a major role in the administration of his native city. About 1654, Rahn came to know John Pell (1611-85), then a representative of the Commonwealth at Zurich, and engaged the English mathematician as a tutor in 1657, meeting every Friday night. While some of the advances in notation in this book might have derived from Pell, “without further evidence, it is best to assume that there was joint responsibility for these innovations and that Pell's contemporary reputation as a mathematician, and particularly as an algebraist, was not unearned.”—*D.S.B.*, X, p. 495.

Fine crisp copy. Old library stamp on title.

• Cajori, *A History of Mathematics*, p. 140. Smith, *History of Mathematics*, I, p. 412 & II, pp. 406, 411-12, 431n, & 474. For Pell and his relationship with Rahn, see

D.S.B., X, pp. 495-96.

*The First Comprehensive Book Devoted to the
Manufacture of Steel & Iron*

78. RÉAUMUR, René-Antoine Ferchault de. *L'Art de convertir le Fer forgé en Acier, et l'Art d'adoucir le Fer fondu, ou de faire des Ouvrages de fer fondu aussi finis que de fer forgé.* Seventeen folding engraved plates. 10 p.l., 566, [2] pp. Large 4to, cont. marbled calf (joints & corners with very careful repairs), spine nicely gilt, red morocco lettering piece on spine. Paris: M. Brunet, 1722. \$3500.00

First edition of the first comprehensive book devoted to the manufacture of iron and steel; it "laid the foundations of the steel industry in France."—Partington, III, p. 64. Réaumur was the first to recognize that steel was actually impure iron and set up the first scale of seven types of fracture of iron and steel.

The fine plates are valuable for illustrating the contemporary apparatus and methods of converting iron into steel. For a detailed account of this book, see D.S.B., XI, pp. 328-30.

A fine and handsome copy. Ex Bibliotheca Mechanica.

♣ Roberts & Trent, *Bibliotheca Mechanica*, pp. 273-74—"Réaumur's most original contribution to industrial technology...Part one, containing twelve memoirs, deals with the production of steel from the construction of the furnaces, through the tempering process and the apparatus used to determine the hardness of the finished product. The second part, in six memoirs, describes the various kinds of cast iron, and of casting methods, moulds, additives, and furnaces. As well, it explains a process for producing cast iron using red oxide of iron, which was unique to the 19th century."

*The First Comprehensive Textbook on
Iron Metallurgy*

79. RINMAN, Sven. *Versuch einer Geschichte des Eisens mit Anwendung für Gewerbe und Handwerker.* Aus dem Schwedischen übersetzt von Johann Gottlieb Georgi. Two folding engraved plates. xvi, 512 pp.; 4 p.l., 456, [38] pp. Two vols. 8vo, cont. half-calf & boards, spines gilt, red & green leather lettering pieces on spines. Berlin: Haude & Spener, 1785. \$3000.00

First edition in German (1st ed., in Swedish: 1782) of Rinman's most important

work on the manufacture of iron and steel, containing accounts of a large number of original experiments. It also deals in Vol. I with the making of magnets and compass needles. The present edition was translated by Georgi (1729-1802), the chemist and pharmacist (see Poggendorff, I, 876). Georgi has provided a notable introduction.

Rinman (1720-92), "devoted his working life to the metal industries. As director of mining and metallurgy and as adviser to proprietors and managers of mines and iron works all over Sweden . . . Rinman made substantial theoretical and practical contributions to the improvement of iron and steel production methods, especially of charcoal blast furnaces. His works, both published and unpublished, are highly esteemed sources for knowledge of iron- and steelmaking during the eighteenth century, both in Sweden and in the countries he visited . . . A first-rate inventor and a skilled scientist, he is known as the 'father of the Swedish iron industry'."—*D.S.B.*, XI, p. 463.

The present book contains (Vol. I, pp. 211-15), an interesting chapter in which the author develops his theory of the increase in weight of metals in calcination. "Rinman reported that iron on calcination may increase in weight by over 40 per cent, although there is a limit . . . Rinman concluded that his experiments proved that phlogiston is 10 times lighter than air."—Partington, III, p. 614—(& see p. 178).

A fine and handsome set from the Fürstenberg library at Donaueschingen with their contemporary ownership inscription on each front paste-down endpaper and rubber stamp on verso of titles. Rare.

80. ROBISON, John. *A System of Mechanical Philosophy*. [Edited] with notes, by David Brewster. 50 folding engraved plates & numerous illus. in the text. Four vols. 8vo, slightly later half-calf & pebbled cloth sides, spines gilt. Edinburgh: Printed for John Murray, London. 1822.

\$2500.00

First edition and a fine attractive set. Robison (1739-1805), professor of natural philosophy at the University of Edinburgh, was the principal contributor to the third edition of the *Encyclopaedia Britannica*; many, but not all, of the articles printed here were written for that publication and intended to instruct artisans and craftsmen.

"Volume I contains articles on dynamics, and strength of materials and its applications in construction. Volume II contains his article on steam and steam engines for the *Encyclopaedia Britannica* with the thirty-page appendix by Watt, as well as papers on machinery, the resistance of fluids, water-works, pumps, and his theory of rivers. Volume III contains his contributions on astronomy, the telescope, and on pneumatics. Volume IV contains miscellaneous contributions on electricity, magnetism, variation of the compass, music, various musical instruments, watch mechanics, and seamanship."—Roberts & Trent, *Bibliotheca*

Mechanica, p. 280.

Lacks half-titles. Ex Bibliotheca Mechanica.

• D.S.B., XI, pp. 495-98. Wheeler Gift Cat. 791.

*One of the Earliest Followers of Lavoisier's
System in Germany*

81. ROUSSEAU, Georg Ludwig Claudius. *Abhandlung von den Salzen nach seinen Lehrstunden verfasst.* Engraved printer's vignette on title & two folding engraved tables. 8 p.l., 192 pp. 8vo, cont. black boards (some foxing). Eichstatt & Günzburg: J.B. Widenmann, 1781. \$1750.00

First edition of a rare book. Rousseau (1724-94), an apothecary and professor of chemistry and natural history at the University of Ingolstadt, is noteworthy for being one of the earliest followers of Lavoisier's system in Germany.

The present book contains his lectures on salts. The tables show classifications (by chemical symbols) of the products of salts with different substances.

Very good copy. Lacks the errata leaf at end.

• Cole 1137—"The salts are divided into three classes: alkalies, acids and neutral." Hirsch, IV, p. 897. Poggendorff, II, 705-06.

An Uncommonly Fine Copy

82. SCHEELE, Carl Wilhelm. *Sämmtliche Physische und Chemische Werke*, nach dem Tode des Verfassers gesammelt und in deutscher Sprache herausgegeben von D. Sigismund Friedrich Hermstädt. One folding engraved plate. xxxii, 264 pp.; 446 pp. Two vols. in one. 8vo, cont. half-sheep & yellow boards, spine gilt, red morocco lettering piece on spine. Berlin: H.A. Rottmann, 1793. \$7500.00

First edition in German, and an absolutely lovely copy, of the collected works of Scheele (1742-86), the discoverer of oxygen, chlorine, barium, manganese, and many compounds (for a list, see Partington, III, p. 210). This is an important edition, the first to include all of Scheele's writings, and to contain the valuable and extensive notes and comments of Hermstädt (1760-1833), the first chemist in Germany to adopt Lavoisier's views and professor of technological chemistry at the University of Berlin.

An uncommonly fine copy.

The Second Spanish National Bibliography

83. [SCHOTTUS, Andreas]. *Hispaniae Bibliotheca seu de Academiis ac Bibliothecis. Item Elogia et Nomenclator Clarorum Hispaniae Scriptorum, qui Latine disciplinas omnes illustrarunt Philologiae, Philosophiae, Medicinae, Jurisprudentiae, ac Theologiae, Tomis III distincta.* Woodcut printer's device on title. 4 p.l., 649, [7] pp. 4to, cont. vellum over boards (outer margin of title carefully strengthened, well recased). Frankfurt: Apud C. Marnium & haeredes J. Aubrii, 1608. \$2500.00

First edition of the second Spanish national bibliography, preceded by one year by Valerius Andreas' *Catalogus clarorum Hispaniae scriptorum*. Schott's work describes about 1000 titles. Schott (1552-1629), Belgian philologist, taught Greek at Madrid and was later professor of Greek, rhetoric, and history at the newly founded University of Saragossa.

Very good copy. Old stamp here and there of the Public Record Office (released 23 July 1984).

☛ Besterman, *The Beginnings of Systematic Bibliography*, p. 44.

84. SCHRADER, Johann Gottlieb Friedrich. *Grundriss der Experimental-Naturlehre in seinem chemischen Theile nach der neueren Theorie, so wohl zum Leitfaden akademischer Vorlesungen als auch zum Gebrauch für die Schulen.* Many woodcut illus. in the text. viii, 268, [10] pp. 8vo, cont. paste-paper boards (occasional light dampstaining), red leather lettering piece on spine. Hamburg: Bachmann & Gundermann, 1797. \$1750.00

First edition of a very rare chemical book. "An introductory textbook on chemistry and physics...Schrader (1763-ca. 1819), the author, was professor of physics at the University of Kiel and later at St. Petersburg. Of chemical interest are discussions of metals, nonmetals, acids, alkalies, salts, etc., with tables of physical properties. A long section includes the preparation and properties of gases (e.g., oxygen, hydrogen, nitrogen, ammonia, carbon dioxide, phosphine, nitric oxide, sulphur dioxide, hydrogen fluoride, and chlorine). Electricity and magnetism are extensively covered."—Neville, II, p. 443—(describing the Danish edition of the same year).

Schrader was well aware of the chemical theories of Lavoisier and Richter and has incorporated them into his text.

Very good copy. This was a book which enjoyed considerable success with later German editions in 1804 and 1812 and several translations.

- 85. SIMPSON, James Y.** *Remarks on the Superinduction of Anaesthesia in Natural and Morbid Parturition: with Cases illustrative of the Use and Effects of Chloroform in Obstetric Practice. With an Appendix.* 48 pages. 8vo, later brown half morocco, orig. upper printed wrapper bound-in. Boston: W.B. Little, 1848. \$1750.00

First American edition. The important appendix, first printed in this edition, starts with a long letter by J.C. Warren on the chemical nature and synthesis of chloroform, and is followed by several letters by C.T. Jackson and other Boston surgeons contrasting chloroform with ether. Their reception of chloroform was at first enthusiastic.

Presentation copy from the publisher, with a (cropped) inscription at the top of the wrapper.

• Fulton & Stanton VI.6.

- 86. SIMPSON, James Y.** *Anaesthesia, or the Employment of Chloroform and Ether in Surgery, Midwifery, etc.* [ix]-xv, [1] blank, [17]-248 pp. 8vo, orig. brown cloth (lower joint neatly repaired, small stain in upper corner of first few leaves, stamp on title, library labels on endpapers). Philadelphia: Lindsay & Blakiston, 1849. \$2150.00

First edition. "Simpson's epoch-making experiments were partially reported in Edinburgh during 1847 and 1848...but the present American volume represents his full-dress exposition of the introduction of anaesthesia for childbirth. It concludes with replies to several of his critics, among whom was Dr. Meigs of Philadelphia."—Lilly, *Medicine, an Exhibition of Books*, no. 154.

"It seems to us that the full importance of this rare book has been underrated, and that, as the first book on chloroform, it should be considered a major classic of medicine."—R.D. Gurney, *Catalogue 75* (1978).

Simpson introduced inhalation anaesthesia into obstetrics, and popularized the use of chloroform as a replacement for sulphuric ether. The practice of anaesthesia in childbirth was opposed by those who considered labor pains a God-given punishment for Eve's sins, but Simpson's cause was vindicated when, in 1853, Queen Victoria took chloroform for the birth of Prince Leopold.

- 87. SMITH, Robert.** *Vollständiger Lehrbegriff der Optik nach Herrn Roberts Smiths Englischen mit Aenderungen und Zusätzen ausgearbeitet von Abraham Gotthelf Kästner.* Engraved allegorical vignette on title & 22 folding engraved plates. 12 p.l., 531, [5] pp. Large 4to, cont. half-sheep & speckled boards (light foxing throughout), spine gilt, contrasting leather

lettering piece on spine. Altenburg: Richter, 1755. \$5500.00

First edition in German (1st ed.: 1738). This is an important edition, containing the valuable alterations and additions of Abraham Gotthelf Kästner (1719-1800), professor of mathematics and physics at the University of Göttingen. He became "an influential figure through his teaching and writing; Göttingen's reputation as a center of mathematical studies dates from that time. Kaestner is also known in German literature, notably for his epigrams . . . Kaestner owes his place in the history of mathematics to his great success as an expositor and to the seminal character of his thought. His output as a writer in mathematics and its applications (optics, dynamics, astronomy), in the form of long works and hundreds of essays and memoirs, was prodigious."—*D.S.B.*, VII, p. 206.

This was "the most influential optical textbook of the eighteenth century."—*D.S.B.*, XII, p. 477. It is largely based on the optics of Newton. "Of the four books...the first deals in a non-technical manner with the fundamental experiments in optics, while the second provides a more formal treatment of the geometrical theory of the subject. Smith studied the problem of spherical aberrations in greater generality than his predecessors, Barrow and Huygens. The third book describes apparatus for grinding and polishing lenses and specula, and it gives a complete account of the construction, adjustment, and use of the principal optical instruments, while the fourth book gives a history of telescopic discoveries in the heavens."—Wolf, *History of Science*, II, p. 171. There is a long chapter on various microscopes.

An absolutely lovely copy with attractive stenciled endpapers. Bookplate of the Augustiner-Chorherrenstifts Rottenbuch in upper Bavaria.

♣ Clay & Court, *History of the Microscope*, pp. 46, 70, 98, 110, 116, 117, & 229-31. King, *History of the Telescope*, pp. 56, 78, 84-85, & 120.

A Great Rarity

88. SNOW, John. *On the Inhalation of the Vapour of Ether in Surgical Operations: containing a Description of the Various Stages of Etherization and a Statement of the Result of nearly Eighty Operations in which Ether has been employed in St. George's and University College Hospitals.* Three woodcut illus. in the text (one full-page). viii, 88 pp. (lacking half-title). 8vo, modern morocco by Middleton (small wormholes in upper margin of first few leaves), spine gilt. London: J. Churchill, 1847. \$13,500.00

First edition of a great rarity. Published in October 1847, this was the second treatise on ether anesthesia, and Snow's first book on the subject. It contains the first illustrated account of Snow's regulating inhaler, the first to control the amount of ether vapour received by the patient. Snow had published some preliminary comments in the *London Medical Gazette*, following which he modified the inhaler, and included the description of the final modified version

in this book.

Fine copy. Stamps of the Wellcome Library on verso of title.

☛ Garrison-Morton 5658.

89. SNOW, John. *On Chloroform and Other Anaesthetics: their Action and Administration.* Edited, with a Memoir of the Author, by Benjamin W. Richardson, M.D. One woodcut illus. in the text. viii, xlv, 443 pp. & 28 pp. of Churchill's ads. dated Sept. 1858 inserted at end. 8vo, modern green morocco by Middleton (paper slightly browned, library stamp on title, small chip in upper margin). London: J. Churchill, 1858.

\$4250.00

First edition. Snow, the first specialist in clinical anesthesia, placed the administration of ether and chloroform on a scientific basis with the publication of the present treatise. Snow was the first to perform experimental research on the physiology of the anesthetized state, and the information obtained during the course of his investigations influenced the construction of the first regulating inhaler for clinical use.

He experimented on animals to practice endotracheal anesthesia and the technique of carbon dioxide rebreathing, described intercostal paralysis, determined anesthetic concentrations in air and blood, experimented with dozens of anaesthetic agents (including amyline, which he was the first to administer), and defined the five stages of anaesthesia.

Snow's large *On Chloroform* appeared shortly after his untimely death from cerebral hemorrhage; it includes a definitive biography by his friend Benjamin Ward Richardson, and a large index.

☛ Garrison-Morton 5666.

90. [SOELDNER, Johann Anton?]. *Fegfeuer der Chymisten, worinnen für Augen gestellt die wahren Besitzer der Kunst Wie auch Die Ketzer, Betrieger, Sophisten, und Herren Gern-Grosse...* 24 unnumbered leaves. Small 8vo, disbound (many lower edges uncut). Amsterdam: 1702. \$1750.00

First edition of this rare alchemical work, the authorship of which has not been firmly established (see Ferguson, II, pp. 386-87 for a discussion regarding the author). This book must have caused a sensation when first published: there were three later issues appearing in the same year (see Neville, II, p. 492).

Fine copy.

☛ Duveen, pp. 555-56.

91. **SPIELMANN, Jacob Reinbold.** *Pharmacopea Generalis*. 11 p.l., 218 pp.; 1 p.l., 372, [48] pp. Two parts in one vol. Large 4to, cont. paste-paper boards (light dampstaining throughout to lower third of text), contrasting leather lettering piece on spine. Strasbourg: J.G. Treuttel, 1783. \$2500.00

First edition of the valuable and extensive pharmacopea. Spielmann (1722-83), professor of chemistry at Strasbourg from 1749, was a student to Pott, Marggraf, Henckel, and Geoffroy and the chemical teacher of Goethe (who had an elementary knowledge of chemistry). Spielmann was one of the last French chemists of note who supported the phlogiston theory. He also wrote an excellent and concise chemistry textbook which was based on his lectures.

Good copy of this uncommon book. Old library stamp on verso of title. The Strathclyde copy has a portrait but I believe it was inserted and not required.

♣ Partington, II, pp. 689-90.

The Invention of the Barometer

92. **TORRICELLI, Evangelista.** *Lezioni Accademiche*. Engraved frontis. port., engraved vignette on title, & woodcut illus. in the text. xlix, [1], 96 pp., one leaf. Large 4to, mid 18th-cent. half calf & marbled boards, inside front cover with stencilled binder's label of A. Milne, Forres. Florence: J. Guiducci, 1715. \$8500.00

First edition and a very fine and fresh copy. "This collection of Torricelli's lectures provides an important summary of Torricelli's theories, published posthumously by Tommaso Bonaventura; includes chapters on percussion, lightness, winds, military architecture, and mathematics. Chapter 7 on the movement of winds is a pioneer contribution in the field of meteorology explaining in detail their origin in atmospheric changes and refuting the contemporary theory that they issued from the earth. His two famous letters on the barometer are reprinted here... The preface by Bonaventura includes a life of Torricelli."—Roberts & Trent, *Bibliotheca Mechanica*, p. 322.

Fine copy, bound somewhat unusually in a provincial English signed binding.

♣ Cinti 169. Dibner, *Heralds of Science*, 149. *D.S.B.*, XIII, pp. 437-39. Riccardi, II, 544. Sparrow, *Milestones of Science*, 190.

The Foundation of the Ashmolean Museum

93. **TRADESCANT, John.** *Musaeum Tradescantianum: or, a Collection of Rarities. Preserved at South-Lambeth neer London*. Engraved armorial frontis.; two finely engraved ports. of the Tradescants, father and son, by Wenceslaus Hollar; & a large woodcut printer's device on title. 13 p.l.

(incl. frontis. & two ports.), 179, [4] pp. 8vo, cont. speckled calf (head of spine & corners a little worn, gutter edge of title stuck to frontis. with loss of a few letters), spine gilt. London: J. Grismond for N. Brooke, 1656.
\$9500.00

First edition "of this important early English catalogue, compiled by Elias Ashmole and Dr Thomas Wharton with the publishing expenses met by Tradescant. The elder Tradescant had died in 1638 and the 'Ark', as his house and cabinet in Lambeth was known, was already an established museum by 1634 (only six years after he moved in)...The Tradescant collection was almost entirely the creation of the elder Tradescant although it was John Tradescant who kept it open to the public, arranged for the production of the catalogue and ultimately bequeathed it to Oxford...

"Ashmole's catalogue is divided into two parts, the second part being the *Hortus Tradescantianus* or description of over seventeen hundred plants collected by the Tradescants. An early version of this horticultural catalogue had been prepared in 1634 and it seems likely that this section was largely the work of Tradescant the younger updating his father's notes. The first section dealing with the curiosities and rarities divides them into sections of birds, mammals, fishes, shells, insects, minerals, fruits, 'mechanicks', miscellaneous rarities, weapons of war, garments and ornaments, domestic utensils, coins and medals. Much of the cataloguing was clearly based on earlier notes by Tradescant the elder but Ashmole took great 'paines, care and charge' over a period of years to produce a definitive list, and in 1659 he was rewarded by the gift of the entire collection for a token shilling payment. This deed of gift was later contested by Tradescant's widow, Hester, who sold portions of the collection remaining in her care, until her death in 1678. Ashmole began negotiating with Oxford University in 1675 as sole donor of the collection and by 1679 work had begun on the building of the Museum which was to become the Ashmolean and a permanent home for the *Musaeum Tradescantium*...

"One unusual feature of Ashmole's catalogue, rarely found in comparable continental descriptions of *Wunderkammern*, is the list of 'Principall Benefactors to the precedent Collection' which is found at the end of the book. This list was probably compiled during the lifetime of the elder Tradescant, and gives a valuable indication of the sources of the collection. It includes figures from the circle of his two great patrons, the Earl of Salisbury and the Duke of Buckingham, many of whose friends, agents and pensioners appear on the list, as well as travellers like Thomas Herbert and Richard Ligon."—Grinke, *From Wunderkammer to Museum*, 72.

Both of the Tradescants were royal gardeners and important plant collectors. The father was the first botanist to visit Russia and the son collected plants in Virginia in 1637. Many American plants are listed in this catalogue.

A very good crisp copy of a rare book. Portion of title detached.

☛ Wing T-2005.

94. UTTENHOFER, Kaspar. *Judicium de nupero Cometa Astrologo-Historicum. Kurtzer Bericht und Erklärung . . .* Woodcut vignette on title of the comet passing through the constellations. Title within typographical border. [48] pp. Small 4to, modern speckled boards. Nuremberg: S. Haltmayer, 1619. \$3750.00

First edition of this very rare work on the famous comet of 1618-19 which attracted so much attention from the leading astronomers of the time, including Galileo and Scheiner. While part of the text is astrological, the balance is scientific, in which the author describes the path of the comet and its appearance, discusses the observations of fellow astronomers, and provides an historical account of other comets' appearances.

Uttenhofer (d. 1621), a resident of Nuremberg, was a mathematician and instrument maker. He wrote several other books on sun dials and mathematical instruments.

Fine copy. Old library stamp carefully removed from title (barely noticeable).

♣ Lalande, p. 175. Zinner 4792. Zinner, *Astronomische Instrumente des 11. bis 18. Jahrhunderts* p. 568.

The Wonders of the World

95. VALENTINI, Michael Bernhard. *Museum Museorum, oder Vollständige Schau Bühne aller Materialien und Specereyen, Nebst deren Natürlichen Beschreibung, Election, Nutzen und Gebrauch, Aus andern Material- Kunst- und Naturalien-Kammern, Oost- und West-Indischen Reiss-Beschreibungen . . .* Two added engraved titles, 97 plates (many folding), & very numerous engraved illus. in the text. 14 p.l. (incl. added engraved title), 520, [4], 76, 119, [12] pp.; 12 p.l. (incl. added engraved title), 196, 116 pp.; 4 p.l., 228, [11] pp. Three vols. in two. Folio, cont. mottled calf (extremities a bit rubbed & worn), sides ruled in gilt, spines nicely gilt, black & red morocco lettering pieces on spines. Frankfurt am Main: J.D. Zunner, 1714-14-14. \$27,500.00

Second edition of Vol. I (1st ed.: 1704) and first editions of Vols. II and III. This is a very fine set of a marvelous work; it is one of the great illustrated books of the Baroque era and an inexhaustible repertorium of all oversea products of the late 17th century. Valentini has also described all known cabinets of natural history specimens.

The first part illustrates plants (including American specimens), flowers, herbs, trees, many of which were used in pharmaceutical preparations. There are sections on tobacco, coffee, tea, cocoa, sugar, cotton, silk, minerals, metals, and animal husbandry. Part Two treats geological specimens, jewels, fossils, coins, shells, tropical plants, monsters, unicorns and other mythological creatures. The

third part is dedicated to natural history and physics, with descriptions of Boyle's air pump, acoustic and optical apparatus, Lana's airship (with suggestions for other aeronautical machines), a chapter on the divining-rod, the lodestone, the threshing machine, etc.

There are two appendices, one of which features a list of 159 museums (called "Kunst- and Naturalien-Kammern"), including those in America and Asia.

Fine and handsome set from the Macclesfield library.

♣ Alden, *European Americana*, 704. Nissen, BBI, 2035. Nissen, ZBI, 4217. Pritzel 9663. Sabin 98357.

96. VALTURIO, Roberto. ...*De Re Militari Libris XII multò emaculatius, ac picturis, quae plurimae in eo sunt, elegantioribus expressum, quàm cùm Veronae inter initia artis chalcographicae anno M.cccclxxxiii. invulgaretur.* Woodcut printer's device on title & on verso of final leaf & 85 large & fine woodcuts in the text. 6 p.l., 383, [1] pp. Small folio, 17th-cent. polished calf (carefully rebacked to match), panelled in gilt, gilt arabesque device in center of each cover, gilt fleurons in each of four corners of both covers. Paris: C. Wechel, 1534. \$4500.00

Second Wechel edition, "substantially a page-for-page reprint of the 1532 edition, with errata corrected."—Mortimer 536.

Roberto Valturio (1413-84), "a native of Rimini, after having been Apostolic Secretary in Rome, became technical adviser and engineer to Sigismondo Malatesta, Lord of Rimini. He composed his book 'On Military Matters' about 1460. After wide circulation in manuscript, it was printed in 1472...The historical importance of the *De Re Militari* lies in the fact that it is the first book printed with illustrations of a technical or scientific character depicting the progressive engineering ideas of the author's own time. The woodcuts illustrate the equipment necessary for the military and naval engineer; they include revolving gun turrets, platforms and ladders for sieges, paddle-wheels, a diver's suit, a lifebelt, something resembling a tank, pontoon and other bridges, a completely closed boat that could be half submerged, etc."—*Printing & the Mind of Man* 10—(1st ed. of 1472).

The fine woodcuts are reversed free copies of those in the 1483 Venice edition which in turn were reduced free copies of those in the first edition printed in Verona in 1472.

A very good and crisp copy. Some light marginal dampstaining here and there. Ex Bibliotheca Mechanica.

*Persian Astronomy;
The First Facsimile of an Oriental Manuscript*

97. **WELSCH, Georg Hieronymus, ed.** *Commentarius in Ruzname Naurus sive Tabulae aequinoctiales novi Persarum & Turcarum anni*. Nunc primum editae è Bibliotheca Georgii Hieronymi Velschii cujus accedit Dissertatio, de earundem usu. Finely engraved frontis. & 22 engraved plates. 8 p.l. (incl. frontis.), 137, [19] pp. 4to, cont. smooth vellum over boards. Augsburg: T. Goebel, 1676.

[bound with]:

— *Hecatoesteae. II. Observationum Physico-Medicarum ad illustrem Societatem Naturae Curiosorum in Germania*. Twelve finely engraved plates (frontis. lacking). 4 p.l., 130, [6] pp.; 69, [27] pp. Two parts in one vol. 4to. Augsburg: T. Boebel, 1675.

[bound with]:

CAMERARIUS, Rudolf Jakob. *Ephemerides Meteorologicae Tubingenses, ab Anno Seculi Nonagesimo Primo ad Quartum...Cum Ill. D. Bernardini Ramazzini Ephemeridibus Barometricis Mutinensibus, Anni M.DC.XCIV*. 105, [1] pp.; 2 p.l., 60 pp. Two parts in one vol. 4to. Augsburg: Kroniger & Heirs of Goebel, 1696. \$19,500.00

A very attractive *sammelband*, containing three rare and unusual scientific books.

I. First edition of the first facsimile of an oriental manuscript and a tour-de-force of engraving. This handsomely illustrated work contains 16 finely engraved plates by Melchior Haffner reproducing an astronomical/chronological text of Abu'l-Wafa (940-997 or 998), the "last great representative of the mathematics-astronomy school that arose around the beginning of the ninth century, shortly after the founding of Baghdad. With his colleagues, Abu'l-Wafa conducted astronomical observations at the Baghdad observatory. He continued the tradition of his predecessors, combining original scientific work with commentary on the classics — the works of Euclid and Diophantus." — *D.S.B.*, I, p. 40. Each of the plates reproduce a page of the manuscript with Persian text and Turkish commentary within intricate floral borders. The remaining seven plates depict scientific instruments and zodiacs.

The translator and editor Welsch (1624-77), was one of the most scholarly medical and scientific writers of his time. He studied at Tübingen, Strasbourg, and Padua and became city physician of Augsburg.

This text has also been attributed to Sheikh Wafa (d. 1493).

II. First edition, written under the auspices of the Academia Naturae Curiosorum. "In this work he described the pharmacological uses of naturally occurring materials (e.g., animals, plants, minerals, and fossils). There is much

of chemical interest and the author cites many chemists and their works (e.g., Beguin, Brendel, Digby, Helmont, Libavius, Ruland, Sennert, and Zwelfer).—Neville, II, p. 621. The twelve plates depict crystals, minerals, fossils, etc. Lacking the frontispiece.

III. First edition. Camerarius (1665-1721), is most famous for his experimental demonstration of the sexuality of plants. Less well known are his own important researches in meteorology and the barometer. The second part contains Ramazzini's own work on the barometer (first published the year before in Modena). See Middleton, *Invention of the Meteorological Instruments*, p. 29.

Fine and fresh copies from the library of the Solms ducal library at Lich with their early stamp on the first title.

• I. Hirsch, V, p. 895. Lalande, p. 285. Sarton, I, pp. 666-67—"one of the greatest Muslim mathematicians." Schnurrer, p. 465.

First Modern Textbook of Descriptive Mineralogy

98. WERNER, Abraham Gottlob. *Von den äusserlichen Kennzeichen der Fossilien.* Eight folding printed tables. 302 pp., 1 leaf. 8vo, cont. boards (a little frayed at head). Leipzig: S.L. Crusius, 1774. \$10,000.00

First edition, and very rare, of the author's first book in which Werner developed a completely new system for the description of minerals. Werner (1749-1817), known as the "father of historical geology," was the first to understand that the correct classification of minerals should be based on their chemical composition and that minerals could be identified by their external characteristics. In this work, "Werner gave an unprecedented number of external characteristics with definitions, usually accompanied by homely examples which could be understood by both the layman and the natural philosopher...[it] continued to be an important work into the nineteenth century."—*D.S.B.*, XIV, p. 257.

The present work by Werner was enormously influential for mineralogists and geologists on the Continent and in England. It was due to this book that Wernerian nomenclature took a firm hold.

Fine copy.

• Dibner, *Heralds of Science*, 91. Evans, *First Editions of Epochal Achievements in the History of Science* (1934), 64. Sparrow, *Milestones of Science*, p. 30. Zittel, pp. 56-61.

*The Theory of the Origin of Ore Deposits;
An Uncut Copy*

99. WERNER, Abraham Gottlob. *Neue Theorie von der Entstehung der Gänge, mit Anwendung auf den Bergbau besonders den freibergischen.* xxxx, 256 pp. 8vo, cont. paste-paper boards (minor foxing), uncut. Freiberg:

Gerlach, 1791. \$2500.00

First edition. This work by Werner, who is known as the father of historical geology, describes his “theory of the origin of ore deposits which would be consistent with his general theory of the origin of the earth’s crust...Many of its elements were of lasting value. Werner formulated basic questions about the origin and history of veins and their contents, established criteria for determining the relative age of veins and vein materials, and presented a comparative study of the structure of veins and rock masses...Perhaps the most important contribution of *Von den Entstehung der Gänge*, however, was that it made the study of vein formation an integral part of historical geology.”—D.S.B., XIV, pp. 262-63.

Fine copy.

• Hoover 878.

James Watt's Copy

100. WOLFART, Peter. *Historiæ Naturalis Hassiæ inferioris Pars prima qua Potiora & Elegantiora hujus Fossilia, Figurata æque ac certa quadam & regulari figura carentia, eaq; vel lapidea vel metallica, ita in lucem protrahuntur publicam necessariisq; Iconismis illustrantur, ut cuilibet curioso in illis conchas genuinas Marina, Plantas, Pisces aliaq, naturæ admiranda cernere & per hæc magnum creatorem laudare liceat. I.e. Der Natur-Geschichte des Nieder-Furstenthums Hessen Erster Theil...* [all published]. Finely engraved allegorical frontis. & 25 finely engraved folding plates. 52 pp. Folio, later 18th-cent. green vellum-backed marbled boards (minor rubbing). Cassel: printed by H. Harmes, 1719. \$9500.00

First edition and a handsome copy from the library of James Watt (1736-1819), the inventor and engineer. This is a very uncommon and pioneering work of paleontology, in which the fossils and minerals found in the area of Hesse in Germany are described from the author’s own collection. There are several depictions of fossil fish in their matrices; these illustrations can be considered the first scientifically accurate engravings of fossil fish, presenting the specimens in a new and exceptional fashion.

Wolfart (1675-1726), took his medical degree from the University of Giessen and became professor of physics and anatomy at the Gymnasium of Hanau. In 1708, Wolfart was named a professor of physics and anatomy at the Collegium Carolinum and was a member in the Leopoldinische Academie.

This work was originally intended to consist of two parts, of which this was the first. The second part, never completed, was presumably meant to cover the living flora and fauna of Hesse.

The handsome allegorical frontispiece depicts Poseidon rising in his chariot from the sea, watched by Cybele holding a large slab with a fossil fish. A figure

in the background bears a basket full of fossils. Noah's ark appears in the sea behind Poseidon.

Fine copy. There was a reprint issued about 1726.

• Hoover 895. Schuh, *Mineralogy & Crystallography: A Bibliography, 1469 to 1920*, 5051—"Very scarce. No more published. Only this first part of this work was published, and it deals mostly with paleontology, although there are two plates of minerals (I and XXIII)."