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1. ACADÉMIE ROYALE DE CHIRURGIE, PARIS. Recueil des Piéces qui ont concourru pour le Prix de l'Académie Royale de Chirurgie. Five vols. Large 4to, early 19th century calf, sides & spines nicely gilt, red & green morocco lettering pieces on spines. Paris: 1757-88. \$3500.00

A very important collection. With Vol. IV the title becomes *Mémoires sur les Sujets proposés pour le Prix de ...*. A mixed set from various editions.

A very attractive collection in handsome state, from the library of François-Joseph Moreau (1789-1862), the well-known obstetrician-gynecologist and a highly regarded professor of these subjects (see Hirsch, IV, p. 260).

2. ACADÉMIE ROYALE DE CHIRURGIE, PARIS. *Mémoires de l'Académie Royale de Chirurgie.* 89 engraved plates (12 folding). Five vols. Large 4to, early 19th century calf, sides & spines nicely gilt, red & green morocco lettering pieces on spines. Paris: 1769-87. \$6000.00

Reprint of this great collection of medical texts which had originally been published starting in 1743 and very quickly went out of print. One finds here

memoirs of the most important French doctors and surgeons of the time including: R.J. Croissant de Garengeot, F. de la Peyronie (Garrison-Morton 4163–"La Peyronie's disease"), A. Levret, H.F. Le Dran (Garrison-Morton 2607–"Important discussion on cancer"), J.L. Petit, F. Quesnay, etc.

A very fine and pretty set, from the library of François-Joseph Moreau (1789-1862), the well-known obstetrician-gynecologist and a highly regarded professor of these subjects (see Hirsch, IV, p. 260). His name is stamped at the foot of each volume. With his bookplate.

"The First Handbook of Modern Systematic Mineralogy"–Horblit

3. AGRICOLA, Georgius. De Ortu & Causis Subterraneorum Lib. V. De Natura eorum quae effluunt ex terra Lib. IIII. De Natura fossilium Lib. X. De Veteribus & Novis Metallis Lib. II. Bermannus, sive De re metallica Dialogus. Interpretatio Germanica vocum rei metallicae, addito Indice foecundissimo. Woodcut printer's device on title, repeated on verso of last leaf, & a full-page woodcut illus. on p. 146. 487, [52] pp. Folio, 18th cent. boards (a little worn & with some rubbing, some occasional light dampstaining). Basel: Froben, 1546.

First edition of "the first handbook of modern systematic mineralogy."—Horblit 2a. This volume is comprised "of *De Ortu et Causis Subterraneorum*, in five 'books,' the first work on physical geology; *De Natura Eorum quae Effluunt ex Terra*, in four 'books,' on subterranean waters and gases; *De Natura Fossilium*, in ten 'books,' the first systematic mineralogy; *De Veteribus et Novis Metallis*, in two 'books,' devoted largely to the history of metals and topographical mineralogy; a new edition of *Bermannus* was included; and finally *Rerum Metallicarum Interpretatio*, a glossary of Latin and German mineralogical and metallurgical terms...No appreciation of Agricola's contribution to science can be gained without a study of *De Ortu et Causis* and *De Natura Fossilium*, for while *De Re Metallica* is of much more general interest, it contains but incidental reference to Geology and Mineralogy."—Hoover.

Very good copy in fresh crisp condition. With numerous contemporary notes in margins.

№ Duveen, pp. 5-6. Hoover 14. See Partington, II, pp. 44-45 for a detailed account. See also *Printing & the Mind of Man* 79.

"A Fantastic Method of Arrangement"

4. APROSIO, Angelico. *La Biblioteca Aprosiana, Passatempo Autunnale di Cornelio Aspasio Antivigilmi. Trà Vagabondi di Tabbia detto l'Aggirato*. Frontis. containing a scene of a library (outer margin carefully strengthened on verso). L (incl. the frontis.), [10], 336, 387-733 pp. 12mo, cont. vellum over boards. Bologna: Manolessi, 1673. \$2250.00

First edition of the very rare catalogue of the books donated by Aprosio to the library which was to bear his name. "Angelo Aprosio of Ventimiglia was in correspondence with most of the learned men of his day, and they sent him many books to read. Aprosio's catalogue of 1673 is a small duodecimo list of these gifts in alphabetical order of the donors' names. The purpose of such a fantastic method of arrangement was presumably to attract more gifts; but the printed catalogue goes no further than the letter C...This catalogue became celebrated as a picture of the learned world in Aprosio's day, and it was translated into Latin by J.C. Wolf at Hamburg in 1734."—Pollard & Ehrman, pp. 262-63.

Very good copy of an extremely rare book.

№ Brunet, I, 325–"Ouvrage rare." Grolier Club, *Bibliography*, 67–"Although the work ends with the letter C, and remained incomplete, the large number of entries makes it one of the earliest and most comprehensive select bibliographies of Italian literature. It enjoyed great popularity among scholars as a reference work." Peignot, p. 77–"fort rare." Taylor, *Book Catalogues*, pp. 5-6, 105, 110, 144, 181, & 207.

Classic Commentaries

5. ARISTOTELES. Commentaria... Egidii Romani in libros de generatione & corruptione Aristotelis cum textu intercluso singulis locis. Questiones... super primo libro de generatione nunc quidem primum in publicum prodeuntes. Questiones... Doctoris Marsilii Inguem in prefatos libros de generatione... Item questiones... Magistri Alberti de saxonia in eosdem libros de gene. ultra nusq impresse. Woodcut initials & woodcut publisher's device at end. Two columns, Gothic type. 155, [1] leaves. Folio, attractive antique vellumbacked wooden boards (lower outer blank corners of a number of leaves repaired, occasional staining). [Venice: B. Locatellus for O. Scotus, 6 Sept. 1504].

An important early edition of Aristotle's *De Generatione et Corruptione*; this is, I believe, the first to contain the three additional commentaries of Egidio Colonna (d. 1316), Marsilius of Inghen (d. 1396), and Albert of Saxony (ca. 1316-90). The *De Generatione et Corruptione* is one of Aristotle's most important writings

on physics and natural science and was written during his years at Plato's Academy.

Colonna (d. 1316), also known as Giles of Rome, was a disciple of Thomas Aquinas while a student in Paris. Colonna was the first Augustinian appointed to teach in the University of Paris and his deep learning earned for him the title of *Doctor fundatissimus*. In 1295 he was appointed Archbishop of Bourges by Pope Boniface VIII.

"Although mainly a philosopher and theologian, Giles frequently dealt with problems relating to natural philosophy, notable in his commentaries on Aristotle. Moreover, he did so in a style distinctive enough to place him in the first rank of those thinkers who have made a positive contribution to the scientific thought of their time (see Maier, *Die Vorläufer Galileis*, p. 2)...

"[His commentary on] the *De generatione et corruptione*...became [a] classic, and was often utilized by such fourteenth-century physicists as Buridan and Marsilius of Inghen, who considered Giles the *communis expositor* of the *De generatione*."—D.S.B., V, pp. 402-03.

Marsilius was a high official at the Universities of Paris and Heidelberg and his "chief contributions to science lay in the field of physics...His work places him among the Parisian masters who may be considered to be the precursors of Leonardo and Galileo and the formers of the new physics of the fifteenth and sixteenth centuries."—D.S.B., IX, p. 136.

Albert of Saxony was a prominent teacher on the faculty of arts at Paris. "Albert's significance in the history of science is primarily that of a transmitter and an intelligent compiler of scientific ideas directly drawn from the works of Buridan, Thomas Bradwardine, William of Ockham, Burley, Oresme, and other writers in the medieval scientific tradition."—D.S.B., I, p. 94.

Very good copy. No copy in N.U.C., OCLC, and RLIN.

Adams A-1792–(false collation).

6. (AUCTION CATALOGUE: BEAUCLERK, T.). *Bibliotheca Beauclerkiana. A Catalogue of the Large and Valuable Library of the late Honourable Topham Beauclerk, F.R.S. deceased...* which will be sold by Auction...by Mr. Paterson, On Monday, April 9, 1781, and the Forty-Nine following Days. 1 p.l., xiv, 231 pp.; 137, [1] pp. Two parts in one vol. 8vo, fine modern calf, double gilt fillet round sides, spine gilt, red & green morocco lettering pieces on spine by Sangorski & Sutcliffe, uncut. [London]: 1781.

A lovely copy. This was a large and important library consisting of 30,000 volumes. Beauclerk (1739-80), son of Lord Sydney Beauclerk and grandson of the first Duke of St. Albans, was an intimate friend of Dr. Johnson and was

mentioned frequently and favorably by Boswell. Beauclerk left an important library, rich in English plays and history, travel, and science. 9256 lots, including MSS

Several sections have been priced in a contemporary hand.

Fine and uncut copy with the half-title. From the library of Eric H.L. Sexton, the noted collector of incunabula.

- De Ricci, p. 52. Taylor, Book Catalogues, pp. 169 & 170.
- 7. (AUCTION CATALOGUE: BOURRET, [Pierre-Abel?]). Catalogue de la Bibliotheque de feu Monsieur Bourret, ancien Intendant de la Principauté de Neuf-Chastel & de Vallengin, en Suisse. Dont la Vente se fera en détail au plus offrant & dernier encherisseur, le Lundy 18. Juillet 1735. & jours suivans... xvi, 523 pp. 12mo, cont. calf (upper joint a little cracked, head of spine a bit chipped, lower joint a little rubbed), spine gilt, red morocco lettering piece on spine, arms in gilt on each cover of Guillaume-Gabriel Pavée de Vendeuvre (see below). Paris: J. Boudot & J. Guerin, 1735.

\$3250.00

An uncommon auction catalogue. The library was a large one (6496 lots) and contained some outstanding 16th- and 17th-century rarities as well as strong collections in history, belles-lettres, numismatics, music, and the sciences (especially mineralogy).

Very good copy. Guillaume-Gabriel Pavée de Vendeuvre (1779-1870), a native of Troyes, served as deputy in the French National Assembly for many years.

№ Bléchet, p. 91. Blogie col. 3. Grolier Club, *Printed Catalogues of French Book Auctions...1643-1830*, 39. Peignot, p. 83. Pollard & Ehrman no. 274.

Priced Throughout

8. (AUCTION CATALOGUE: [GIRARDOT DE PRÉFOND]). Catalogue des Livres du Cabinet de Mr. G...D...P... Par Guillaume-Franç. De Bure, le jeune. 3 p.l., lv, [1], 241 pp. 8vo, early 19th-cent. sheep-backed marbled boards (some faint dampstaining), flat spine nicely gilt, red leather lettering pieces on spine. Paris: G.F. De Bure, 1757. \$2500.00

One of the choicest and most celebrated collections formed in France during the 18th century, this copy has been priced throughout in a contemporary hand. Girardot, a timber merchant, on his retirement from business, became depressed, as Bogeng relates; his doctor, Hyacinthe Baron, himself an important collector, advised him to cure his melancholia by forming a library. The result is recorded

in De Bure's excellently compiled catalogue. Many of the books and MSS. in the collection were bound by Padeloup in the most luxurious fashion. 1428 lots with nine scientific instruments also sold at the end. One of the principal buyers was the Duc de La Vallière.

Immediately upon having sold this collection, Girardot embarked upon forming a second, which he sold in 1769 for 50,000 francs to Count Mac-Carthy, displaying both great taste and business acumen.

Nice copy. Bookplate of Anselmi vanden Bogaerde.

- ☼ Grolier Club, Printed Catalogues of French Book Auctions...1643-1830, 135. Guigard, II, p. 235—"Ce catalogue est très estimé." Peignot, p. 100—"Catalogue très estimé." Pollard & Ehrman no. 287. Taylor, Book Catalogues, p. 256.
- 9. (AUCTION CATALOGUE: [HEATH]). Catalogue of Books, containing all the Rare, Useful, and Valuable Publications, in Every Department of Literature, from the First Invention of Printing to the Present Time; all of Which are in the Most Perfect Condition, and will be Sold without the Least Reserve, on Thursday, April 26th, 1810, and the Thirty-One Following Days...by Mr. Jeffery. 8 p.l., 66, 20, 123, [1] pp., 8 pp. of ads. 8vo, modern blue half-morocco & boards, spine gilt, by Sangorski & Sutcliffe (preliminary leaves somewhat dampstained, title well re-margined at outer edge, some minor worming towards end with loss of a few letters). London: 1810.

A good copy of the special fine paper issue, ruled in red with prices in a contemporary hand. The anonymous sale catalogue of the library of Benjamin Heath (1704-66), classical scholar and book collector. "He was a collector of rare books from the age of thirteen, and in his lifetime distributed his library between two of his sons, but still left a large collection. There was printed in 1810 a 'Catalogue'. Heath was the principal collector of this library, but it was augmented by his son, the Rev. Benjamin Heath."—D.N.B., IX, pp. 339-40.

The sale, which provoked Dibdin to paroxysms of enthusiasm (see his Bibliomania, 1811), realized £8,899. But its contents no longer belonged to Heath: he had sold it for £3,000 to two booksellers, Cuthell and Martin, who then, at a huge profit, had them auctioned by Jeffrey. Heber was the chief buyer at this sale and the catalogue is of special value as the names of the binders are often given.

With the two-leaf list, printed in red, of subscribers to special copies (large paper and hot-pressed) bound-in. 4786 lots. From the library of Eric H.L. Sexton, the noted collector of incunabula.

Huet's Library

10. (AUCTION CATALOGUE: MAISON PROFESSE, PARIS).

Catalogue des Livres de la Bibliotheque de la Maison professe des ci-devant soi-disans Jesuites. xx (i.e. xxiv), 448, 59 pp. 8vo, cont. mottled sheep (head of spine & corners a little worn, minor rubbing), spine nicely gilt, red morocco lettering piece on spine, arms in gilt on each cover of Guillaume-Gabriel Pavée de Vendeuvre (see below). Paris: Pissot & Gogue, 1763.

An important sale catalogue of the library of the Maison Professe des Jesuites of Paris, founded in 1580. This library was comprised of many donations, the most notable being that of Pierre Daniel Huet (1630-1721), bishop of Avranches and scholar. Huet, whose scholarship was very well-known, made considerable scientific researches as well as classical studies; he edited the famous Delphin series of the Latin classics in about sixty volumes. Huet formed a great library of books and MSS. which he donated to this Jesuit house upon his death.

When the Jesuits were expelled from France in 1762, the entire library of the house was offered for sale by auction. However, Huet's books were withdrawn before the sale due to the terms of his donation and were given by his heir to the Royal Library in 1765.

This was one of the best and most complete Jesuit libraries in France. It numbered 30,000 volumes in 1754 (this sale catalogue has 7252 lots). It must be noted that this catalogue gives us the best idea of the contents of Huet's great collection.

Very good copy. It lacks one of the two unnumbered pages following the preliminary leaves and the final six leaves, which are not present in most copies, listing the withdrawn books. However, bound-in at the end is the 8-page schedule of the sale of the Louis-le-Grand library, sold in the following year (I haven't seen this before). Guillaume-Gabriel Pavée de Vendeuvre (1779-1870), a native of Troyes, served as deputy in the French National Assembly for many years.

№ Blogie col. 9. Franklin, Les Anciennes Bibliothèques de Paris, pp. 269-77—"une collection très-complète et très-bien choisie." Grolier Club, Printed Catalogues of French Book Auctions…1643-1830, 181. Peignot, p. 106. Taylor, Book Catalogues, p. 64.

"Il offre une Sorte de Bibliographie Orientale"

11. (AUCTION CATALOGUE: LANGLÈS, L.M.). Catalogue des Livres, Imprimés et Manuscrits, composant la Bibliothèque de feu M. Louis-Mathieu Langlès...dont la vente se fera le jeudi 24 mars 1825 et jours suivants. 2 p.l., xviii, 558 pp.; 31 pp.; 1 p.l., lxxxix pp. 8vo, half-calf & marbled boards,

flat spine gilt. Paris: J.S. Merlin, 1825.

\$1750.00

The scarce auction catalogue of the large library (4364 lots) formed by Louis Mathieu Langlès (1763-1824), one of the leading orientalists of his time and conservator of the oriental manuscripts at the then Bibliothèque du Roi. Archer Taylor points out (in his *Book Catalogues*, p. 138) that a specialized catalogue such as this one has great bibliographical value.

"Ce catalogue, rédigé avec beaucoup de soin...Très-riche en voyages et en livres de linguistique, il offre une sorte de bibliographie orientale."–Brunet, Dictionnaire de Bibliologie Catholique, col. 479.

An extremely handsome copy. Priced throughout in a contemporary hand. With the printed price list and index of authors.

№ Blogie, II, cols. 37-38. N.B.G., Vol. 29, 422-23.

"Worth Searching For"

12. (AUCTION CATALOGUE: LONGUERUË). Catalogue des Livres de la Bibliotheque de feu Messire Louis du Four de Longueruë, Abbé de Sept-Fontaines & de S. Jean du Jard. Dont la vente se fera en détail, le Lundi 23. May 1735. & jours suivans... 1 p.l., xxi, 184, [32] pp. 12mo, cont. speckled calf, spine gilt, red morocco lettering piece on spine, arms in gilt on each cover of Guillaume-Gabriel Pavée de Vendeuvre (see below). Paris: J. Barois, 1735. \$4750.00

Louis Dufour de Longueruë (1652-1733), was one of the leading French scholars of his time and he wrote many monographs on various topics concerning French and ancient history. The library is predictably rich in historical works; 2420 lots including some MSS. and priced throughout in a contemporary hand.

The bio-bibliography at the front of the catalogue is one of the main sources we have concerning Longueruë. With an excellent author index at end.

Fine and handsome copy. Priced throughout with many notes in a contemporary hand. Bound-in at the end are 69 pages of further notes, on bibliographical subjects, also written in (the same?) contemporary hand. Guillaume-Gabriel Pavée de Vendeuvre (1779-1870), a native of Troyes, served as deputy in the French National Assembly for many years.

Bléchet, pp. 90-91. Grolier Club, *Printed Catalogues of French Book Auctions...1643-1830*, 38. Guigard, I, p. 316–"Ce catalogue est du nombre de ceux qui méritent d'être recherchés pour les choses curieuses qu'il renferme concernant l'histoire." Peignot, p. 110.

"Extravagantly Rich in Books Printed on Vellum" A Fine Set in Original State

13. (AUCTION CATALOGUE: MAC-CARTHY-REAGH). Catalogue des Livres rares et précieux de la Bibliothèque de feu M. le Comte de Mac-Carthy Reagh. Two folding engraved facsimiles (one in red & black). xxviii, 583 pp.; 2 p.l., 473 pp. Two vols. 8vo, orig. blue wrappers, printed paper labels on spines, uncut. Paris: De Bure, 1815. \$1750.00

De Ricci described the Mac-Carthy-Reagh library as "extravagantly rich in books printed on vellum" and the Duke of Devonshire was inspired to put in a bid of 20,000 pounds for the collection which in fact brought only some 16,000 pounds when it came up for auction in 1817. The mysterious Mac-Carthy-Reagh had been a collector on a grand scale, purchasing Girardot de Préfond's collection *en bloc* in 1769 and leaving a library which took over 6000 lots to sell at auction, admirably catalogued by the De Bure brothers.

A wonderful set in original state.

№ Grolier Club, Printed Catalogues of French Book Auctions...1643-1830, 567. De Ricci, p. 80.

A Complete Set of His Art Catalogues

14. (AUCTION CATALOGUES: MEAD, Richard, M.D.). A Catalogue of the Genuine, Entire and Curious Collection of Prints and Drawings, (bound and unbound) of the late Doctor Mead; consisting of The Works of the most Eminent Masters; and particularly of a matchless Collection, containing 95 Drawings of Exotics, Insects, Fruit and Flowers in Water Colours, on Vellum, by Merian, in 2 vol. as also of another curious Collection, containing 205, in 2 vol. by Ehret, all colour'd from Nature, and finished to the greatest Perfection. Which, (by Order of the Executors) Will be Sold by Auction, By Mr. Langford, At his House in the Great Piazza, Covent-Garden, On Monday the 13th of January 1755, and the Thirteen following Evenings... 30 pp. 8vo, cont. calf (well-rebacked), sides decorated in gilt. London: A. Langford, 1755.

[bound with]:

(—). Museum Meadianum, sive, Catalogus Nummorum, Veteris Aevi Monumentorum, ac Gemmarum, Cum aliis quibusdam Artis recentioris et Naturae operibus; quae vir clarissimus Richardus Mead, M.D. nuper defunctus comparaverat. [Compiled by George North]. Engraved frontis. 2 p.l., 262 pp. 8vo. London: A. Langford, n.d. [1755].

[bound with]:

(—). A Catalogue of the Genuine and Entire Collection of Valuable Gems, Bronzes, Marble and other Busts and Antiquities, of the late Doctor Mead. Which (by Order of the Executors) Will be sold by Auction, By Mr. Langford...On Tuesday the 11th of this Instant March 1755, and the four following Days. 15 pp. 8vo. London: 1755.

[bound with]:

(—). A Catalogue of Pictures, consisting of Portraits, Landscapes, Sea-Pieces, Architecture, Flowers, Fruits, Animals, Histories, of the late Richard Mead, M. D. Sold by Auction on March 20, 21, and 22, M.DCC.LIV. xv pp. 8vo. London: 1755. \$12,500.00

A wonderful and complete set, bound together, of the catalogues of Dr. Richard Mead's art collections, sold after his death. The first two catalogues are quite uncommon on the market and the final two catalogues are distinctly rare. Each catalogue has been ruled in red and priced throughout in a contemporary hand.

Not only was Richard Mead (1673-1754), one of the outstanding physicians and book collectors of his time, but he was also a major collector of art in its widest sense. "He had a separate room built at the foot of the garden of his house on Great Ormond Street which housed his library and collections, which were among the largest of his time... Mead had an extensive collection of antique medals and coins... as well as other antiquities, including an Egyptian mummy and other Egyptian and Etruscan pieces. His collection of antique paintings had been acquired at great expense, the most famous being the Court of Augustus, which had been brought to Mead from Rome by Sir Alexander Dick in 1737. In keeping with the style of the cabinets of the time, Mead's collection also included a miscellaneous assortment of fossils, scientific instruments, anatomical specimens, and curiosities...

"Mead owned about 150 paintings, including landscapes by Rembrandt, Claude Lorrain, and Brueghel, and architectural pictures by Nicolas Poussin and Canaletto. He had many portraits, including the physicians Mayerne (by Rubens) and Vesalius (by Titian), scientists such as Boyle (by Kerseboom) and Halley (by Kneller), and the famous Holbein portrait of Erasmus, as well as portraits of contemporary men of letters, including Swift and Richardson. His collection of miniatures was especially noted. He also owned thousands of engravings and drawings by such artists as Dürer, Holbein, Michelangelo, and Raphael, as well as Hogarth and Vertue. Mead was a patron of art as well as a collector. He commissioned the bust of William Harvey by Peter Scheemakers, later displayed at the Royal College of Physicians, and the French artist Watteau, who came to consult Mead in the early 1720s, painted for him L'Amour paisible

and *Italian Comedians*. Mead opened his gallery to interested artists to copy, and he even loaned paintings for copying. In this era before public galleries Mead played an important role in the advancement of art."–*ODNB*.

Engraved armorial bookplates of Robert Shafto of Benwell (ca.1732–97), landowner and politician (see *ODNB*) and William Adair.

15. (AUCTION CATALOGUE: SERVAIS, G.J.). *Catalogue des Livres de la Bibliothèque de feu Monsieur Gaspar-Joseph de Servais;* dont la vente se fera...le 3 octobre 1808, et jours suivans... xvi, 440 pp. 8vo, orig. blue wrappers (a little worn), uncut. Malines: P.J. Hanicq, 1808. \$1500.00

An important Belgian sale, containing over 400 incunables, including books from the presses of Fust & Schoeffer (the 1462 Bible), Sweynheym & Pannartz, Ulrich Zel (J. Chrysostomus, 1466), Colard Mansion, Johannes de Westphalia, Brothers of Common Life at Brussels, and many others. The collection was particularly strong in works on the history of the Low Country, botanical books, and bibliography.

"Servais, né en 1735, mort en 1807 à Malines; il aimait passionnément les livres. Sa bibliothèque était le fruite de cinquante années de soins assidus. Elle renfermait un grand nombre d'ouvrages précieux dont plusieurs avaient échappés aux bibliographes, et plus de 400 volumes imprimés au XVe siècle."—Gustave Brunet, Dictionnaire de Bibliologie Catholique, cols. 597-98.

Very good copy.

☼ Blogie 54. Peignot, p. 124—"M. Servais étoit très versé dans la bibliographie, ce qu'attestent de nombreux manuscrits de sa composition indiqués dans ce catalogue."

A Rare Probierbüchlein

16. DIE AUFFRICHTIG ENTDECKTE PROBIER- UND SCHEIDE-KUNST derer Venetianer, Welcher noch beygefüget wird I. Ein Probier-Büchlein von üblichen Berg- und Müntz-Proben, II. Besondere Particular-Arbeiten, bestehend in Einbringen und Figurungen; III. Einige zur Verbesserung derer Metallen dienende Universal-Processe; IV. Eine Collation der Schrifften Fr. Basil. Valentini Bened. Ordin. Worinnen di Zubereitung des so genandten Vitrioli Philosophici erkläret Und denen Liebhabern solcher edlen Kunst zu fernerer Uberlegung communiciret wird. Double-page folding titlepage, printed in red & black. 126 pp. 8vo, cont. vellum over boards.

Saalfeld: J.M. Kauffmann, 1717.

\$3500.00

First edition of this extremely rare collection of chemical, alchemical, and metallurgical texts, including the first printing of this *Probierbüchlein*.

Fine copy. OCLC puts this under Basilius Valentinus. Bound-in at the end is a copy of the first edition of J.C. Sturm's *Wahrhaffte und gründliche Vorstellung von der lügenhafften Stern-Wahrsagerey* (1722).

▶ Darmstaedter, Berg-, Probir- und Kunstbüchlein, p. 105. Ferchl, p. 426. Ferguson, I, pp. 54-55.

17. BARJONA, Manuel Jose. Metallurgiae Elementa, quae amplissimi Philosophici Ordinis jussu ad Usum Academicum elucubravit... Four folding engraved plates containing 36 figures. xii, 302 pp. 8vo, cont. sheep (upper joint with some rubbing, spine with two early repairs), contrasting leather lettering piece on spine. Coimbra: Typis Academicis, 1798.

\$1650.00

First edition of "an interesting Portuguese work on the chemistry of metals and their analysis, for the use of students at the University of Coimbra...The different forms in which metallic ores occur, the extraction of metals, their physical and chemical properties, and related subjects are described. A discussion of various processes for analyzing metals and their ores by the dry and wet ways is given (pp. 119-297). The calcination of metals and the investigations of Cavendish, Kirwan, and Lavoisier are mentioned. The figures depict chemical apparatus, furnaces, and other equipment used in metallurgical research. Very rare. Not in the usual bibliographies."—Neville, I, p. 77.

Barjona (1760-1831), Portuguese natural philosopher, introduced a curriculum of natural philosophy at the University of Coimbra. In 1801 he was appointed to the professorship of natural history, including mineralogy, geology and zoology.

Very good copy. Old ownership stamp on title. Bookplate of Antonio Cupertino de Miranda.

The Graf zu Stolberg Copy

18. BASILIUS VALENTINUS. *Chymische Schriften, aus einigen alten MSten aufs fleissigste verbessert, mit vielen Tractaten...vermehret...in Drey Theile verfasset:* Samt einer neuen Vorrede, von Beurtheilung der Alchymistischen Schriften und dem Leben des Basilii, begleitet von Bened. Nic. Petraeo, Med. D. Engraved frontis., 20 engraved plates, one woodcut on p. 830, & numerous alchemical symbols in the third part.

Title printed in red & black. 80 p.l. (incl. frontis.), 1133, [77] leaves. Three parts in one vol. Thick 8vo, cont. fine vellum over boards, spine lettered in gilt. Hamburg: G. Richter, 1740. \$8500.00

"Fünfte Edition," and the most complete, of the collected works of Basilius Valentinus. This is a corrected version of the first collected edition published in 1677. Our edition is a reprint of the 1717 edition, which contains for the first time new material (Part III — pages 993-1133).

Basil Valentine was supposedly a Benedictine monk of the fifteenth century, but was most probably the pseudonym of Johann Thölde (fl. 1600-1614), a chemist and salt-boiler of Frankenhausen in Thuringia.

The first 18 engraved plates depict symbolic illustrations of the various "keys" to the philosopher's stone.

Very fine copy from the library of Christian Ernst, Graf zu Stolberg (1691-1771), with his handsomely engraved bookplate, dated 1721.

№ D.S.B., XIII, pp. 558-60–"It was partially…for their alchemical appeal, and partially for their genuine chemical value that the works attributed to Basil Valentine were frequently published and translated throughout the seventeenth and eighteenth centuries." Duveen, p. 50. Partington, II, pp. 183-203.

An Important Private Library Catalogue

19. (BEATTY, A. Chester). *The Library of A. Chester Beatty. A Descriptive Catalogue of the Western Manuscripts*. By Eric George Millar. Many fine plates (six in color). Two vols. in four [all published]. Large folio, cont. red morocco-backed cloth. London: Privately Printed by John Johnson at the Oxford University Press, 1927-30. \$4500.00

A fine set and scarce. "One of the handsomest and most learned productions from the pen of a British palaeographer."—De Ricci, p. 172.

From the library of Eric H.L. Sexton, the noted collector of incunabula.

"Of Great Rarity"

20. BERGMAN, Torbern. *Physical and Chemical Essays*; Translated from the Original Latin... by Edmund Cullen, M.D.... To which are added Notes and Illustrations, by the Translator. One folding printed table, one folding printed plate, one woodcut in the text, & four engraved plates (foxed). xliv, 467 pp.; xvii, 529 pp.; 1 p.l., xvi, 446 pp. Three vols. 8vo, cont. half-calf & marbled boards (clean tear across R1 in Vol. I with no loss of text), flat spines gilt, red & green morocco lettering pieces on

spines. London: J. Murray & J. Creech, 1788-88 [Vols. I & II]; Edinburgh: G. Mudie & J.&J. Fairbairn, 1791 [Vol. III]. \$2500.00

"The second English edition of Cullen's translation (first, 1784), which is so rare that Bergman's bibliographer, Moström, states that he had never seen a copy. He placed an asterisk beside the entries for works he had not seen. The third volume was published in Edinburgh in 1791 and is of great rarity. It almost never occurs with the first two volumes, which were published in London. Comparison of the first two volumes shows that they are close reprints of the first English edition of 1784. The first 158 pages of volume III, by an anonymous translator, reprint Bergman's essays on the history of chemistry. The remainder of the volume deals with minerals, inorganic and organic compounds, metals, mineral waters, etc. It is a translation [of Vol. IV] of the *Opuscula physica et chemica* (1787)."—Neville, I, p. 126.

Attractive set. Bookplate of C.A. Ayre.

№ Cole 103a. Moström 283 & 290.

"Very Rare"

21. BERTHOLLET, Claude Louis. Über die Gesetze der Verwandschaft in der Chemie. Aus dem französischen übersetzt mit Anmerkungen Zusätzen und einer synthetischen Darstellung von Berthollets Theorie versehen von Ernst Gottfried Fischer. xii, 332 pp. 8vo, cont. paste-paper board, red leather lettering piece on spine. Berlin: G.C. Nauck, 1802.

\$2950.00

First edition in German of the *Recherches sur les lois de l'affinité* (Paris, 1801). "In the preface the translator, Fischer (1754-1831), gives a brief biography of Berthollet, praising him and listing the titles of his works on the reform of chemical nomenclature, bleaching, and dyeing. 'Fischer found Berthollet's new view of chemical phenomena so convincing that it is impossible to maintain the old theory' (Partington, III, 652). Fischer was professor of physics and mathematics in the Gymnasium zum grauen Kloster, Berlin, and, on page 232 he 'gives a clear summary of Richter's views...and a table of equivalent weights of acids and bases referred to 1000 parts of sulphuric acid as a single standard' (Partington, III, 678). 'This table contains thirteen acids and eight bases,...the same standard that Richter...had consistently used. At the same time, however, Fischer criticizes Richter's series of masses as unacceptable hypotheses' (*D.S.B.*, XI, 437). The section entitled 'Versuch einer synthetischen Darstellung von Berthollet's Theorie' (pp. 263-332) summarizes the ramifications of the laws of affinity and mass in chemical reactions. Very rare."

An early supporter of Jeremias Benjamin Richter (1762-1807), the discoverer of the law of neutrality, Fischer was instrumental in making Richter's theories

better known (see Partington, III, pp. 678-79). Fine copy. Old library stamp on title.

22. BERTHOLLET, Claude Louis. *Versuch einer chemischen Statik das ist einer Theorie der chemischen Naturkräfte*. Aus dem Französischen übersetzt von George Wilhelm Bartoldy und mit Erläuterungen begleitet von Ernst Gottfried Fischer. 2 p.l., xiv, 564 pp.; vi, 522 pp. Two vols. 8vo, cont. marbled half-calf & marbled boards (lower corners a bit worn, minor foxing), flat spines gilt, contrasting morocco lettering pieces on spines. Berlin: Duncker & Humblot, 1811.

First edition in German of Berthollet's most important work — the *Essai de Statique chimique* (1803) — 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. This work led directly to the investigations of Joseph Louis Proust on definite chemical proportions, which were preparatory to Dalton's atomic theory, on which the science of modern chemistry is based.

This edition is notable for the new preface and numerous notes, some extensive, by Ernst Gottfried Fischer (1754-1831), professor of physics and mathematics at Berlin. An early supporter of Jeremias Benjamin Richter (1762-1807), the discoverer of the law of neutrality, Fischer was instrumental in making Richter's theories better known (see Partington, III, pp. 678-79).

Very good set.

≈ Cole 125.

"The First General Bibliography of 15th-Century Books"

23. BEUGHEM, Cornelius à. *Incunabula Typographiae sive Catalogus Librorum Scriptorumque proximis ab inventione Typographiae annis, usque ad Annum Christi M.D. inclusive, in quavis lingua editorum... 6 p.l., 191 pp. 12mo, cont. panelled calf (very carefully rebacked preserving the orig. spine). Amsterdam: J. Wolters, 1688. \$5000.00*

First edition of "apparently the first bibliography of incunables...It extends to 200 pages and describes about 3,000 works, arranged as follows: editions of the Bible; other works, arranged alphabetically by authors; books containing works by several authors; anonymous works, set out alphabetically by their titles; ancient books of uncertain date; books both anonymous and undated. This compilation is clearly the work of a skilled and experienced

bibliographer."—Besterman, *The Beginnings of Systematic Bibliography*, pp. 35-36. There are about 3000 entries and to each author is added a short biographical note.

Beughem (fl. 1678-1710), bookseller and city counselor at Emmerich, was the foremost bibliographer of the 17th century.

Fine copy from the library of Eric H.L. Sexton, the noted collector of incunabula.

▶ Grolier Club, *Bibliography*, 85–"The first general bibliography of fifteenth-century books. Beughem applies for the first time the word 'incunabulum,'…to the books themselves."

"Of Singular Rarity"

24. BOREL, Pierre. *Historiarum, et Observationum Medico-physicarum, Centuria prima* [—*Centuria secunda*] *In qua, non solum, Multa utilia, sed & rara, stupenda ac inaudita continentur.* 12 p.l., 240 pp. Small 8vo, 18th-cent. mottled calf (a few headlines very slightly shaved), flat spine gilt, red morocco lettering piece on spine. Castres: A. Colomer, 1653.

\$45,000.00

First edition of one of the greatest rarities in the history of medicine and microscopy; I have been looking for a copy for many years. As a testament to the book's rarity, it should be noted that Haskell Norman was never able to acquire a copy, settling only for the second edition of 1656.

This is "the first work to apply microscopy to medicine. Borel probably saw the blood corpuscles and *Sarcoptes scabiei*."—Garrison-Morton 260. The use of the microscope in medicine revealed another world for physicians and scientists. There are also a number of dental and ophthalmological observations.

Borel (1620-71), was born at Castres, studied medicine at Montpellier, and began his practice at Castres in 1641. In 1653 he went to Paris and about 1654 was appointed physician to the king. During his whole life he ardently pursued the study of natural history, chemistry, optics, astronomy, antiquities, philology, and bibliography. Among his other works are the first bibliography of chemistry (1654) and the first history of the telescope (1655). Besides practicing medicine, Borel collected rarities, plants, antiquities, and minerals from the town itself and countryside surrounding Castres.

The learned dealer Ernst Weil, in his *Cat.* 16 described a copy of the present book and wrote "a most important work, and of singular rarity."

Fine copy. With a note in a late 18th-century hand on the free front-endpaper: "Provenant de la Bibliotheque de l'abbé Sepher (?). 12 Mai 1786."

▶ D.S.B., II, pp. 305-06.

25. BOSSUT, Charles. *Traité Théorique et Expérimental d'Hydrodynamique*. 23 folding engraved plates. 3 p.l., xviii, 545, [3] pp.; 4 p.l., 515, [1] pp. Two vols. Thick 8vo, orig. boards (extremities a bit worn), red vellum lettering pieces on spines, uncut. Paris: Imprimerie Royale, 1786-87.

First edition of one of the classic works in hydrodynamics and hydraulics. The second volume is particularly interesting as it describes numerous hydraulic experiments. The handsome plates illustrate many hydraulic machines including two devices which produce steam.

Bossut (1730-1814), assumed the chair of hydrodynamics established by Turgot at the Louvre. He was a major contributor to European scientific education and his texts represent the emergence of a standardized, rigorous system of engineering physics textbooks.

A very fine and attractive set in remarkable original state.

№ *D.S.B.*, II, pp. 334-35. Rouse & Ince, *History of Hydraulics*, pp. 126-27.

26. [BOWYER, William]. The Origin of Printing: in Two Essays: I. The Substance of Dr. Middleton's Dissertation on the Origin of Printing in England. II. Mr. Meerman's Account of the First Invention of the Art. An Appendix is annexed, 1. On the first-printed Greek Books. 2. On the first-printed Hebrew Books, with Observations on some modern Editions; and a Collation, from Walton's Polyglott, of a remarkable Passage, as printed in Kings and Chronicles. 3. On the early Polyglotts. xvi, 144 pp., one leaf of ads. 8vo, attractive antique half-calf & marbled boards, spine gilt. London: W. Bowyer & J. Nichols, 1774.

First edition. Bowyer (1699-1777), the son of one of the leading printers of the day, had an equally distinguished career professionally and was very active in scholarly projects. He became printer to the House of Commons, the House of Lords, the Royal Society, and the Society of Antiquaries. The present book, along with his edition of the New Testament in Greek with notes, are his principal works.

Fine copy.

№ Bigmore & Wyman, I, p. 74—"The treatises of Middleton against the Corsellis theory, and of Meerman, are here abridged, with annotations by W. Bowyer and John Nichols, and a preface." D.N.B., II, pp. 991-94.

27. [BUSSON-DESCARS, Pierre]. *Essai sur le Nivellement*. Nine folding engraved plates. 2 p.l., 218 pp. 8vo, cont. marbled calf, flat spine nicely gilt. Paris: Firmin-Didot & Delance, 1805. \$1500.00

First edition, and a very pretty copy, of this popular work on surveying which saw a second edition in 1813. The book was written upon the retirement of Busson-Descars (1764-1825), who had spent 25 years as a practicing engineer and surveyor. He describes a number of surveying instruments, including several of his own invention. The plates are particularly well-engraved and depict in 68 figures various parts of surveying instruments and methods of surveying. Fine copy.

"A Major Contribution to Early 17th-Century Musical Thought"

28. BUTLER, Charles. *The Principles of Musik, in Singing and Setting: with The two-fold Use thereof, [Ecclesiasticall and Civil.].* Numerous woodcut musical examples in the text. 8 p.l., 135 pp. Small 4to, attractive antique speckled half-calf & marbled boards, spine gilt, red morocco lettering piece on spine. London: J. Haviland, for the Author, 1636. \$5000.00

First edition and scarce. This is an important and unusual book by the Oxford-educated schoolmaster, clergyman, and amateur musician Charles Butler (ca. 1560-1647). He had a particular interest in music, beekeeping, and the reformation of English spelling; the text is one of several by Butler printed in his characteristic orthography, using new characters derived partly from Anglo-Saxon, and partly from phonetics.

This work is divided into two parts, of which the first and longer proceeds from the fundamentals of music through sight-singing to simple and then more complex composition; the second part provides information about instruments, word-setting, and the various challenges to a church musician, faced with the growing strictures of a Puritan age. "Butler's The Principles of Musik is both an instruction manual for the performer and a forum where he pleaded the cause of music in sacred and secular usages. Book I, three-quarters of the volume, proceeds from the fundamentals of music through sight-singing to simple and then more complex composition. Like the ancient writers, Butler ascribed ethical properties to the five modes which he recognized (Dorian, Lydian, Aeolian, Phrygian and Ionian); Phrygian, for example, to him was 'manly' and 'corragios'. Although the concept of tonality was quickly becoming fully developed, Butler continued to advance the hexachord system as a means of organization. Book 2, while offering a brief for music in English society, provides much information on instruments, word-setting, performing practice and the mundane problems of the church musician. Much of the argument for church music, backed up by patristic and biblical authority, may be seen as a reaction to the growing antipathy to music during the Puritan age. Burney's high praise of Butler's *Principles* was not misplaced, for its scope, clarity of exposition, pithiness and wit mark it as a major contribution to early 17th-century musical thought."—*New Grove*, Vol. 3, pp. 517-18.

Fine copy.

The Foundation of Thermodynamics

29. CARNOT, Nicolas Léonard Sadi. *Réflexions sur la Puissance Motrice du Feu et sur les Machines propres a développer cette Puissance*. One folding engraved plate. 2 p.l., 118 pp. 8vo, cont. red morocco-backed marbled boards (unimportant small & faint dampstain at head of several leaves), spine gilt. Paris: Bachelier, 1824. \$45,000.00

First edition of one of the great rarities in the history of science. This landmark book anticipated both the first and second laws of thermodynamics; it is the author's only publication.

"Using the fallible analogy of a water-wheel and the language of caloric theory the book was essentially an attempt to calculate the mechanical equivalent of heat; Carnot devised the type of apparatus afterwards used by J.P. Joule to produce exact figures in 1841. His work led directly to the enunciation of the theory of the conservation of energy by Helmholtz in 1847. In fact, in a reprint of the *Réflexions* in 1878, Carnot's brother included the contents of some notebooks which showed that Carnot himself had formulated this theory, which is now the first law of thermodynamics. The second law of thermodynamics is also implicit in Carnot's treatise. Work is done only when heat passes from a hotter to a colder body. It follows that when an equilibrium of temperature is reached work ceases."—*Printing & the Mind of Man* 285.

It is known that only six hundred copies of this book were printed. Fine copy.

№ Dibner, Heralds of Science, 155. D.S.B., III, pp. 79-84. En Français dans le Texte 239.

"A Classic in the Early Geological Literature of Germany"

30. CHARPENTIER, Johann Friedrich Wilhelm. *Mineralogische Geographie der Chursächsischen Lande*. Engraved frontis., seven folding engraved plates (including a large colored map), & an engraved vignette on title. xliv (incl. frontis.), xvi, 432 pp., one leaf of errata. Large 4to, fine

cont. polished calf, crowned monogram in gilt on each cover of Maria Anna, daughter of Maria Theresa, and Archduchess of Austria, double gilt fillet round sides, gilt fleurons in corners, spine richly gilt, a.e.g., red morocco lettering piece on spine. Leipzig: S. Crusius, 1778. \$7500.00

First edition, and a magnificent copy, of the author's first book. Charpentier's *Mineralogy of Chur-Saxony* "ranks along with the works of Lehmann and Füchsel as a classic in the early geological literature of Germany. The distribution of the principal rocks and formations is shown by means of colours on a large map, and the occurrence of the less important rocks, of mineral veins, and volcanic dykes, is indicated by various signs. Charpentier grouped granite, gneiss, mica schist, porphyry, and limestone together as a basal formation belonging to one and the same epoch. Above this basal formation Charpentier distinguished argillaceous schists and slates, and the greywackes of the Carboniferous series; then the Flötz, or ore-bearing group, which he subdivided according to Lehmann and Füchsel."–Zittel, p. 38.

The above-mentioned map seems to be the second colored geological map published, following by three years that of Gottlieb Gläser at Leipzig. Charpentier uses eight tints to distinguish granite, gneiss, schist, limestone, gypsum, sandstone, river sand, clay and loam.

Charpentier (1738-1805), professor of mathematics and physics at the Mining Academy at Freiberg, was the father of Johann, also a famous geologist.

Very fine and handsome copy from the library of Maria Anna (1738-89), Archduchess of Austria and daughter of Franz Stefan and Empress Maria Theresa from whom she inherited an interest in mineralogy. As a member of Vienna's royal family, she studied numismatics and mineralogy and later amassed her own collection of 9,980 specimens under the guidance of Ignaz von Born. The collection was rich in Cornish, Hungarian, Siberian, Transylvanian, and Scandinavian minerals. Her collection was sold to the Royal Hungarian University of Buda and is preserved there today (see Wilson, *The History of Mineral Collecting 1530-1799*, p. 182).

Hoover 220. Schuh, Mineralogy & Crystallography: A Biobibliography, 1469 to 1920, 1136— "Very scarce. A classic text in the early geological literature of Germany. The Mineralogische Geographie gives an excellent description of the veins and other mineral occurrences of Saxony and some of the adjacent areas, and in the last few pages of the book the question of the probable origin of the ores is discussed. It is an admirable presentation of the facts gathered during the author's long years of mining experience. He considers in succession those facts which have a definite bearing on the question of the genesis of the ore deposits, and, based on them, he offers an explanation of their origin, which, he says, cannot be considered as more than a conjecture but which he believes represents the closest approximation to the truth attainable at that time."

For another binding from the same library see item 88

31. COBBETT, William. *The Woodlands: or, A Treatise on the preparing of ground for planting; on the planting; on the cultivating; on the pruning; and on the cutting down of Forest Trees and Underwoods...the Trees being arranged in Alphabetical Order...* Three woodcut illus. in the text. [344] pp. incl. final leaf with ads. 8vo, attractive early 20th-cent. half marbled calf & marbled boards, spine gilt, contrasting morocco lettering pieces on spine, uncut. London: Printed & Published by William Cobbett, 1825.

\$950.00

First edition of one of Cobbett's most notable agricultural writings, based on his own experiences as a working farmer and on his famous "Rural Rides" which he took from 1821 to 1826, where he rode through most of the southern counties of England, listening and learning from farmers and foresters.

"General directions fill the first quarter, as far as section 91; then come 'The Trees, arranged in alphabetical order, with the instructions relative to each', up to section 601. The order is that of the common English names, each with its botanical characteristics and generic description, then the individual species, beginning with the native or main one, with details of its cultivation, followed by the others, with notes on specific differences. American trees are well to the fore, reflecting Cobbett's zeal in importing them."—Raphael, *An Oak Spring Sylva*, 46.

Fine copy.

Placed in the First Rank of Scientific Thinkers

32. COLONNA, Egidio, Archbishop. *Commentaria in octo libros phisicorum Aristotelis*. 229 numbered leaves. Two columns, Gothic type. Folio, attractive antique vellum-backed wooden boards (55 mm. blank portion at head of first leaf renewed, occasional light staining). [Venice: A. de Torresano de Asola, 26 Sept. 1502]. \$4500.00

Early edition (1st ed.: Padua,1493) of this rare commentary on Aristotle's *Physics* by Colonna (d. 1316), also known as Giles of Rome. A disciple of Thomas Aquinas while a student in Paris, Colonna was the first Augustinian appointed to teach in the University of Paris and his deep learning earned for him the title of *Doctor fundatissimus*. In 1295 he was appointed Archbishop of Bourges by Pope Boniface VIII.

"Although mainly a philosopher and theologian, Giles frequently dealt with problems relating to natural philosophy, notable in his commentaries on Aristotle. Moreover, he did so in a style distinctive enough to place him in the first rank of those thinkers who have made a positive contribution to the scientific thought of their time (see Maier, *Die Vorläufer Galileis*, p. 2). It is chiefly

in his commentary on the *Physics*, written around 1277, that he considered scientific problems...

"Among Giles's theses that have attracted the attention of more recent historians of science are those relating to quantity, which led him to admit the existence of natural *minima* below which concrete material substance cannot exist and which thus imply an atomistic theory of matter. The study of movement induced him to investigate the nature of a vacuum, to which he attributed a kind of suction force, observable with the aid of the clepsydra, the cupping glass, or the siphon...His observations on the accelerated motion of falling bodies have similarly been noted."—D.S.B., V, p. 402.

Very good copy.

≈ Sarton, Vol. II, Pt. II, pp. 922-26.

With a Contribution by Newton

33. CRAIG, John. *De Calculo Fluentium Libri Duo. Quibus Subjunguntur Libri Duo De Optica Analytica*. Numerous woodcut diagrams in the text. [8], 92 pp. Large 4to, cont. panelled calf (well-rebacked by Middleton, a little spotted at end). London: ex Officina Pearsoniana, 1718. \$5500.00

First edition of the third of Craig's major books but the first in order of composition. Craig (d. 1731), a fellow of the Royal Society and a good friend of Newton, was one of the very few in Britain to realize the vast possibilities of the calculus and was the most zealous of all English mathematicians in its use.

The present work, important for its advances in the calculus, is particularly interesting for the Preface in which Craig states that he showed the manuscript of the present book to Newton in 1685. Newton corroborated several objections raised by Craig to Tschirnhausen and contributed two equations of curves. Craig also provides an account of the steps that led to his interest in the fluxional calculus.

Craig's writings on optics (the second part of this book) have been largely ignored by historians of science.

A fine crisp copy. Early engraved armorial bookplate of W. C. Mylne.

▶ D.S.B., III, pp. 458-59.

A Handsome Set of a Classic

34. DE BURE, Guillaume François. *Bibliographie Instructive: ou Traité de la Connoissance des Livres Rares & Singuliers...* Nine vols. 8vo, cont. mottled calf, spines gilt, red & green morocco lettering pieces on spines. Paris: G.F. De Bure, 1763-69.

[bound with]:

[—]. Lettre a M.*** servant de Réponse à une Critique de la Bibliographie Instructive, insérée dans le premier Volume de mois de Juillet 1763, du Journal de Trèvoux, page 1617. 80 pp. 8vo. [Paris: 1763]. \$2000.00

I. First edition of "the best of the eighteenth-century rare book bibliographies, important for the new classification scheme employed and for the extensive bibliographical data and notes. It is here that the Gutenberg Bible ('Bible Mazarine') is identified and first described. De Bure was the first in a long tradition of French scholar-booksellers."—Grolier Club, *Bibliography*, 107.

Vols. VIII and IX are entitled *Supplement a la Bibliographie Instructive, ou Catalogue des Livres du Cabinet de feu M. Louis Jean Gaignat.* This is the auction catalogue, dated 1769, of Gaignat's great collection. Gaignat (1697-1768), acquired the choicest incunabula in the De Boze library and had many other notable books. A tenth volume — an index — was published in 1782 and is, as almost always, not present.

II. First edition and very rare. Mercier (1734-99), abbot at Saint Léger and a well-known bibliographer and librarian, published three letters in 1763 in the *Journal de Trévoux* attacking the first volume of De Bure's monumental *Bibliographie Instructive* for alleged errors of fact. In this pamphlet, one of two that De Bure wrote to defend himself, he launches a point-by-point counter-offensive.

A very attractive set in matching bindings.

№ De Bure: "une production tout à fait neuve et assez remarquable à l'époque où elle parut: aujourd'hui même elle peut encore être consultée utilement pour plusieurs articles qui n'ont pas été décrits autre part avec autant de détails que là. Ce catalogue donne d'ailleurs une idée exacte du goût qui dominait alors parmi les amateurs de livres rares et précieux."—Brunet, II, 552-53. Petzholdt, pp. 81-83. Gaignat: Taylor, Book Catalogues, pp. 8 & 242. II. Brunet, II, 553.

John Lumley's Copy

35. DEMOSTHENES. *Demosthenous Logoi duo kai hexekonta* [:in Greek] Habes lector Demosthenis Graecorum oratorum omnium facile principis orationes duas et sexaginta, et in easdem Vulpiani Commentarios quantum extat: Libanii Argumenta: Tum collectas à studioso quodam ex

Des. Erasmi Rot. Guilhelmi Budaei atque aliorum lucubrationibus Annotationes. Ad haec ipsius, Plutarcho Libanioque]authoribus, Vitam. Et lectionem denique variam adiectam. Woodcut printer's device on title & repeated on verso of final leaf. Printed throughout in Greek. 12 p.l., 532, 507 (i.e. 207) pp., [28] leaves. Folio, 17th-cent. English sheep (a few scars, title a bit stained & soiled, final five leaves with a small & unimportant burn hole in margin), spine gilt, upper cover stamped in gilt "B.C.R." Basel: J. Herwagen, Sept. 1532.

First edition of Erasmus' important edition of Demosthenes (384-322 B.C.), the great Attic orator and statesman, whose fame as an orator can be compared only with the fame of Homer as a poet. This copy bears the signature on the title of John Lumley, first Baron Lumley (ca. 1533-1609), "one of the great Elizabethan collector-patrons. His collections, which included books, paintings, and marbles, were catalogued during his lifetime and transcriptions of the manuscripts published during the twentieth century. The significance of these inventories cannot be underestimated — they provide a unique illustration of his particular interests and intellectual pursuits as well as a more general picture of aristocratic taste in Elizabethan England...Lumley's library was one of the largest in Elizabethan England. It was housed at Nonsuch and contained nearly 3000 books...The books are inscribed with the original purchaser's name."—ODNB.

The majority of Lumley's books passed from Lumley to Henry, Prince of Wales, and then to the Royal Library and now survive in the British Library. This copy remained in private hands and bears the bookplate of J.P.R. Lyell (1871-1948), the book collector and founder of the Lyell Lectures at Oxford.

This edition, while based on the 1504 *editio princeps* of Aldus, is the first to contain the commentaries of Erasmus, Budé, and others. It contains all the speeches and Ulpian's *Scholia*. Erasmus contributed a preface as well. Dibdin wrote of it: "there are many preferable readings to be found. It is a beautiful and excellent work, according to Fabricius, containing the commentaries of Ulpian in the margin of each page; and at the end, the various readings collected by Danesius; also the commentaries of Budaeus, Erasmus, and other learned men, on certain passages of Demosthenes."

Fine and fresh copy.

Brunet, II, 587-"Cette belle édition…elle est rare." British Museum, *John Lumley* (1956), number 1709-"Lumley copy now privately owned."

Translated with Additions by the First President of the Royal Society

36. DESCARTES, René. *Renatus Des-cartes Excellent Compendium of Musick: with Necessary and Judicious Animadversions thereupon*. By a Person of Honour. Three full-page engravings & numerous woodcut diagrams in the text. 8 p.l., 94 pp., one leaf of errata. Small 4to, attractive antique speckled half-calf & marbled boards (pale ink splashes on title), spine lettered in gilt, red morocco lettering piece on spine. London: T. Harper for H. Moseley; and sold by Thomas Heath, 1653. \$9500.00

First edition in English. This study of the mathematical basis of music was written by Descartes in 1618, when he was 22; it was first published at Utrecht in 1650, shortly after his death. "The *Compendium* is both a treatise on music and a study in methodology. In it Descartes shows himself to be a link between the musical humanists of the 16th century — he was influenced particularly by Zarlino, whom he cited — and the scientists of the 17th. The work is noteworthy as an early experiment in the application of an empirical, deductive, scientific approach to the study of sensory perception, and as being among the earliest attempts to define the dual relationship between the physical and psychological phenomena in music…

"Descartes divided music into three basic component parts, each of which can be isolated for study: the mathematical-physical aspect of sound, the nature of sensory perception and the ultimate effect of such perception on the individual listener. He considered the first of these to lend itself to pure scientific investigation, since it is independent of personal interpretation. He characterized the process of sensory perception as being autonomous, self-regulating and measurable. This is the realm where practical aspects of music are dealt with (e.g. rules for counterpoint) and to which the great bulk of the *Compendium* is devoted. To Descartes the impact of sound on a listener's emotions or 'soul' is a subjective, irrational element and therefore incapable of being scientifically measured. He described it as a psychological-physiological phenomenon that clearly belongs to the areas of aesthetics and metaphysics (of which he was to develop the principles later in his philosophical writings)...

"Among his specific contributions to music theory the following are of note: an early concern with definition of period structure in musical form; an expression of the later theory of a conditioned reflex in animals; a hint at the theory of harmonic inversion; and a detailed review of the physical nature of sound."—New Grove, Vol. 5, p. 387.

The translation is by William Brouncker, 2nd Viscount Brouncker (1620-84), of Castle Lyons in Ireland. Brouncker was educated at Oxford, and from an early age showed a flair for mathematics, particularly an ability to solve problems set by others. This book is his only publication. The second half, with its own title-page, contains Brouncker's "animadversions," including an unsuccessful

mathematical attempt to divide the diapason into seventeen equal semitones. After the Restoration, Brouncker became the first president of the Royal Society. He was a close friend of both Samuel Pepys, who mentions him often in his diary, and John Evelyn.

Fine copy. One of the engraved illustrations depicts a lute (very slightly shaved at fore-edge and head). Several intelligent marginal notes in a contemporary hand (a little cropped).

"The Handsomest and Most Elaborate Catalogue of a Private Library Yet Issued"—De Ricci With a Letter from Dibdin to the Binder Herring

37. **DIBDIN, Thomas Frognall**. *Bibliotheca Spenceriana; or a Descriptive Catalogue of the Books printed in the Fifteenth Century, and of Many Valuable First Editions, in the Library of George John Earl Spencer... 22 engraved plates on 23 leaves plus 4 engraved plates (see below), some printing in red, & facsimiles in the text. Four vols. Large 8vo, cont. calf (occasional spotting), double gilt fillet round sides, wide decorative gilt inner border, central panel with blind diamond design, suede doublures & endpapers, a.e.g. London: Printed for the Author, 1814-15. \$2950.00*

First edition and a very handsome set, in very handsome contemporary matching bindings, describing the library of Lord Spencer, "the finest private collection of books in Europe."—De Ricci, p. 76-(& see pp. 72-77 for a description of the formation of this library).

Laid-in to this copy is a letter from Dibdin to the binder Herring of Leicester, dated 6 September 1815 (the letter has a hole in it obscuring two words).

This copy has an extra four plates bound in Vol. IV; they are facsimiles of woodcuts of books described in the catalogue.

Very fine set. Bookplate of John William Pease and Lord Wardington.

Jackson 36.

Large Paper & Extra-Illustrated

38. DIBDIN, Thomas Frognall. *The Library Companion; or, the Young Man's Guide, and the Old Man's Comfort, in the Choice of a Library*. 165 inserted engraved plates, views, & ports. (some inlaid, two in color). Two vols. Thick 8vo, later brown morocco by Morrell, double gilt fillet round sides, spines gilt (a little faded), t.e.g., others uncut. London: Printed for

Harding, Triphook, & Lepard, 1825.

\$4000.00

Second edition, large paper set, and richly extra-illustrated, with the insertion of numerous engravings.

Handsome set. Bookplate of Lord Wardington.

≥ Jackson 64.

Forests

39. DUHAMEL DU MONCEAU, Henri Louis. Des Semis et Plantations des Arbres, et de leur Culture; ou Méthodes pour multiplier et élever les Arbres, les planter en Massifs & en Avenues; former les Forêts & les Bois; les entretenir, & rétablir ceux qui sont dégradés: faisant partie du Traité complet des Bois & des Forêts. Seventeen folding engraved plates & engraved vignettes. 2 p.l., lxxx, 383, 27, 10 pp. Large 4to, cont. marbled calf (corners a little worn, upper joint with short crack at foot), triple gilt fillet round sides, spine nicely gilt, a.e.g., red morocco lettering piece on spine. Paris: H.L. Guerin & L.F. Delatour, 1760.

First edition and an attractive copy, complete with the two *Additions*. Duhamel (1700-82), French polymath, made notable contributions in agronomy, chemistry, botany, and naval technology. His major interest and contribution to technology and society was in agriculture. Duhamel "adapted Tull's system to France based on his own wide reading in French agronomy and on original experiments."—*D.S.B.*, IV, p. 224.

One of Duhamel's main interests was the cultivation and use of timber; this is one of his chief books on the subject. "The sections of the book discuss the soil, the climate, and the choice of trees; their propagation; nursery gardens; planting; forests; and maintenance and re-afforestation, with all instructions based firmly on the author's long experience of forestry."—Raphael, An Oak Spring Sylva, 34.

The attractive plates depict methods of grafting, agricultural implements, etc. Fine copy. 19th-century bookplate of F. Allard.

Stafleu & Cowan 1545.

Three Rare Electrical Works with References to Franklin

40. FELBIGER, Johann Ignaz. Die Kunst Thürme oder andere Gebäude vor den schädlichen Wirkungen des Blitzes durch Ableitungen zu bewahren, angebracht an dem Thurm der Saganischen Stifts- und Pfarrkirche. One large

folding engraved plate. 110, [2] pp. 8vo, cont. half-pigskin & paste-paper boards (light foxing). Breslau: J.F. Korn, 1771.

[bound with]:

—. Wie weit gewähren wohl Gewitterableiter Sicherheit für umstehende Gebäude? Aus Erfahrungen und darauf sich beziehenden Schlüssen beantwortet. Two folding engraved plates on one sheet. 38 pp. 8vo. Pressburg: Schauff, 1786.

[bound with]:

WEBER, Joseph. Neue elektrische Versuche. 24 pp. 8vo (some foxing). Salzburg: im Verlage der Hochfürstl. Akad. Waisenhausbuchhandlung, 1786. \$2950.00

First editions and an attractive sammelband of three rare electrical works.

I & II. Felbiger (1724-88), a German educational reformer, pedagogical writer, and canon regular of the Order of St. Augustine, became abbot of the monastery of Sagan in 1758. Noting the sad condition of the local Catholic schools, he strove to remedy the evil by publishing his first school-ordinance in 1761, which soon attracted the attention of Catholics and Protestants alike.

In addition to his education reforms, Felbiger was an early and ardent advocate of constructing lightning rods on public and church buildings to prevent fires. There are numerous references to Franklin. The attractive plates depict the proper placement of lightning rods in the church buildings of Sagan and Pressburg.

III. Weber (1753-1837), is one of the most interesting and appealing of the second rank scientists of the late 18th and early 19th centuries. A Catholic priest who studied with the Jesuits at Augsburg, he was appointed professor of physics and philosophy at the University of Dillingen and later became professor of physics and chemistry at the University of Ingolstadt. Weber was the inventor of an important linen electrophorous and wrote a series of books which described his own investigations in physics, chemistry, and electricity.

The present work describes his most recent electrical researches. Fine copies.

- Ronalds Cat. pp. 170 (I), 171 (II, but erroneously giving the date as 1787), & p. 536 (III).
- **41. FLEURET**, —. L'Art de composer des Pierres factices aussi dures que le Caillou, et Recherches sur la manière de bâtir des Anciens, sur la préparation, l'emploi et les causes du durcissement de leurs mortiers. 32 folding or doublepage engraved plates. 2 p.l., 298 pp. Large 4to, cont. marbled sheep (head

of spine with one small defect), flat spine gilt, contrasting leather lettering piece on spine. Pont-a-Mousson: chez l'Auteur, 1807.

\$2500.00

First edition. Fleuret (ca. 1755-1817), "professor of architecture at the École Royale Militaire in Paris, took up with enthusiasm de La Faye's researches into ancient construction techniques and particularly the making of artificial stone or concrete. He went so far as to set up his own manufactory at Pont-a-Mousson, where he poured in and rammed the ingredients into moulds, considering La Faye's method of slaking lime by immersion as a crucial factor for the mortar. In his book he discusses his studies of historic buildings before going on to demonstrate some of his concrete products, which include pipes, pumps, ornamental basins, terraces, tiles and stuccoed panels, and mosaic pavements made with coloured mortars to imitate marble. He also shows the machinery used to make up the material. He seems to have had some success but also some major failures since he failed to realise the difference between ordinary and hydraulic limes. However, as a whole the work forms an interesting episode in the history of building construction."—Elton Engineering Books, *Cat. 6*, 211.

Very fine and handsome copy.

"Popular in its Day"-Taylor

42. FORMEY, Jean Henri Samuel. *Conseils pour former une Bibliotheque peu nombreuse, mais Choisie*... Avec une Notice des Ouvrages de l'Auteur. Engraved vignette on title. 5 p.l., xxvi, 122 pp., 1 leaf of errata. 8vo, later 18th cent. marbled boards, uncut. Berlin: Haude & Spener, 1755.

\$750.00

"Troisième Edition, corrigée et augmentée." This is a fairly early example of a catalogue of "best books" and it was quite popular during its day. Taylor, in his *Book Catalogues* (p. 148), cites this and other early examples including those of Dibdin, Morhof (commenting on La Mothe le Vayer's list of one hundred titles for a prince's library), and Mabillon.

The author provides evaluations of the best texts and editions of philosophy, *belles-lettres*, history, novels, eloquence, military and mathematical sciences, geography and voyages, law, and medicine.

Nice copy.

- Petzholdt, p. 32.
- **43. FRISI, Paolo**. Instituzioni di Meccanica, d'Idrostatica, d'Idrometria e dell' Architettura Statica, e Idraulica ad Uso della Regia Scuola eretta in Milano

per gli Architetti, e per gl'Ingegneri. Seven folding engraved plates. 1 p.l., [6], 447, [1] pp. Large 4to, cont. speckled calf (carefully rebacked, title somewhat foxed with two small holes in blank portions of title), new spine nicely gilt to match, orig. red morocco lettering piece on spine. Milan: G. Galeazzi, 1777. \$1250.00

First edition of this notable textbook on hydraulics, the regulation of rivers, and the construction of canals. Frisi (1728-84), was an ardent admirer of Newton and wrote important works on mathematics, physics, astronomy, and hydraulics. An editor of *Il Caffè*, a newspaper that was influenced by the thought of the French Illuminati, Frisi exerted a notable effect on the cultural, social, and political life of Milan in the later part of the 18th century. He laid out the canal which was finally built in 1819 between Milan and Pavia.

"Divided into eight books, this work discusses mechanics, hydrostatics, hydrometrics, architectural statics, and hydraulics."–Roberts & Trent, *Bibliotheca Mechanica*, p. 122.

Very good copy. Bookplate of George Rennie (1791-1866), a member of the famous family of engineers. Bookplate of the Franklin Institute Library (with their stamp on verso of title). Ex Bibliotheca Mechanica.

№ D.S.B., V, p. 195. Riccardi, I, 488-89-"Bella ediz.".

From the Library of Prince Ernest, Duke of Cumberland & the Subsequent Kings of Hanover "Sumptuously Printed" & "Very Rare"

44. (GEORGE III). *Bibliothecae Regiae Catalogus*. [Compiled by Frederick Augusta Barnard]. Mezzotint frontis. port. of George III (a little foxed), arms on each title, & two engraved views of the library serving as head- & tailpieces. Five vols. Large folio, cont. red straight-grained morocco (minor scuffing), panelled & tooled in gilt with centerpiece stamped monogram "GR" surmounted by a crown on covers, spines gilt, dentelles gilt, a.e.g. London: W. Bulmer & W. Nicol, 1820-29.

\$47,500.00

The catalogue, "sumptuously printed" by Bulmer, of the magnificent library of King George III (1738-1820), donated to the nation by his son, George IV. This is a royal copy, having belonged to Ernest Augustus, Duke of Cumberland and the fifth son of George III, who became King of Hanover in 1837. It is superbly bound in red straight-grained morocco and printed on paper superior to other sets.

"The kings of England had, from the end of the fifteenth century, always shown a certain taste for fine books, especially for the handsomer volumes of their own day...A new library was started in 1765 by King George III, when he purchased for £10,000 the valuable collection of incunabula (with a few manuscripts) brought together by Joseph Smith (1682-1770), the British Consul at Venice...

"George III continued adding to his library for nearly fifty years, buying with considerable discrimination at all the notable sales of the period; he secured the best books at the West, Ratcliffe and Askew auctions, built up a magnificent collection of English plays, and kept on right up to the Roxburghe sale (1812). His usual agents were Messrs Nicol, the booksellers, but he seems to have obtained from the Continent some extremely valuable incunabula by the assistance of one Horn of Ratisbon, a great despoiler of the German convents...

"There is a sumptuously printed but hastily compiled catalogue of which copies are seldom met with."—De Ricci, pp. 55-56.

"As a boy George III had received an excellent education. He learned Latin well enough to be able to read the classics; French and German; history, geography, and the British political system; mathematics and elementary science; art, architecture, and music. After he left the schoolroom he continued his education under the Earl of Bute, an inspiring if somewhat pedantic tutor... Under his tuition the King developed wide cultural interests, a reverence for scholarship, and the instinct of a collector...

"The King's aim was...to acquire a library which contained every book which an eighteenth-century scholar could desire. It was a library to be used, not simply to be admired...It was, as far as it could be in the eighteenth century, a universal library...It is rich in library catalogues. In addition to the catalogues of British libraries, there are catalogues from France, Italy, Spain, Portugal, Germany, Belgium, Switzerland, Sweden, Poland, and Russia. There are over five hundred sale catalogues, most British and most with the prices marked...

"It was the King's wish that a catalogue should be published, but he postponed this as long as possible. When it became clear after 1812 that the King would never recover, Queen Charlotte and the Prince Regent urged the preparation of a catalogue. It was compiled by Barnard and published between 1820 and 1829 in five folio volumes...It was never offered for sale but copies were presented to heads of state and the great libraries in the United Kingdom and on the Continent. It is today an extremely rare book."—John Brooke, "The Library of King George III" in *The Yale University Library Gazette*, Vol. 52, No. 1 (July 1977), pp. 33-45.

"Frederick Barnard had begun the catalogue of the books and manuscripts of the King's Library while it was at Buckingham House. The catalogue was completed...by Barnard and his staff for the Trustees of the British Museum and printed in five volumes between 1820 and 1829...Very few copies were printed, none for sale, and they are now very rare."—Paintin, *The King's Library*, p. 22.

This copy lacks the engraved frontispiece portrait of Bernard. A sixth volume, issued separately in 1829 and not present here, describes the maps, prints, and drawings.

A magnificent set. From the library of Prince Ernest Augustus, Duke of Cumberland, and the subsequent Kings of Hanover.

Miller, *That Noble Cabinet*, p. 125—"one of the finest libraries ever created by one man... By the time of the King's death the collection amounted to 65,250 volumes, besides 19,000 unbound tracts."

A Well Preserved Copy

45. GESNER, Conrad. Epitome Bibliothecae...nunc denuo recognita & plus quam bis mille authorum accessione (qui omnes asterisco signati sunt) locupletata: per Josiam Simlerum... Woodcut printer's device on title. 6 p.l., 184, [14] leaves (the last a blank). Folio, cont. richly blind-stamped pigskin-backed boards, boards covered with reused vellum leaves of an incunable printed in red & black (first four leaves with some fairly inoffensive marginal dampstaining, some unimportant worming), 3 (of 6) orig. ties. Zurich: C. Froschauer, 1555.

First edition, and a lovely copy of Josias Simler's scarce authorized abridgement, with his own additions, of Gesner's *Bibliotheca*, one of the epochal works in the annals of bibliography. Simler (1530-76), one of Gesner's friends and his first biographer, was professor of theology at Zurich where he also taught mathematics and astronomy.

This copy bears the signature "Casp. Melissander 1566. Januarii. Lauingae" on the front paste-down. This was Caspar Melissander Bienemann (1540-91), the evangelical theologian who studied at Jena and Tübingen where he learned Greek. Because of this skill, he accompanied Kaiser Maximilian II on his legation to Greece where Bienemann adopted the name "Melissander." Upon his return, he served in various academic and political posts. He is best remembered today for his hymns, several of which were used by Bach.

Bound after the Gesner is a copy of the first edition of Johann Funck's *Chronologia* (Nuremberg: 1545). The final twenty leaves have some dampstaining and the worming is more serious.

Fine copies in original state.

№ Wellisch A 16.3a. Bienemann: *A.D.B.*, II, p. 626. Jöcher, III, cols 399-400.

Surveying

46. GINET, **N**. *Manuel de l'Arpenteur*. 21 folding engraved plates. xii, [13]-354, [2] pp. & a 4-page publisher's catalogue at end. 8vo, cont. cat's paw calf, spine nicely gilt. Paris: C.A. Jombert, 1770.

[bound with]:

—. Supplément au Manuel de l'Arpenteur. Ten engraved plates (8 are folding). viii, 143 pp.; 252, [4] pp. Two parts in one vol. 8vo, cont. mottled calf, spine nicely gilt. Paris: Brunet, 1775. \$2950.00

First edition of this rare work on land surveying which was one of the standard books of its time on the subject. Ginet, "Arpenteur royal en la Maîtrise des Eaux & Forêts de Paris & Isle-de-France," describes the various methods of surveying and preparing maps and has provided a very valuable dictionary of terms used in surveying (pp. 284-322 in Vol. I), and numerous tables. The second part of Vol. II is devoted to the construction and use of a four-legged compass of proportion.

A fine but slightly unmatched set.

* François de Dainville, "Enseignement des 'Géographes' et des 'Géomètres'," in Enseignement et diffusion des sciences en France au dix-huitième siècle (René Taton, ed.), pp. 490-91.

The First German Textbook of Chemistry Based on the Antiphlogistic System

47. GIRTANNER, Christoph. *Anfangsgründe der antiphlogistischen Chemie*. Finely engraved frontis. port. of the author in Vol. I. 4 p.l. (incl. frontis.), 335 pp.; 3 p.l., 352 pp. Two vols. 8vo, slightly later green cloth (spines faded), blue leather lettering pieces on spines. Vienna: Ghelen, 1801.

Third edition, "verbesserte und stark vermehrte," of the first German textbook of chemistry based on the antiphlogistic system. This is the Vienna issue; there is another issue published in the same year in Berlin.

Girtanner (1760-1800), a native of Switzerland, practiced medicine at Göttingen. He had lived in Paris for some time where he got acquainted with the leaders of the new chemistry. In 1791, he published a German translation of the new chemical nomenclature and in 1792 he published the first edition of the present work which for the first time gave a detailed exposition of Lavoisier's system to the German public. In this edition, he frequently refers to objections made by J.B. Richter, who had been converted to Lavoisier's theory after reading Girtanner's book but had raised some pertinent questions. In the preface Girtanner eulogizes Lavoisier whose death had occurred after the publication of the first edition.

Nice set. Two library stamps on titles. Half-title probably lacking in Vol. II.

▶ D.S.B., V, p. 411. Partington, III, pp. 589-90. See Cole 525.

The Yemeniz — Guaita Copy

48. GRAMONT, Scipion de, Sieur de Saint-Germain. *De La Nature, Qualitez et Prerogatives Admirables du Poinct. Où se voyent plusieurs belles & subtiles curiositez*. 4 p.l., 125, [2] pp. Small 8vo, 19th cent. calf by H. Duru (neatly rebacked), triple gilt fillets round sides, spine gilt, dentelles gilt, a.e.g. Paris: M. Daniel, 1619. \$4750.00

First edition of this extremely rare work in which Gramont considers some of the basic elements of Euclidean geometry: what is a point?; is a point real or imaginary?; is a line made up of points?; how many points are in a line?; the nature of atoms; etc. There are many references to Euclid, Aristotle, Pythagoras, Lucretius, and others.

Gramont (d. ca. 1638), born in Provence, was secretary of the cabinet of Louis XIII, organizer of ballets for the King, and was closely allied with Richelieu. A noted poet, philosopher, and devoted traveler, he spent many years of his life in Italy.

A fine copy. With the bookplates of Yemeniz (sale: 1867, lot 683) and Stanislas de Guaita, with his collation note dated 1 April 1896.

- **№** Brunet, II, 1696–"Ouvrage de géométrie." Caillet 4698. Pintard, *Le Libertinage Érudit dans la première du XVII*° siècle, pp. 225-31.
- **49. GREN, Friedrich Albrecht Carl**. *Systematisches Handbuch der gesammten Chemie.*..durchgesehen und umgearbeitet von Martin Heinrich Klaproth. xviii, [10], 590 pp.; viii, 638 pp.; viii, 859, [1] pp. Three vols. 8vo, cont. boards, orange & blue leather lettering pieces on spines. Halle: im Verlage der Waisenhaus-Buchhandlung, 1806-06-07.

\$1950.00

Third edition (1st ed.: 1787) of Gren's large systematic textbook of chemistry. This is the first edition to have been completely revised by Klaproth (1743-1817), professor of chemistry at the University of Berlin, who discovered or co-discovered zirconium, uranium, titanium, strontium, chromium, mellitic acid, and cerium.

Gren (1760-98), founder of the *Journal der Physik*, Germany's most exciting scientific journal, slowly adopted Lavoisier's theories, which helped prepare the way for the ultimate acceptance of the Frenchman's ideas in Germany.

It is interesting to note that in 1793 Klaproth, along with Hermbstädt, had discredited Gren and other phlogistonists who had denied the accuracy of Lavoisier's account of his famous experiment in which he reduced mercuric oxide. This did not prevent Klaproth from revising this, one of Gren's most important textbooks.

Nice set.

№ D.S.B., V, pp. 531-33. Partington, III, pp. 575-77–"Gren's text-books are clear

and comprehensive and give extracts from original sources."

The Foundation of the Mathematical Theory of Crystal Structure

50. HAÜY, Rene-Just. Essai d'une Théorie sur la Structure des Crystaux, appliquée a plusieurs Genres de Substances crystallisées... Eight folding engraved plates. 4 p.l., 236 pp. 8vo, cont. sheep-backed paste-paper boards (spine rubbed, short cracks at head & foot of upper joint), flat spine gilt, red morocco lettering piece on spine. Paris: Gogué & Née, 1784.

First edition of the book which "laid the foundation of the mathematical theory of crystal structure." –*D.S.B.*, VI, p. 178. It was due to this work that Haüy was able to properly classify minerals. Haüy held that the characteristic form of the constituent molecule of a compound is due to the forms, the definite proportions, and the definite arrangement of the constituent elementary particles. That is, before Proust, Haüy proposed *a priori* the chemical law of fixed proportions. These concepts enabled Haüy to unite in one species minerals hitherto considered different, such as beryl and emerald, and to divide groups that had been considered varieties of the same species, such as zeolites.

Very good copy.

- Dibner, Heralds of Science, 92. En Français dans le Texte 176. Horblit 47.
- **51. HELLWIG, Christoph von**. *Neu eingerichtetes Lexicon Medico-Chymicum, oder Chymisches Lexicon, Worinnen Nicht alleine die Nahmen der nöthigsten Laborum Chymicorum, sondern auch die gebräuchlichsten Vasa, Oefen, Instrumenta, &c. benennet.* Engraved allegorical frontis. Title printed in red & black. 4 p.l. (incl. frontis.), 488 pp. 8vo, cont. fine vellum over boards (some browning throughout, date at foot of title partly cropped). Frankfurt & Leipzig: J.C. Stössel, 1711.

First edition and very rare. Hellwig (1663-1721), went to Jena in 1681 where he made great progress in medicine as a student. After extensive travels with his brother Johann Otto, Christoph practiced at Weissensee, Franckenhausen, and, finally, at Tennstädt in Thuringia, where he became town physician. Hellwig wrote over thirty books on pharmacy, chemistry, medicine, surgery, physics, etc. He used several pseudonyms for some of his books including Valentin Kräutermann.

This is Hellwig's detailed dictionary of chemical and pharmacological terms

as used in medicine. It is a comprehensive work in which all chemical processes are defined and described, including distillation, methods and recipes for making drugs of all kinds, etc.

Very fine copy.

- № Ferchl, p. 223. Ferguson, I, pp. 374-77–(2nd ed. of 1718 only in the Young collection). Poggendorff, I, 1058.
- **52. HERMBSTAEDT, Sigismund Friedrich.** *Grundsätze der experimentellen Kammeral- und agronomischen Chemie; so wie der Forst- und Landwirthschaftlichen Gewerbe für Kammeralisten, Agronomen, Forstbediente und Technologen.* xxvii, 593, [2] pp. 8vo, cont. speckled boards (minor wear), flat spine gilt, red leather lettering piece on spine. Berlin: Realschulbuchhandlung, 1817.

Second edition, "durchaus verbesserte Auflage" (1st ed.: 1808). Hermbstädt (1760-1833), the first chemist in Germany to adopt Lavoisier's views, was professor of technological chemistry at the University of Berlin. His numerous writings in this field proved to be very influential in the development of industry in Prussia.

In the present work there are interesting and extensive sections on the manufacturing of ceramics, glass, tobacco, porcelains, beer and wine, tiles, paper, textiles, dyeing, and steel, amongst much else.

Fine fresh copy.

№ D.S.B., XV, pp. 205-07. Partington, III, pp. 577-80. Poggendorff, I, 1082-83.

Soap Making

53. HERMBSTAEDT, Sigismund Friedrich. Chemische Grundsätze der Kunst alle Arten harte und weiche Seife zu fabriciren; oder Anleitung zur rationellen Kenntniss und Ausübung der Kunst Seife zu sieden, für denkende Seifensieder, um ihr Gewerbe gründlich kennen und ausüben zu lernen; so wie für Hauswirthinnen, die ihren Bedarf an Seife selbst anfertigen wollen. iv, [v]-xiv, 344 pp., one leaf of errata. 8vo, cont. marbled boards (corners a little worn). Berlin & Stettin: Nicolai, 1824.

Second edition, completely enlarged and improved (1st ed.: 1808). "The second and last edition of a 19th-century German handbook on making soap."—Ron, *Bibliotheca Tinctoria*, 519.

Very good copy and rare.

▶ Poggendorff, I, 1082-83.

Europe's Best Observatory

54. HEVELIUS, **Johannes**. *Machinae Coelestis Pars Prior*; *Organographiam, sive Instrumentorum Astronomicorum omnium, quibus Auctor hactenus Sidera rimatus, ac dimensus est.*.. Finely engraved frontis., engraved headpiece & initial, engraved coat-of-arms, & 30 engraved plates (several double-page). 7 p.l. (incl. frontis.), 464 pp. Folio, cont. vellum over boards (a little bowed). Danzig: "Auctoris Typis, & Sumptibus," 1673.

First edition, privately printed, of the description of Hevelius' observatory and catalogue of its instruments, at that time Europe's best observatory; it is the most lavish description of astronomical instruments ever published. The splendidly engraved plates depict various instruments.

"The extensive introduction to this splendid volume contains the author's autobiographical account of his scientific education. The balance of the work contains a detailed description of Hevelius's observatory, 'Stellaburgum,' and his astronomical instruments. The account is enhanced by thirty most exquisite plates depicting in painstaking detail the scientific apparatus assembled by Hevelius. Several plates show instruments that were still in planning stages. Essentially, the work was to demonstrate the accuracy of Hevelius's measurements and the high degree of mechanical perfection of his instruments against certain critics of the French astronomical school."—B.Y.U., *Johannes Hevelius* (1971), 12.

"Hevelius undoubtedly owed the success of his observations to his skill in designing, making, and engraving instruments: and the work [the present book] was of very great interest to his contemporaries."—D.S.B., VI, p. 362–(& see pp. 362-63 for a detailed description of the instruments).

This is today a rare book. In 1679, a fire destroyed Hevelius' house and observatory in Danzig; his instruments, the workshop for their manufacture, most of his books and papers, his printing press, and stock of his publications were destroyed. The second part of this work, published a few months prior to the fire, contained only observational data. Most copies of this second part were consumed by the fire.

Fine copy preserved in a box.

55. **HEYDEN (or HAIDEN), Sebald.** *De Arte Canendi, ac Vero Signorum in Cantibus Usu, Libri duo...Ab ipso authore recogniti, mutati & aucti.* Ca. 60 pages of typeset music. 6 p.l., 163 pp. Small 4to, attractive antique speckled half-calf & speckled boards (title dusty), spine gilt, red morocco lettering piece on spine. Nuremberg: J. Petreius, 1540. \$5500.00

First edition thus; a very substantially enlarged and revised version of the author's *Musicae, id est, Artis canendi*, published in Nuremberg in 1537. Heyden (1499-1561), writer, teacher, music theorist, and composer, after taking his degree at Ingolstadt, spent the rest of his life in his native city of Nuremberg.

"Heyden was recognized widely as a teacher, learned man, and musician, but he was most important for his contributions to music theory."—New Grove, Vol. 8, p. 28. This work deals with the art of musical composition. The earlier version of the text was notable for its many examples, drawn from the works of the best contemporary composers, such as Josquin, Obrecht, La Rue, Isaac, Brumel, and Ghiselin. This enlarged text adds many more musical examples, notably from Obrecht, Ghiselin, and Ludwig Senfl (c.1486-1543), who is described in the preface as the finest living German composer ("in musica totius Germaniae nunc principem"). Heyden's accomplishments as a composer are not clear, but some of the anonymous polyphonic examples here may be his.

There are more than sixty pages of typeset music.

A fine copy of a very scarce title.

The First Satisfactory Catalogue of Incunabula

56. UNIVERSITAET BIBLIOTHEK, **INGOLSTADT**. *Bibliothecae Academicae Ingolstadiensis Incunabula Typographica*...illustravit Sebastianus Seemiller. 4 p.l., 192 pp.; xvi, 174, [10] pp.; 2 p.l., 196 pp.; viii, 160, [21] pp. Four vols. in one. Large 4to, early 19th-cent. calf (rebacked, occasional foxing, light dampstaining in outer margins of early leaves of Vol. IV), spine gilt, red morocco lettering piece on spine. Ingolstadt: J.W. Krüll, 1787-88-89-92.

The rare and excellent catalogue of the incunabula at Ingolstadt in Bavaria, described by Buzas as the first satisfactory catalogue of incunabula ever issued. "Cet ouvrage, qui contient la description de plus de dix-sept cent éditions du quinzième siècle, est estimé et digne d'être consulté par tous les bibliographes. L'auteur donne une description très détaillée des volumes, et souvent indique sommairement ce qu'ils renferment."—Peignot, p. 270.

Seemiller (1752-98), was librarian of the University.

Fine copy. Bookplate of the Bibliotheca Lindesiana. From the library of Eric H.L. Sexton, the noted collector of incunabula.

🐿 Buzas, Deutsche Bibliotheksgeschichte der Neuzeit (1500-1800), p. 55.

57. JACQUIN, Joseph Franz, Freiherr von. *Grundzüge der allgemeinen und medicinischen Chemie*...redigirt von Dr. Ignaz Gruber. x, [2], 576 pp., [4] pp.; x, 602 pp., one leaf of errata. Two vols. 8vo, cont. half-sheep & marbled boards, flat spines attractively gilt, blue leather lettering pieces on spines. Vienna: Mörschner & Jasper, 1835-36. \$1950.00

First edition and rare; OCLC locates no copy in the U.S. Jacquin (1766-1839), son of the prominent chemist, metallurgist, and natural historian Nicolas Jacquin and nephew of Ingen-Housz, was professor of chemistry and botany at Vienna. This textbook, for which Jacquin's former student, Ignaz Gruber (1803-72), oversaw the publication, was an immediate success and became the official textbook on these subjects at the universities of Vienna and Prague for twelve years.

"Jacquin was credited by Lavoisier with having made a valuable contribution to the history of flame and combustion."—Duveen, p. 307. He wrote several other classic textbooks of chemistry.

Fine and handsome set.

Hirsch, III, p. 401 (Jacquin) & II, pp. 870-71 (Gruber). Poggendorff, I, 1185-86.

58. JUGEL, Johann Gottfried. *Philosophische Unterredung Zwischen dem Fliegenden Mercurium und einem gemeinen Schmeltzer...worinnen gantz vollkommen und gründliche gezeiget und gewiesen wird, das...Röst- und Schmeltz-Wesen*. Engraved frontis. Title printed in red & black. 4 p.l. (incl. frontis.), [9]-254 pp. 8vo, cont. marbled semi-stiff wrappers (first 16 leaves with fore-edges very slightly gnawed, not touching text; paper on spine somewhat torn & defective). Berlin: J.A. Rüdiger, 1743. \$2750.00

First edition of a very uncommon book on metallurgy and assaying in the form of a dialogue between "Mercurius" and "Schmeltzer." Jugel (1707-86), director of the mining activities in Prussia, was, according to the *A.D.B.*, highly esteemed for his knowledge of the world of science and nature, especially chemistry, mineralogy, mining, and iron making. He was a prolific author, writing on scientific subjects as well as alchemy.

This work is devoted to metallurgical processes including smelting and assaying of various ores and metals (especially gold and silver). Jugel gives in this work a history of mining and metallurgy as practiced in Germany.

The attractive frontispiece depicts several mining sites and a smelting factory. Very good copy.

& A.D.B., 14, pp. 658-59. Duveen, p. 312. Ferguson, I, p. 442. Schuh, Mineralogy & Crystallography: A Biobibliography, 1469 to 1920, 2530–"Rare. On smelting and metallurgy."

59. KIESSLING, Johann Gottfried. *Relatio Practica de Arte Probatoria Mineralium & Metallorum. Das ist: Gründliche Erzehlung, wie alle und jede Mineralia auf gewisse Metalle...* Engraved frontis. 4 p.l. (incl. frontis.), 279 pp. Small 8vo, cont. marbled semi-stiff boards (some light browning throughout). Leipzig: M. Blochberger, 1741. \$3950.00

First edition and rare. Kiessling, a resident of Freiberg, wrote several other works on mining and metallurgy. "A rare and important book on the analysis of minerals and metals, the second edition of which appeared eleven years later (Leipzig, 1752). Ferguson describes this as 'a genuine book on assaying [that] gives a good idea of the processes and reagents of the time. In the first edition symbols and characters are used.' Quantitative analytical data on ores and minerals are given, and chemical reagents and techniques are described."—Neville, I, p. 721.

The attractive frontispiece depicts an assaying laboratory.

Very fine copy.

- ☼ Cole 713—"The author presents a practical text on assaying." Ferguson, I, p. 466. Hoover 478.
- 60. KIESSLING, Johann Gottfried. Relatio Theoretica uti ex Cere Metalla excoquantur Modo Freibergensi, oder Kurtze jedoch gründliche Erzehlung, Wie bey Freyberg in Meissen die Mineralia und Ertzte untersuchet, Silber, Bley und Kupffer heraus geschmoltzen und zu gute gemachet werden... 4 p.l., 102 pp. 8vo, cont. marbled semi-stiff boards (occasional light foxing). Dresden & Leipzig: G.C. Walther, 1741.

First edition of this very rare work on the theory of assaying and refining of ores, with much on the processes and reagents of the time; it is a companion piece to the author's *Relatio Practica* published in the same year.

Fine copy.

- Ferchl, p. 272-(not listing this work).
- 61. KIESSLING, Johann Gottfried. Gegründete Nachricht von dem Bergbau und Schmelzwesen in der Graffschaft Mannssfeld...Benebst einer Erzählung von Muthmassungen auf Bergwerk, der Wünschel-Ruthe, Kuxhändlern; auch des Berg- und Schmelzwesens in Thüringen... 6 p.l., 132 pp. 4to, cont. marbled semi-stiff boards. Leipzig: F. Lankisch, 1747.

\$3500.00

First edition of this very uncommon work which gives a detailed description of the mining and smelting activities in Mannsfeld and Thuringia. The author

provides excellent accounts of the various mining and refining sites, their methods of operation, products, etc.

Fine copy.

Hoover 477.

A Rare Assaying Book

62. KURZE UND DEUTLICHE VORSTELLUNG *der Edlen Probier-Kunst, Was eigentlich dieselbe sey, worinnen sie bestehe, was vor Instrumenten darzu erfordert werden, wie man zu der rechten Erkänntnuss aller Mineralien und Metallischen Ertzen zu gelangen…Nebst einem ausführlichen Bericht, von Salpeter sieden, und Erklärung aller Chymischen Wörter und Zeichen.* Engraved frontis. depicting an assayer in his laboratory. Title printed in red & black. 12 p.l., 523 pp. Thickish 12mo, cont. marbled semi-stiff boards. Nuremberg: J.F. Rüdiger, 1718.

Second edition of "this treatise on the assaying of metallic ores. It gives an account of the reagents, apparatus, furnaces, precautions, list of technical terms, and methods for analysing ores in the dry way."—Ferguson, I, p. 487–(our edition).

Fine copy and very rare. There is no copy of the first edition of 1695 listed in N.U.C.

№ Darmstaedter, *Berg-, Probir- und Kunstbüchlein,* p. 102 & Ferchl, pp. 425-26–(both 1695 ed.). Schuh, *Mineralogy & Crystallography: A Biobibliography,* 1469 to 1920, 3987.

Pioneer Work in the Technology of Flight

63. LANA TERZI, Francesco. *Prodromo overo saggio di alcune inventioni nuove premesso all'Arte Maestra...* Twenty engraved plates. 4 p.l., 252 pp. Folio, cont. Italian vellum over boards. Brescia: Rizzardi, 1670.

\$15,000.00

First edition and a very clean, large, and crisp copy. "In this volume is presented the earliest concept of flight based on aerostatic principles. Lana calculated that if the air were exhausted from a large sphere of thin copper, its weight would be less than the surrounding air and it would be buoyed up; four such spheres could raise a vessel which could be maneuvered by sail. This fitted into the scientific thought of the period following the invention of the air-pump."—Dibner, *Heralds of Science*, 176. Plate two illustrates a ship held up by four large vacuous spheres of thin copper; this is one of the earliest depictions

of an aerial ship.

This work also contains descriptions of hygrometers, microscopes, telescopes, hydraulics pumps, laws of optics, lens-making techniques, chemical experiments, clocks, etc. Pages 135-68 contain accounts of methods of making colors for artists.

Lana (1631-87), a Jesuit and an associate of Kircher, was professor of physics at Brescia.

Fine copy. Bookplate of William G. Gerhard, the collector of aeronautical materials.

Ashworth, Jesuit Science in the Age of Galileo, 41. Baillie, Clocks and Watches. An Historical Bibliography, pp. 81-82. Partington, II, pp. 333-34. Wheeler Gift Cat. 166.

The Mathematics of Music

64. [LEFÈVRE D'ÉTAPLES, Jacques] (or Jacobus Faber Stapulensis). *Musica libris quatuor demonstrata*. Printer's device on title and many tables & woodcut diagrams in the text. 44 numbered leaves. Small 4to, attractive speckled half-calf & speckled boards, spine gilt, red morocco lettering piece on spine. Paris: G. Cavellat, 1552. \$4950.00

First separate edition; first published in 1496 as part of a larger work, and several times reprinted in that form, including once by Estienne in 1514. This is study of the mathematical theory of music, by the great French humanist, theologian, and commentator on Aristotle, Lefèvre d'Étaples (ca. 1455-1537). "He went no further than Boethius, but he made clearer divisions and gave a full commentary to each principle. Unlike Boethius, he succeeded in showing that the small semitone is larger than three Pythagorean commas and smaller than four, using calculations of 33 digits...Faber was more concerned with the mathematical laws of music than with performing skills. Many music theorists of the 16th century to the 18th either referred to Faber or quoted him."—New Grove, Vol. 6, p. 345.

Fine condition.

65. LEMERY, Nicolas. *Corso di Chimica...ch'insegna il modo di fare l'Operationi, che sono usuali nella Medicina con Metodo facilissimo, et Ragionamenti sopra ciascuna Operatione...* Tradotto dal Francese da Nathan Lacy...aggiontovi nel fine li Segreti Reconditi ò vero Manipolazioni, ò siano Chimiche Invenzioni, di Pietro Poterio... Several woodcuts in the second part. 8 p.l., 588, [18] pp.; 40 pp. Two parts in one vol. Thick 12mo, late 18th-cent. mottled sheep-backed paste-paper boards (occasional light

browning), flat spine gilt, red leather lettering piece on spine. Bologna: G. Borzaghi, 1700. \$1500.00

"Possibly the fourth Italian edition again with N. Lacy as the translator."—Cole 812—(defective copy). Lemery (1645-1715), was one of the most influential chemists of his time. He gave lectures in Paris known for being clear and simple on the principles of chemistry. The present work is the textbook of his course of lectures. Lemery's textbook enjoyed unprecedented success and went through many editions in French, English, Italian, German, Spanish, Dutch, Latin, etc.

Bound-in at the end is Potier's *Arcana* which was issued with Lemery's text. Very good copy of a rare book. Early bookplate of Piet. Cescutti.

A Comprehensive Introduction to Mineralogy; A Companion Work to his "Mustertafeln"

66. LENZ, Johann Georg. *Versuch einer vollständigen Anleitung zur Kenntniss der Mineralien*. 13 p.l., 640, [20] pp.; 6 p.l., 420, [13] pp. Two vols. 8vo, cont. half-sheep & paste-paper boards (corners a bit worn, covers a little rubbed), tan & blue vellum lettering pieces on spines. Leipzig: S.L. Crusius, 1794.

First edition and a very uncommon book. Lenz (1748-1832), professor of mineralogy at the University of Jena and inspector of the mineral cabinet of Duke Carl August of Saxe-Weimar (his cabinet was the basis for the present book), wrote a long series of books on mineralogy. Lenz was influenced by the theories of Werner regarding the chemical classification of minerals and the identification of minerals through their external characteristics. He was a founding member of the *Societät für die gesammte Mineralogie zu Jena*, the first scientific society to be devoted exclusively to mineralogy.

This is a textbook covering all aspects of mineralogy; it was one of the most complete introductions to the subject of the time. "Rare. This is the descriptive work referred to in Lenz's very rare "Mustertafeln" (Jena, 1794). The individual illustrations of the Mustertafeln are correspondingly numbered to descriptions in Lenz's "Versuch einer vollständigen Anleitungen". In this work volume one (1794) describes the earths, stones, salts, organic minerals and petrifications. Volume 2 (1795 [but ours is dated 1794]) covers the metals and petrology. Contents: 1. Erd– und Steinarten, Salze, ölige mineralische Körper und Versteinerungen; 2. Metalle und Gebirgsarten."–Schuh, Mineralogy & Crystallography: A Biobibliography, 1469 to 1920, 2965.

Fine set. Contemporary signature on titles of Johann Christ. Flitner.

№ Poggendorff, I, 1423-24.

67. LEONHARD, Karl Cäsar von. *Bedeutung und Stand der Mineralogie*. 2 p.l., [3]-111, [1] pp. Large 4to, orig. printed wrappers (some foxing, mostly at beginning & end). Frankfurt am Main, J.C. Hermann, 1816.

\$1250.00

First edition of a scarce book. Leonhard (1779-1862), was professor of mineralogy at the University of Heidelberg. "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

"Very scarce. Reviews the current state of mineralogy and crystallography. The work covers all aspects of classification and physical and chemical properties, describing the current position, and what that knowledge means to science."—Schuh, *Mineralogy & Crystallography: A Biobibliography, 1469 to 1920,* 3000.

Very good copy in original state.

His Collected Writings

68. LICHTENBERG, Georg Christoph. Vermischte Schriften nach dessen Tode aus den hinterlassenen Papieren. Collected & edited by Ludwig Christian Lichtenberg & Friedrich Kries. Three engraved ports. (one of which serves as a frontis. in Vol. I), 14 engraved plates, & diagrams in the text. Nine vols. Small 8vo, cont. marbled boards (minor wear & foxing), flat spines gilt, black leather lettering pieces on spines. Göttingen: Dieterich, 1800-06.

First collected edition of the writings, including many texts printed for the first time, of Lichtenberg (1742-99), professor at the University of Göttingen and a member of the Royal Society of London; the first German university chair of experimental physics was established for him.

Lichtenberg "became the leading German expert in a number of scientific fields, including geodesy, geophysics, meteorology, astronomy, chemistry, statistics, and geometry, in addition to his foremost field and prime interest — experimental physics... Lichtenberg's insight into human nature, coupled with an elegant and lucid style, made him a leading literary figure and earned him a secure place in German literature."—D.S.B., VIII, p. 321-22—(& see the rest of the article for further information of this fascinating and influential man).

Nice and attractive set.

Malpighi's Collected Works

69. MALPIGHI, Marcello. *Opera Omnia.* Engraved allegorical frontis. in Vol. I & 123 engraved plates (including the 7 small ones). Titles printed in red & black with engraved arms of the Royal Society. 3 p.l., 15 pp., 2 leaves, 78 (i.e. 82], 1 leaf, 35 pp., 2 leaves, 72 pp.; 3 p.l., 44 pp., 2 leaves, 20 pp., 1 leaf, 144 pp. (several leaves misbound). Two vols. in one. Folio, cont. blindstamped with arabesque design & panelled vellum over boards (binding a little soiled, some browning and/or foxing as is usual with this book), spine gilt, red morocco lettering piece on spine. London: R. Scott, 1686.

[bound with]:

—. Opera Posthuma...quibus praefixa est eiusdem Vita. Engraved frontis. port. & 19 engraved plates. Title printed in red & black with engraved arms of the Royal Society. 1 p.l., 110, 187 pp. Folio (some occasional browning and/or foxing as is typical). London: A. & J. Churchill, 1697.

[bound with]:

—. De Structura Glandularum Conglobatarum Consimiliumque Partium, Epistola. 1 p.l., 10 pp. Folio. London: R. Chiswell, 1697. \$15,000.00

First editions and one of the grandest productions of the Royal Society; this handsome folio contains the collected works of Malpighi (1628-94), the founder of histology and the greatest of the microscopists; they are today very scarce on the market. The first title is the first complete edition of his collected works published during his lifetime; all three works are splendid examples of bookmaking.

Included here are Malpighi's great masterpieces on the anatomy of plants, the embryonic development of the chick (which makes him the founder of descriptive or iconographic embryology), the anatomy of the silkworm (the first monograph on an invertebrate), the discovery of the existence of capillaries (which completed the chain of the circulation of the blood postulated by Harvey), and his observations on the lungs (which overthrew the current conceptions of the pulmonary tissues demonstrating their true vesicular nature).

Malpighi's writings were first collected in Le Clerc and Manget's *Bibliotheca Anatomica* (Geneva: 1685), but without his *Anatome Plantarum* and *De Bombyce*. Also, "the two folio volumes of this London edition are far more handsomely printed, in much larger type, and the drawings are beautifully reproduced and widely spaced upon the plates" (Adelmann).

Very good copies. With the fine and large late 17th-century engraved armorial bookplate of Pierre de Chalud.

Adelmann, I, p. 509. Frati 2, 4, & 4bis. I. Garrison-Morton 66. Sparrow, *Milestones of Science*, 141.

The Rare First Collected Edition

70. MARIOTTE, Edmé. *Oeuvres...* Engraved vignette on each title & 26 engraved folding plates. Titles printed in red & black. 6 p.l., 320 pp.; 2 p.l., 321-701, [35] pp. Two vols. in one. Large 4to, cont. calf (rebacked with much of the orig. spine laid-down, corners repaired, a little dusty), red morocco lettering piece on spine. Leyden: P. vander Aa, 1717.

\$2500.00

First collected edition and very uncommon, containing "most of Mariotte's published papers, together with the previously unpublished *Traité du mouvement des pendules*, which Huygens possessed in manuscript form and had given to the University of Leyden."—Roberts & Trent, *Bibliotheca Mechanica*, pp. 217-18. Mariotte wrote on a great variety of subjects such as the motion of fluids, optics, meteorology, the fall of bodies, elasticity, percussion, plant physiology, and methodology. He discovered the "blind spot" in the eye and attacked Newton's color theory.

Mariotte (1620?-84), introduced experimental physics into France. Good copy. Ex Bibliotheca Mechanica.

"Highly Respected"

71. MARX, Carl Michael. *Geschichte der Crystallkunde*. Ten folding engraved plates (including VIb), one of which is hand-colored. [xiv], 313, [1] pp. 8vo, orig. boards (a little worn & soiled), blue leather lettering piece on spine. Karlsruhe & Baden: D. R. Marx, 1825. \$1500.00

First edition. "Very rare. A highly respected work that develops an understanding of concepts in what was then modern crystallography through historical perspective. As a result, the book covers the history of crystallography from ancient times to 1824. The development is told by describing the contributions of the individuals in chronological order. The text is divided into six sections, each representing a specific time period. The first covers the ancient Greek and Roman researches. The others span (2) Albertus Magnus to Robert Boyle, (3) Nicolaus Steno to Johann Henckel, (4) Carl Linné to Jean Baptiste Louis Romé de l'Isle, (5) René Just Haüy to Henry James Brooke, and (6) Abraham Gotthelf Kästner to Friedrich Mohs. The name index lists about 300 researches, whose contributions are described in the text. The plates illustrate various concepts brought forth in the discussion by reproducing recognizable figures from important crystallographic works."—Schuh, Mineralogy & Crystallography: A Biobibliography, 1469 to 1920, 3255.

Marx (1794-1864), was professor of physics and chemistry at the Collegium Carolinum in Braunschweig.

A facsimile reprint was issued in 1970.

Very good copy. Stamp of the British Refractories Research Association on

front and rear endpapers and bookplate of J.W. Mellor.

"The First Extensive Development of Photometrics"-Di Laura

72. MERSENNE, Marin. *L'Optique, et la Catoptrique...* Numerous woodcut diagrams in the text. 6 p.l., 134 pp. Folio, cont. sheep (a little rubbed), finely rebacked to match. Paris: the Widow of F. Langlois, 1651. \$15.000.00

First edition of one of Mersenne's rarer books, published posthumously. "His final contributions to optics, including experimental studies of visual acuity and binocular vision and a critical discussion of current hypotheses on the nature of light, appeared posthumously in *L'optique et la catoptrique* (1651)."—D.S.B., IX, p. 319.

In the present work, Mersenne "advanced the quantification of light considerably. The first, on optics, consists of propositions, each followed by demonstration and commentary. For photometrics, the most important are those describing photometric principles, those showing procedures for making measurement and comparison, and finally those dealing with quantification. Mersenne is the first to compare the power of light sources, and to quantify the effect of the obliquity of incidence...

"Mersenne's L'Optique et la Catoptrique contains the first extensive development of photometrics."—David Di Laura, "Introduction" in *Johann Heinrich Lambert Photometry* (2001), pp. lviii-lxv.

Fine fresh copy. Armorial bookplate of "Henry Godfrey Godfrey Faussett Osborne, Hartlip Place."

Still Very Useful

73. [MUSSET, Victor Donatien de]. Bibliographie Agronomique ou Dictionnaire Raisonné des Ouvrages sur l'Économie Rurale et Domestique et sur l'Art Vétérinaire; Suivie de Notices biographiques sur les Auteurs, et d'une Table alphabétique des différentes parties de l'Art agricole... 2 p.l., xxiv, 459 pp. 8vo, cont. marbled sheep (one corner a little worn, some foxing & browning), flat spine gilt, red morocco lettering piece on spine. Paris: D. Colas, 1810. \$1350.00

First edition of this comprehensive and valuable bibliography on agronomy, describing 2078 items. "Cette Bibliographie spéciale est la première de ce genre qui paroisse en France, et vraisemblablement l'une des meilleures qui veront le

jour sur le même objet...Ce n'est point un catalogue aride des ouvrages publieés sur l'agriculture; c'est un livre rempli de notices curieuses et très bien rédigées, qui donnent d'excellents détails, soit sur l'importance des ouvrages agronomiques, soit sur leur rareté, ou sur leur contenu; de sorte qu'il est également utile au cultivateur et au bibliographe."—Peignot, p. 8.

Good copy. Scarce. Armorial bookplate of Edouard de Laplane.

Besterman 204. Malclès, La Bibliographie, p. 79.

"The First Theoretical and Practical Book on Suspension Bridge Construction"—Peters

74. NAVIER, Claude Louis Marie Henri. Rapport à Monsieur Becquey, Conseiller d'État, Directeur général des Ponts et Chaussées et des Mines; et Mémoire sur les Ponts Suspendus. Woodcut royal arms on title & 13 fine folding engraved plates. xxiv, 228 pp. Large 4to, later blue half-calf & marbled boards, spine gilt. Paris: de l'Imprimerie Royale, 1823.

\$3500.00

First edition. "Navier's 'Rapport et Mémoire' made it possible from this very early period of suspension bridge development to determine both the forces and the most economic dimensions of principal members. The work was the first theoretical and practical treatise on such bridges, and its influence was immense and far-reaching. It went into use immediately and was soon translated into German and Italian; copies existed in America, one of which was owned by Roebling. Within this remarkable and unprecedented book, Navier sets out to analyse the structural behaviour, tackling the problems inherent in such bridges in a clear and scientific manner. Of particular interest at such a date are his investigations into the effect of wind and vibration, both responsible for many failures and neither fully understood until after 1940 and the Tacoma bridge collapse. He applies his theories to his design for the proposed Invalides bridge in Paris with a span of 170m and to a hypothetical suspension aqueduct of 97.5m span...

"The work stemmed from the visits he made to Britain to examine the bridges there on behalf of the Ponts et Chaussées, assessing the possibilities of this new structural form. In his report to Becquey he recommends its adoption, giving in the Mémoire that follows, precise plans and details of such notable examples as Brown's Berwick bridge and those of Marc Brunel on the Isle de Bourbon as well as describing Telford's Runcorn and Menai schemes. He also summarizes the experiments on wrought-iron chains carried out by Telford, Barlow, Brown and Brunel. The book as a whole is thus a brilliant synthesis of theory and practice."—Elton, *Cat. 4*, item 32.

"For fifty years, this report was one of the most important books covering the design of suspension bridges."—Timoshenko, *History of Strength of Materials*, p. 73.

Fine copy. Ex Bibliotheca Mechanica.

№ Peters, Guillaume Henri Dufour and the Early 19th Century Cable Suspension Bridges, p. 42—"the first theoretical and practical book on suspension bridge construction, giving precise plans and details, as well as the first widely used theoretical work on analytical statics." Poggendorff, II, 260-61. Roberts & Trent, Bibliotheca Mechanica, pp. 234-35.

The First Modern Scientific Periodical

75. NICHOLSON, William, ed. A Journal of Natural Philosophy, Chemistry, and the Arts: illustrated with Engravings. 114 engraved plates (some folding) & one folding printed table. Five vols. Large 4to, modern calf-backed cloth (occasional spotting or light foxing), spines gilt, green morocco lettering pieces on spines. London: G.G. & J. Robinson, 1797-1802.

First edition, a complete set of the first series, of the first modern scientific periodical, being a monthly publication containing original papers, translations of important foreign articles, notices of research, and a news section concerning discoveries, instruments, publications, and scientific meetings. These *Journal* volumes contain, *interalia*, two papers of outstanding importance: John Dalton's "New Theory of the Constitution of Mixed Aeriform Fluids," his first announcement of the theory of mixed gases, the foundation of his chemical atomic theory; and Nicholson and Anthony Carlisle's "Account of the New Electrical or Galvanic Apparatus of Sig. Alex. Volta, and Experiments performed with the Same," the foundation of electro-chemistry.

"In July 1800 Nicholson's *Journal* enjoyed its greatest coup, when it gave the first report of its proprietor's sensational electrolysis of water, in collaboration with Anthony Carlisle. The *Journal* immediately became the accepted vehicle and the powerful reinforcer of the resulting scientific fashion for electrolysis, a fashion which Humphry Davy effectively exploited in his own brilliant demonstration of the newly possible art of scientific careerism. Another illustration of the changes wrought by this fresh medium of scientific communication may be seen in the work of John Dalton. He used the monthly journal to engage critics of his theory of mixed gases and thereby was encouraged to persevere in the work which finally led to his chemical atomic theory."—D.S.B., X, p. 108.

The First Series contains contributions by Accum, Dalton, Davy, Kirwan, Nicholson, Priestley, Fourcroy, Chaptal, Venturi, Humboldt and many other notable scientists.

A fine set. Ex Bibliotheca Mechanica.

One of the Most Important Documents on the Early History of the Air Pump

76. PAPIN, Denis. *Nouvelle Experiences du Vuide. Avec la Description des Machines qui servent a Les faire*. Two engraved plates (one slightly cropped at foot with no loss of image). 2 p.l., 28 pp. 4to, red morocco-backed red cloth boards by Sangorski & Sutcliffe (two small holes to final leaf touching three letters), spine lettered in gilt. Paris: J. Cusson, fils, 1674. \$27,500.00

First edition of the author's first work; this is an extremely rare book and one of the most important documents on the early history of the air pump. I have been looking for a copy of this book for many years.

The *Nouvelles Experiences du Vuide* is dedicated to Huygens, whom Papin had assisted since 1670 in the construction of air pumps. A skilled mechanic, Papin constructed the air pumps and performed a number of experiments under Huygens' direction. Papin's book is the primary source (besides letters published half a century later in Huygens' *Oeuvres*) for information on Huygens' improvements on Boyle's first air pump.

This book also describes the experiments Papin made with the air pump, in which he showed for the first time that liquids boil in a vacuum at very weak temperatures. He also describes some attempts at preserving food in a vacuum that testify to Papin's utilitarian bent of mind. For the remainder of his life, Papin's efforts were concerned mainly with the relationships of the pressure and temperature of air and water and the application of these relationships to useful purposes.

"Among further improvements in the air-pump during the latter part of the seventeenth century were the two way tap, introduced by Papin; and the double cylindered pump, probably introduced by Papin and perfected by Hauksbee, through whom the air-pump assumed what long remained its standard form."—Wolf, A History of Science, Technology, and Philosophy, Vol. I, p. 107. The latter improvement was incorporated in the machine which Papin took with him to England in 1676.

Fine copy with a note on the rear paste-down endpaper in the hand of the distinguished bookseller Ernst Weil "Collated & Perfect, EW." In his *Cat.* 27, item 162, Dr. Weil stated this book is to be "always regarded as one of the Classics in Science; it is without doubt one of the rarest of all of them."

≈ D.S.B., X, pp. 292-93.

Papin's Experiments

77. **PAPIN**, **Denis**. Fasciculus Dissertationum De Novis quibusdam Machinis atque aliis Argumentis Philosophicis quorum Seriem versa pagina exhibet. Three folding engraved plates (slightly browned). 4 p.l., 154, [4]

pp. 8vo, cont. sheep (some wear & rubbing, spine a little defective). Marburg: J.J. Kürsner for J. Estienne, 1695. \$9500.00

First edition of a rare book. In 1687, Papin went to Germany and joined a number of his fellow Huguenots at the University of Marburg, where he had been appointed professor of mathematics. During his years there, Papin occupied himself with many experiments with air pumps, steam pressure, and other practical inventions. These experiments are described in the present work. This work includes his original paper of 1689 describing the invention of the centrifugal pump and, includes for the first time, important additions at the end (see Stanitz catalogue).

The book is dedicated to the Landgrave of Hesse in Cassel. At the time of publication, Papin was still teaching in Marburg but trying to find another, better paying, position. Later in 1695, Papin was given a place in court at Cassel where he continued to devise a number of pumps and other inventions.

Very good copy with the original label on lower edge, lettered "Dissertatio: de Novis Machinis." The last complete copy to appear at auction was the (not very nice and rather cropped) Stanitz copy (Sotheby's New York, 25 April 1984).

≈ D.S.B., X, pp. 292-93.

A New Steam Engine

78. PAPIN, Denis. *Nouvelle Maniere pour lever l'Eau par la Force du Feu*. One folding engraved plate. 64 pp. 8vo, cont. polished calf (foot of spine a little chipped, browned as usual), spine richly gilt, red morocco lettering piece on spine. Kassel: J. Estienne, 1707. \$12,500.00

First edition and a book of considerable rarity. By 1695, Papin had left his teaching position at Marburg and was given a place in the court of the Landgrave of Hesse in Kassel. Here he continued to devise a number of pumps and to work on steam pressure. "In 1705, Papin heard from Leibniz of Savery's engine, and received from him a sketch of it. In 1707 Papin published [in the present work] details of a new engine, a modified Savery engine — not a modified Huygens' engine, as his previous one was...In 1707 Papin used his steam engine (originally conceived as a pumping engine) to drive a model boat on the river Fulda at Cassel; the pumping engine forcing up water to turn a water-wheel, which drove the paddles."—Wolf, A History of Science, Technology, and Philosophy, I, p. 550.

Apart from the inevitable browning, a fine copy. In our copy there is a cancel label pasted to the title below "Feu." which corrects the reading to: "Mise en lumiere par mr. D. Papin" with a further cancel label pasted over the "mr."

№ D.S.B., X, pp. 292-93. *En Français dans le Texte* 135–"C'est en 1698 que Papin faisait ses expériences, mais il n'en publia les résultats qu'en 1707, et déjà Savery et Newcomen avaient établi leur première machine à vapeur. Papin convient

dans son ouvrage que les Anglais étaient arrivés aux mêmes résultats par les mêmes moyens. Toutefois ses communications insérées notamemment dans les *Acta eruditorum* de Leipzig, lui assurent une priorité incontestable."

A Variant of his Second Book

79. PARACELSUS. *Practica...gemacht auff Europen, anzufahen in dem nechstkunfftigen Dreyssigsten Jar, Biss auff das Vier und Dreyssigst nachuolgend*. Large woodcut on title. 8 unnumbered leaves. Small 4to, modern black morocco in the Jansenist style by Laurenchet. [Nuremberg: F. Peypus, 1529]. \$17,500.00

A variant printing of the first edition of Paracelsus' second printed work; all books by this author printed during his lifetime are of the greatest rarity. The printing recorded by Sudhoff — with the same place and printer — contains six printed leaves; our copy has eight leaves. In Sudhoff 2, the *Practica* ends on A4v and the "An die Astronomos" occupies B1r-B2r; in our copy the *Practica* ends on the top of B2v with the "An die Astronomos" occupying the rest of B2r-B4r. The copy in the Wellcome Library is identical to our example.

In this slender work, Paracelsus demonstrates his skill in astrological forecasts. It was a very successful book with at least five printings in 1529 and 1530 (including Nuremberg, Augsburg, and Strasbourg).

See Sudhoff for a lengthy description of the woodcut on the title-page.

Very good copy. Final leaf with a repaired hole affecting about three words.

№ Sudhoff 2–(variant not known to him). Zinner 1387–(issue not determined). This variant unknown to VD16.

St. John's Worts

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

First edition of a Paracelsian rarity. Paracelsus' commentaries on the first five of Hippocrates' *Aphorisms* had been published the previous year in Cologne. The present edition comprises his commentaries on all 25 aphorisms of the first

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

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

Fine copy.

Sudhoff 100. Not in N.U.C.

"An Important Work"

81. PARKES, Samuel. *Chemical Essay, principally relating to the Arts and Manufactures of the British Dominions*. 23 engraved plates (several lightly browned with faint offsetting onto opposing pages). Five vols. Small 8vo, attractive cont. patterned cloth, red leather labels on spines. London: Printed for the Author, 1815. \$1750.00

First edition, and a lovely set, of "an important work in which Parkes gives a detailed account of the chemically based industries of the early nineteenth century. Included are chapters on the manufacture of glass, dyes and pigments, bleaching, soapmaking, acids, alkalies, salts, metals, nonmetals, ceramics, pottery, glazes, mortars, cements, leather tanning, distillation, and brewing. 'In selecting the subjects, the author has fixed upon those which seem to have been the least examined by other chemical writers' (I, vii)...The plates are of fine quality, clear and precise. A detailed index to the five volumes completes the work."—Neville, II, p. 265—(our copy's collation identical to Neville's).

Parkes (1761-1825), was a soapmaker and technical chemist.

Fine set of a popular work. There were later editions in English and translations into German, French, and Italian.

№ Cole 1006—"A collection of essays on industrial processes by a practical manufacturing chemist. The essays contain much of historical interest. The plates are for the most part from the original drawings of equipment for new processes." Partington, III, p. 706.

With a Rare Work by Whiston

82. [PEMBERTON, Henry]. *A View of Sir Isaac Newton's Philosophy*. Engraved vignette on title, 16 engraved vignettes & initials (all by Pine)

in the text, & 12 folding engraved plates. 25 p.l., 407 pp. Large 4to, cont. mottled calf (well-rebacked with the orig. spine laid-down), single gilt fillet round sides, spine nicely gilt, red morocco lettering piece on spine. London: S. Palmer, 1728.

[bound with]:

[WHISTON, William]. [Drop-title]: Sir Isaac Newton's Corollaries from his Philosophy and Chronology; in His Own Words. 16 pp. Large 4to. N.p.: n.d. [but probably London: 1728]. \$3000.00

I. First edition and an unusually fresh and attractive copy. Pemberton (1694-1771), was invited by Newton to edit the third edition (1726) of the *Principia*. "This study of Newton's philosophy is interesting as being the account of a close friend. The preface contains the author's recollections of Newton, especially in his old age."—Babson 98.

This handsome book is the first to be printed in any of Caslon's Roman types and may be the first appearance of his Great Primer Roman, his second Roman.

II. First edition. "This rare book contains extracts from Newton's *Opticks, Principia,* and his *Chronology of Ancient Kingdoms Amended.*"—Roberts & Trent, *Bibliotheca Mechanica,* pp. 238-39. Whiston (1667-1752), was selected by Newton to succeed him in the Lucasian chair at Cambridge and he edited Newton's *Arithmetica Universalis* (1707). However, in 1710 he was sacked from his Chair and banished from the University due to his unorthodox religious beliefs.

Fine and large copies which are occasionally found together. Final twenty leaves with some unimportant marginal worming.

₩ Wallis 169.

One of the Rarest Papermaking Books; Complete with All the Samples

83. PIETTE, Louis. Traité de la Coloration des Pates a Papier précédé d'un Aperçu sur l'État actuel de la Fabrication du Papier et contenant un Assortiment d'Échantillons de Papiers colorés. 229 mounted samples of colored papers (two with defects, see below). xvii, xxxiv, 185 pp. 8vo, orig. purple pebbled cloth, spine gilt. Paris: au Bureau du Journal des Fabricants de Papier, 1863.

Second edition, revised and posthumously published, of Piette's *Essais sur la Coloration des Pates a Papier* (1853). Our second edition is one of the great rarities of the papermaking literature; it is limited to 250 copies. This is a family copy with a presentation inscription from Helena Piette, dated Paris, 1 January 1864, to her nephew Prosper Piette (1846-1928).

As the printing industry outstripped the supply of rags, mills were forced to

close down, and rag collecting became a fine art. The increasingly urgent search for new papermaking substances produced a literature all of its own.

In 1827, Piette (1803-62), a native of Belgium, took over the papermaking factory started by his father in Dillingen in Prussia and performed many experiments using different materials to produce various suitable kinds of paper. In 1838 he published his first important paper book — *Die Fabrikation des Papieres aus Stroh und vielen andern Substanzen* — which described his experiments using straw. His work led directly to the use of esparto grass prior to the discovery of chemical bleaching for soft- and hardwood paper manufacture (see *The Paper Trail. Quarterly Newsletter of the Robert C. Williams American Museum of Papermaking*, Vol. 2, Nos. 1 & 2, January- March & April-June 2004). He operated the mill from 1819 to 1854 when he moved to France. There he published the *Journal des Fabricants de Papier*, one of the most remarkable technical journals of the day. It was richly illustrated with specimens of various kinds of paper and paper materials.

The present edition is quite different from the first. Our edition contains a series of 229 mounted specimens of colored papers, ranging from varieties of blues, browns, lilacs and violets, oranges and yellows, greens, pinks and reds, and black. Each specimen has its precise formula recorded. In a scale embracing 229 distinct tints it is easy to detect any desired one, or the two between which it lies. This feature of the work renders it an invaluable guide to manufacturers of colored paper, saving them time and giving a direct indication for variation in any direction.

Our edition contains in the preliminary leaves a valuable bio-bibliography of Piette. His account of the "actual state of papermaking" has been considerably updated.

Fine copy with the specimens in fresh state. One of the specimens — no. 154 — has been torn and is missing about half the sample. Specimen no. 227 is torn in half but with the loose half present. Four samples are slightly shorter than the others but I believe this is normal. I have been looking for a copy of this book for many years.

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

84. 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 (upper joint with a short split at head), spine nicely gilt, contrasting leather lettering piece on spine. Paris: M. Brunet, 1722.

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 very fine and handsome copy. Later inscription on free front endpaper: "Bibliotheque du Chateau de Chatenoy en 1771."

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 Wines & Vineyards of Baden-Württemberg

85. REUSS, Johannes Joseph. *Musta et Vina Neccarina examine potissimum hydrostatico explorata*...praeside...Christiano Frider. Jaeger. 1 p.l., 54 pp. Small 4to, self-bound. Tübingen: 1773. \$2650.00

First edition of this rare dissertation — OCLC locates no copy in the U.S. — on the wines of Baden-Württemberg. I believe this is the first scientific work describing the numerous grapes grown in the region — traminer, silvaner, gutedel, muscateller, ruländer, veltliner, trollinger and others — and the vineyards. Reuss also provides a description of the harvests from 1754-72 as well as a chemical analysis of many of the wines.

Reuss (1751-1813), took his medical degree at Tübingen with this dissertation and became city physician of Stuttgart and professor of clinical medicine. Fine copy.

Hirsch, IV, p. 776. Schoene 8165. Simon, Bibliotheca Gastronomica, 1285.

The First Great Trigonometric Tables Issued

86. RHETICUS, Georg Joachim. *Canon Doctrinae Triangulorum, nunc denuo Summa diligentia editus*. Woodcut printer's device on title. [12] leaves (the last is blank). 4to, attractive antique calf, panelled in gilt with gilt fleurons in corners & a gilt arabesque device in center of both covers. Basel: S. Henricpetri, [ca. 1565]. \$37,500.00

Second edition (1st ed.: Leipzig, 1551); both are extremely rare books with no copies of either located in the U.S. by OCLC. Our second edition is a page-for-

page reprint of the epoch-making book which contains "the first table to give all six trigonometric functions, including the first extensive table of tangents and the first printed table of secants."—D.S.B., XI, p. 397. These were the first great trigonometric tables ever issued; J.W.L. Glaisher described Rheticus as "by far the greatest computer of pure trigonometrical tables, whose work has never been superseded."

This slender quarto does not consist entirely of these trigonometrical tables; at the end is a 12-page "Dialogus de Canone Doctrinae Triangulorum" by Rheticus. This discussion of the "Triquetrum" or trinal aspect in astronomy and the invaluable use of these tables in mathematical and astronomical calculations is particularly interesting as it includes an appreciation of Copernicus' mathematical work. We hardly need to point out Rheticus's friendship with Copernicus and his announcement of the forthcoming *De Revolutionibus* in his *Narratio Prima* in 1540. As a convinced follower of the new Copernican doctrine, Rheticus carried on the mathematical elaboration of Copernicus's system in the present book.

This humanist dialogue contains a discussion of the importance of the geometry of triangles and reference is made to the works of Geber, Regiomontanus, Peurbach, and Werner (and see Paul Quarrie's wonderfully detailed and spirited description of the dialogue in the second Macclesfield catalogue, Sotheby's London, 10 June 2004, lot 217 offering the first edition).

These tables later appeared in Rheticus' great posthumous work, the *Opus Palatinum de Triangulis* (1596) as the second of three sets of tables. Lalande described our tables as by far the most important section of the book.

Fine copy.

Burmeister 39. Lalande, p. 129–(he notes that he owned a copy of our edition). Smith, *History of Mathematics*, II, pp. 610, 621, 622, & 627.

The Laws of a Vibrating Membrane

87. RICCATI, Giordano. *Delle Corde ovvero Fibre Elastiche Schediasmi Fisico-Matematici*. Seven folding engraved plates & one folding printed table. xxiv, 246 pp., 1 leaf. Large 4to, modern marbled boards. Bologna: T. d'Aquino, 1767. \$2950.00

First edition of an important book. Giordano Riccati (1709-90), one of the brilliant sons of the noted scientist Jacopo Riccati, was the first to study the laws of a vibrating membrane. Giordano was instructed by his father in the physical sciences and mathematics and settled in Trebbia.

"The text of this work is divided into eight 'Schediasmi' and five dissertations. The first are devoted to the proportion between the distension of the cord and the force that it produces, compression of air, the proportion between the force applied to the middle of a stretched cord and the various effects, the vibration

of a sonorous cord, the vibration of an aerial cord, the proportions of the cord of a musical instrument, the factors governing the frequency of the vibration generated by a natural or artificial instrument, and the propagation of sound in the air...

"Of the five dissertations at the end, the first two discuss the propagation of sound by line and radius from a central source, the first making the assumption that the vibration will remain constant throughout the range and the second assuming that the vibration will decrease as the distance from the source becomes greater. The third dissertation concerns the propagation of sound in spherical sectors. In the fourth dissertation, Riccati presents Euler's formula from his work on the nature of fire, on the means of determining the velocity with which sound is propagated in the air...

"The fifth, and final, dissertation is concerned with the hypothesis proposed by Frisi that the vibration is propagated through the air in a wave, the air molecules being set in motion by those already activated; this is in contrast to the notion that all of the air is set in motion simultaneously by the initial sound."—Roberts & Trent, *Bibliotheca Mechanica*, p. 278.

Very good copy. Ex Bibliotheca Mechanica.

№ Poggendorff, II, 625-27. Riccardi, II, 354-"Questa pregiata opera."

First Demonstration of the Law of Constancy of Angles

88. ROMÉ DE L'ISLE, Jean Baptiste Louis. Essai de Cristallographie, ou Description des Figures Géométriques, propres à différens Corps du Regne Minéral, connus vulgairement sous le nom de Cristaux. Ten folding engraved plates (several slightly cropped at outer edges not touching images) & two large folding printed tables. 2 p.l., [vii]-xxxii, 427, [2] pp. 8vo, fine cont. polished calf, crowned monogram in gilt on each cover of Maria Anna, daughter of Maria Theresa, and Archduchess of Austria, double gilt fillet round sides, gilt fleurons in corners, spine richly gilt, a.e.g., red morocco lettering piece on spine. Paris: Didot, Knapen, & Delaguette, 1772.

First edition, and a magnificent copy, of one of the fundamental works on modern crystallography; it appeared twelve years before Haüy's book. Romé appreciated the importance of crystal form and cleavage in the recognition of minerals and he discovered the fundamental law of the constancy of interfacial angles. In this book, Romé "identified 110 crystal forms...and described in minute detail the minerals that exhibited them. He subdivided the various substances into salts, stones, pyrites, and metallic minerals."—D.S.B., XI, p. 521.

"Very scarce. The Cristallographie ranks as one of the great contributions to the

science of crystals. In it Romé de l'Isle attempted to make a comprehensive classification of crystals. By the time he wrote this volume, he was extremely familiar with the subject, and this work greatly supassed all previous works in scope and detail. To apply his classification, he adopted a morphological approach in which he attempted to relate the diverse forms of crystals of the same substance. As a general morphological concept he introduced the idea of the 'primitive form.' All crystals of the same inorganic substance, no matter how different in appearance had a fundamental and common geometrical form — the primitive form — to which their actual crystal shapes related...In this first edition of the *Cristallographie*, Romé de l'Isle identifies 110 crystal forms by which minerals crystallize. Grouped under each of these shapes are described the minerals that exhibit similar habits, including the approximate angles between crystal faces. These forms were all derived from a common saline ingredient in every mineral that worked at a molecular level."—Schuh, *Mineralogy & Crystallography: A Biobibliography, 1469 to 1920, 4151.*

Pages xvii-xxviii contain an annotated bibliography compiled by Romé of the principal works on crystals.

Fine and handsome copy from the library of Maria Anna (1738-89), Archduchess of Austria and daughter of Franz Stefan and Empress Maria Theresa from whom she inherited an interest in mineralogy. As a member of Vienna's royal family, she studied numismatics and mineralogy and later amassed her own collection of 9,980 specimens under the guidance of Ignaz von Born. The collection was rich in Cornish, Hungarian, Siberian, Transylvanian, and Scandinavian minerals. Her collection was sold to the Royal Hungarian University of Buda and is preserved there today (see Wilson, *The History of Mineral Collecting 1530-1799*, p. 182).

* Hoover 691. Partington, IV, pp. 202-04. For another binding from the same library see item 30

An Ophthalmological Classic

89. SCARPA, Antonio. *Saggio di Osservazioni e d'Esperienze sulle Principali Malattie degli Occhi*. Engraved frontis. port. & three fine engraved plates. 1 p.l., xi, 278, [1] pp. Large 4to, cont. green moroccobacked marbled boards (minor foxing & browning), flat spine gilt. Pavia: B. Comino, 1801.

First edition of the first textbook on the subject to be published in the Italian language; Scarpa has been called "the father of Italian ophthalmology."

"In this work Scarpa first described the operation of iridodialysis. The chapters on diseases of the vessels in the eye, on cataract, and on staphyloma are particularly noteworthy. Scarpa's books were all superbly illustrated with his own drawings and the plates in this work, engraved by Faustino Anderloni, bear

witness to Scarpa's artistic talent. Duke-Elder considered this the greatest work on ophthalmology that had appeared up to its time."—Becker Cat. 207.

Garrison considered Scarpa's illustrations to be the "crown and flower of achievement in anatomic pen-drawing."

A very good and large copy.

≈ Garrison-Morton 5835. Waller 8543.

A Large & Thick Paper Copy of His Masterpiece

90. SCHEINER, Christoph. *Rosa Ursina sive Sol ex Admirando Facularum* & *Macularum suarum Phoenomeno varius...Libris quatuor...* Engraved allegorical frontis., fine engraved port. of the Duke of Bracciano, engraved vignette on title, & very many finely engraved illus. in the text (some full-page) depicting the author's observations of sunspots and the telescopes used by him. 20 p.l. (incl. frontis.), 784 pp., one blank leaf, [36] pp. Large thick folio (390 x 267 mm.), cont. vellum over boards (several careful repairs to binding, light browning & occasional minor marginal dampstaining). Bracciano: [Privately Printed by] A. Phaeus, 1626-30.

\$75,000.00

First edition, and a remarkable large and thick paper copy, of Scheiner's greatest work; this magnificent book, which is today very rare on the market, is the most richly and superbly illustrated astronomy book published in the first half of the 17th century. It describes and depicts Scheiner's observations of sunspots and his telescopes and also illustrates his important moon map.

We have never seen a large and thick paper copy of this book before; it is simply gigantic when compared to a normal copy (which usually measures about 348 x 240 mm.).

In 1611, Scheiner constructed a telescope with which he began to make astronomical observations, and in March of that year, he detected the presence of spots on the sun. Scheiner's claim to the discovery of sun spots, independently of Galileo, was the origin of one of the most famous and heated controversies in the history of science.

This book contains the summation of Scheiner's observations of the sun. He confirmed his method and criticized Galileo for failing to mention the inclination of the axis of rotation to the plane of the ecliptic.

Of great importance is Scheiner's discovery of the helioscope, described here. This was the first Keplerian telescope in use, consisting of two convex lenses; it was also the first to use colored glass in the eyepiece. Kepler himself had only considered the telescope theoretically.

Scheiner writes here that he had used the Keplerian telescope thirteen years before in the presence of the Archduke Maximilian.

The quality of the engravings in this book is exceptional. There are many fine

illustrations of the telescope and its parts, lenses, fittings, etc. *Rosa Ursina* was printed on the private press established by Paolo Jordano Orsini, Duke of Bracciano, a great patron of astronomy, at his castle at Bracciano.

A very fine copy of a book which is very difficult to find. Old Jesuit library inscription on title dated 1637. Another inscription on title concealed.

№ Cinti 79. D.S.B., XII, pp. 151-52. King, The History of the Telescope, pp. 40-45. Linda Hall Library, Jesuit Science in the Age of Galileo, 6.

An Architect's Collections of Coins & Minerals

91. (SCHYNVOET, Simon). *S. Schynvoets Muntkabinet der Roomsche Keizers en Keizerinnen, in vaarzen beschreeven*. By Abraham Bogaert. Added engraved title, engraved vignette on printed title, ten engraved plates (two folding), & 56 engraved illus. in the text, all etched by Jan Goeree & printed in pinkish-red ink. 12 p.l., a-i, k-t, v-x, 128, [8] pp. (several leaves bound out-of-sequence at end). 8vo, cont. blind panelled Dutch vellum over boards (upper joints with a short crack at foot). Amsterdam: Heirs of J. Lescailie, 1695.

[bound with]:

BOGAERT, Abraham. Keurstoffe van aloude Griekse en Romeinse Grootmoedigheden, in Byschriften en Puntdichten vertoont... Added engraved title, engraved vignettes on printed title & first leaf of dedication, & 48 engraved plates, all etched by Adriaan Schoonbeek. 6 p.l., xlviii numbered leaves, 2 leaves (the last a blank). 8vo. Amsterdam: A. Schoonebeek, 1694.

I. First edition of the first description of the ancient coin and mineral collections assembled by the architect and garden designer Simon Schynvoet (1652-1727) of Amsterdam. A friend of Rumph, Schynvoet's musem was of "sufficient importance to be annexed by Peter the Great."—Murray, *Museums*, Vol. I, p. 182.

The numerous plates and text illustrations, depicting coins in architectural settings, are all printed in a delicate bistre and are very handsome. There are also three plates illustrating medals, in a rich allegorical and architectural setting, of the author Bogaert, the collector Schynvoet, and the painter Jakob de Ryk.

Abraham Bogaert's description of the collection and his *laudatio* to the collector are entirely written in verse. Only the footnotes are in prose. The mineral specimens are noted in the appendix.

II. First edition of a suite of etchings illustrating classical heroes and heroines by Schoonbeek, with accompanying text by Bogaert. Schoonbeek was a pupil of Romeyn de Hooghe. In 1697 he was called to Moscow by Peter the Great, where

he spent the rest of his life.

Fine fresh copies. Both are very uncommon.

▶ I. Wilson, *The History of Mineral Collecting 1530-1799*, p. 192–(regarding Schynvoet's second collection of minerals). II: Praz, p. 498.

The Most Influential & Widely Read Illustrated Surgical Treatise of the 17th Century

92. SCULTETUS, **Johannes**. *Cheiroplotheke* [:in Greek], *seu Armamentarium Chirurgicum*. 43 finely engraved plates. Woodcut printer's device on title. Title printed in red & black. 1 p.l., 10, 132, [3] pp. Folio, cont. vellum over boards (minor browning). Ulm: B. Kühnen, 1655.

\$57,500.00

First edition of the most influential and widely-read illustrated surgical treatise of the 17th century. Our first edition is the only one in folio; all of the dozens of later editions and translations were in quarto or octavo and, consequently, the plate images suffered from being greatly reduced. This book was posthumously published by the author's nephew Scultetus the Younger.

At his death in 1645, Scultetus ranked with Fabry von Hilden as the leading German surgeon; he invented many devices and bandages, including the many-tailed "Scultetus bandage" used in abdominal wounds. His Armamentarium gives the best picture of 17th-century surgical practice, illustrating such procedures as amputation of the breast, reduction of dislocations, forceps delivery, neurosurgery, etc. The work includes a complete catalogue of all known surgical instruments, of the methods of bandaging and splinting, and of a vast number of operative procedures, all of which are illustrated in graphic detail by means of numerous plates which were never again published in their original folio size.

This work is also significant in the history of dentistry and dental instruments. Scultetus had been a pupil of Spigelius, successor to Fabricius ab Aquapendente, and his *Armamentarium* published some of the first illustrations of the dental instruments described by Fabricius in his *Opera Chirurgica* (1619).

Fine copy preserved in a morocco-backed box. Bound-in is a copy of the third edition of François de le Boë Sylvius' *Opera Medica* (Geneva: 1681). "This large and sumptuous work comprises Sylvius' major medical writings, and shows his emphasis on the use of physiological chemistry in the practice of clinical medicine. A large section is devoted to diseases of the lung, in which particular emphasis is given to tuberculosis. It was Sylvius who first demonstrated that tubercles could coalesce and form the cavitations typical of the tuberculous lung...Unlike the 1679 edition of the *Opera*, this edition contains a fine frontispiece portrait of Sylvius by J. L. Durant and a large woodcut printer's device on the red and black title-page."—*Heirs of Hippocrates* 503.

Scultetus: Garrison-Morton 5571. Heirs of Hippocrates 466. Zimmerman &

Veith, *Great Ideas in the History of Surgery*, pp. 249-53–"contains a complete catalogue of all known surgical instruments, of the methods of bandaging and splinting, and of a vast number of operative procedures, all of which are illustrated in graphic detail by means of numerous plates. In addition, it contains a large number of case reports which give evidence of [Scultetus'] surgical daring and skill."

The Beginning of the British Library

93. ([SMITH, Joseph]). Catalogus Librorum Rarissimorum, ab Artis Typographicae Inventoribus, aliisque eiusdem Artis Principibus, Ante Annum Millesimum Quingentesimum excusorum. Omnium optime conservatorum. Title printed in red & black. 1 p.l., 70 pp., 1 leaf. 8vo, attractive antique speckled calf-backed speckled boards (final 15 leaves with small stain in upper outer corner), spine gilt, red morocco lettering piece on spine. [Venice: J.B. Pasquali, 1737]. \$2750.00

The very rare second edition, enlarged by 21 additional incunabula (the first edition of ca. 1735 lists 227 titles and was printed in an edition of only fifty copies) of Consul Smith's privately printed catalogue of his magnificent collection of incunabula. Smith (1682-1770), was British Consul at Venice and, in 1765, sold his superb library to George III for £10,000. It thus became the nucleus of the "King's Library" and of the British Museum (now Library).

Horace Walpole sneered at Smith as "the merchant of Venice" who knew nothing of his books save their title-pages, but the censure is quite undeserved. Fine copy.

De Ricci, pp. 54-55. Taylor, Book Catalogues, pp. 261-62.

Uncut Copy

94. (SMITH, Joseph). *Bibliotheca Smithiana, seu Catalogus Librorum D. Josephi Smithii Angli per Cognoma Authorum dispositus*. Finely engraved coat-of-arms on title. Title printed in red & black. 4 p.l., xliii, dxix (i.e. dxvii), [1], cccxlviii (i.e. ccclii), [3] pp. Thick large 4to, cont. semi-stiff boards (stitching of first signature a little loose), uncut. Venice: Typis J.B. Pasquali, 1755. \$3000.00

Third edition and the first complete edition of the catalogue of Smith's magnificent collection of incunabula and a few early manuscripts. This copy has the 352-page Appendix which reprints in full some 200 prefaces, dedications, and epilogues contained in incunabula — a unique anthology.

Smith's library was rich in incunabula, early printed books, Italian literature,

history, art, architecture, and antiquities.

Fine copy in original state.

№ Gustave Brunet, *Dictionnaire de Bibliologie Catholique*, col. 625. De Ricci, pp. 54-55. Taylor, *Book Catalogues*, pp. 261-62.

Presented by Senebier to Charles Bonnet

95. SPALLANZANI, Lazzaro. Opuscules de Physique, Animale et Végétale...traduits de l'Italien, et augmentés d'une Introduction dans laquelle on fait connoître les découvertes microscopiques dans les trois Règnes de la Nature...par Jean Senebier...On y a joint plusieurs Lettres rélatives à ces Opuscules écrites...par Mr. Charles Bonnet & par d'autres Naturalistes célébres. Six folding engraved plates. 2 p.l., cxxiv, 255, [6] pp.; 1 p.l., 405, [3] pp. Two vols. 8vo, cont. sheep (corners & heads of spines a bit worn), spines nicely gilt, green & brown vellum lettering pieces on spines. Geneva: B. Chirol, 1777.

First edition in French (1st ed., in Italian: 1776) of one of Spallanzani's most important works, containing "five reports that displayed unexcelled experimental skill, remarkable powers of observation and lucid literary talent."—D.S.B., XII, p. 557–(& see pp. 557-58 for a full discussion of this book's contents).

The first volume contains Spallanzani's refutation of Needham's theories on spontaneous generation. The main treatise in the second volume confirmed and extended Leeuwenhoek's observations on spermatozoa and refuted Buffon's concepts of their nature and origin.

The translation into French by Senebier is known for its accuracy.

A fine, pretty, and fresh copy, with the contemporary inscription on each title: "Donné par le Trad: Charles Bonnet."

→ Garrison-Morton 102–(1st ed.)—"Later confutation of the theory of spontaneous generation. Spallanzani's conclusions were similar to those expressed by Pasteur nearly a century later." Prandi, Spallanzani, p. 80–"Bella edizione, non comune."

The Bell Rock Lighthouse

96. STEVENSON, Robert. An Account of the Bell Rock Light-House, including the Details of the Erection and Peculiar Structure of that Edifice. To which is prefixed a Historical View of the Institution and Progress of the Northern Light-Houses...Drawn up by desire of the Commissioners of the Northern Light-Houses. Twenty-three engraved plates (mostly double-

page or folding), including a frontispiece drawn by J.M.W. Turner. xix, 533, [2] pp. Large thick 4to, later 19th-cent. morocco (joints carefully repaired, foot of spine a little chipped), sides panelled in gilt, spine gilt, entirely uncut. Edinburgh: A. Constable, 1824. \$4500.00

First edition and a fine copy of this handsomely illustrated account of the construction of the Bell Rock lighthouse. In the last years of the 18th century, Stevenson was named engineer to the Scottish lighthouse board. "He inaugurated the Scottish lighthouse system, which is still conducted on the lines he initiated. Under his superintendence no fewer than twenty lighthouses were designed and constructed, and many improvements, now in universal use, were due to his ingenuity. He brought the catoptric or reflecting system of lighting to perfection, advocated the adoption of the dioptric or refracting system with its central lamp, and invented the intermittent and flashing lights...The most important of his lighthouses was the famous Bell Rock tower, erected on a dangerous reef submerged by every tide to the depth of twelve feet, and lying in the fairway of ships making for the estuaries of the Tay and Forth. Previous attempts made by Captain Brodie to erect beacons upon it had failed. In the storm of 1799 seventy sail were wrecked off the reef, among them the York, 74-gun ship. After a careful survey Stevenson designed and modelled a tower, and reported on 28 Dec. 1800 to his board that the erection of a stone tower on the reef was practicable...

"After five years of arduous labour the lighthouse was in working order...The tower, which, as in all Stevenson's lighthouses, is free from architectural adornment, rises to the height of 100 ft.; the diameter at the base is 42 ft., diminishing to 16 ft. at the top. Above the solid, which is 80 ft. in height, is the entrance doorway, the interior being divided into six stories. Smeaton in his Eddystone tower adopted an arched form of floor, rendering it necessary to insert chains embedded in the masonry to counteract the outward thrust; but in the Bell Rock tower, by an ingenious arrangement of the masonry, the stone floors were converted into effective 'bonds,' thus tying the walls together, for as the stone floors form part of the walls, outward thrust is prevented. All subsequent rock towers have this form of floor. The cubic contents of the tower are more than double those of the Eddystone, from which it differs in many respects owing to its far more difficult and dangerous site...The optical apparatus consisted of parabolic reflectors of silvered copper, combined with argand burners, arranged on a four-sided frame, the best and most complete apparatus then known...Since the lighting of the Bell Rock not a single wreck has taken place on the reef...

"Not only was the tower itself novel in design, but the implements used in its erection had to be invented. The balance and movable jib cranes were for the first time used at the Bell Rock. The latter is now in universal use. Ball-bearing were also introduced into the cranes at the Bell Rock for the first time. Stevenson further designed for the temporary lightship moored off the Bell Rock tower

during its construction — the first lightship placed in so deep water — a lantern to surround the mast, instead of small lanterns hung from the yard-arms or frames. This improvement is now universally adopted."–D.N.B., XVIII, pp. 1130-31.

The frontispiece illustration of the lighthouse during a storm is drawn by J.M.W. Turner.

A handsome copy. Ex Bibliotheca Mechanica.

97. TALIER, [Angelo Natal]. Dell' Arte di Tingere in Filo, in Seta, in Cotone, in Lana, ed in Pelle. Opera ricavata dai più celebri recenti Autori inglesi e francesi. Compilata ed illustrata a Benefizio dei Tintori italiani das Sig. Arciprete Dottor Talier. xv, [1], 287 pp. 8vo, orig. decorated semi-stiff wrappers (minor wear & foxing), uncut. Venice: Presso A.F. Stella, 1793. \$1950.00

First edition of this rare Italian work on dyeing. It is, for the most part, a compilation of French and English texts on the subject including those of Jean Hellot, Macquer, Le Pileur d'Apligny, and Louis A. Dambourney, translated into Italian.

Very good copy. This was a successful work which saw a second edition in 1798.

- № Ron, *Bibliotheca Tinctoria*, 1018. Several entries in OCLC give the authorship as Gallipido Tallieri. This is clearly wrong as he wrote on dyeing in the early 18th century.
- 98. TENNER, Johann Gottlob. Anleitung, vermittelst der dephlogistisirten Salzsäure zu jeder Jahreszeit vollkommen weiss, geschwind, sicher und wohlfeil zu bleichen. Nebst einer kurzen Anweisung, wie man dieses Mittel beym gewöhnlichen Waschen, beym Cattundrucken, in der Färberey, beym Papier-machen und beym Bleichen des Wasches mit nutzen anwenden könne. Eleven folding engraved plates & 13 folding printed tables (each printed on each side). xvi, 341, [1] pp. 8vo, marbled boards (occasional minor foxing). Leipzig: Moss, 1800.

Third edition, enlarged and improved (1st ed.: 1793). "A late 18th-century German handbook on bleaching with hydrochloric acid compounds."—Ron, *Bibliotheca Tinctoria*, p. 384—(Dr. Edelstein had only the 2nd ed. of 1794). There are interesting sections on dyeing, the printing of textiles, and papermaking. The plates depict bleaching apparatus.

Tenner (1748-1811), was a physician at Chemnitz.

Poggendorff, II, 1080.

Marc Seguin's Copy

99. TREDGOLD, Thomas. A Practical Treatise on Rail-Roads and Carriages, shewing the Principles of Estimating their Strength, Proportions, Expense, and Annual Produce, and the conditions which render them Effective, Economical, and Durable; with the Theory, Effect, and Expense of Steam Carriages, Stationary Engines, and Gas Machines. Four engraved plates. xi, [1], 184 pp. 8vo, orig. boards, uncut, orig. printed paper label on spine. London: J. Taylor, 1825. \$2750.00

First edition of the first comprehensive work in railway engineering (along with Wood's *Practical Treatise on Rail-Roads* of the same year). This is a precious association copy, with the inscription "Ex Libris Seguin" on the first leaf of the Preface, in the hand of Marc Seguin (1786-1875), who organized the company which built France's first modern railroad and invented the multitubular, or fire tube, boiler (see *D.S.B.*, XII, pp. 287-89 for Seguin's experiments and achievements in civil engineering, design and construction of railroads, and heat and work).

Tredgold's book was published in the very year of the opening of the Stockton and Darlington Railway, the first line opened for public (goods) traffic, when an engine, weighing eight tons, achieved a speed of nearly 16 miles an hour, then considered a great performance. It is interesting to note that the work does not even refer to passenger traffic by railways, the great future of which was only realized after the opening of the Liverpool and Manchester Railway of 1830.

In this work, "the structural features of roadbed, rails, engines and rolling stock are analyzed, and the evolution of railroads from man-powered and animal-powered to steam-powered locomotion is given. Clear and detailed engravings illustrate Stephenson's pre-Rocket engines, and others with primitive transmission of power from engine to rail."—Dibner, Heralds of Science, 182.

Fine copy.

A Landmark in the History of Embryology

100. WOLFF, Caspar Friedrich. Über die Bildung des Darmkanals im bebrüteten Hühnchen. Uebersetzt und mit einleitenden Abhandlung und Anmerkungen versehen von Johann Friedrich Meckel. Two folding engraved plates. 263, [1] pp. 8vo, orig. German marbled boards (extremities with minor wear & rubbing), orig. label on spine. Halle: Renger, 1812.

First separate edition and the first edition in German. "One of the acknowledged classics of embryology."—Garrison-Morton 471–(describing the publication of the Latin original in the journal of the St. Petersburg Academy of

Sciences in 1768-69). Wolff's description of the formation of the chick's intestine by the rolling inward of the leaf-like layer of the blastoderm was important for proving his theory of epigenesis, and at the same time disproving preformationism. These leaf-like layers were a potent influence in the work of Pander and Baer, who praised this book highly.

Wolff's paper was largely ignored until the appearance of this translation into Germany by Meckel, who added a 56-page introduction and notes. "The publication of Meckel's translation of Wolff's treatise on the formation of the intestines of the chick was an event whose importance, in view of the profound influence which this work exerted upon Pander and von Baer, it would be difficult to overestimate."—Adelmann, *Marcel Malpighi and the Evolution of Embryology*, IV, pp. 1652-1702.

"It is interesting to note that the facts brought forward by Wolff have never been contradicted, but have been used as a foundation to which numberless morphological embryologists have added facts discovered by themselves."—Needham, *A History of Embryology*, pp. 221-23. In several places Wolff describes the mesonephroi, the renal organs now known as "Wolffian bodies." These descriptions are briefer than the ones in his *Theoria Generationis* (1759), "but are in some respects a distinct improvement on his earlier accounts" (Adelmann).

Very good clean copy. Blind library stamp on title and on p. 259. Inked withdrawn stamp on verso of title and a small hole in blank margin of first plate.