



Catalogue 57

*Earth- and Life-Sciences, Chemistry and Alchemy,
including 27 New Arrivals*

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including 27 New Arrivals*

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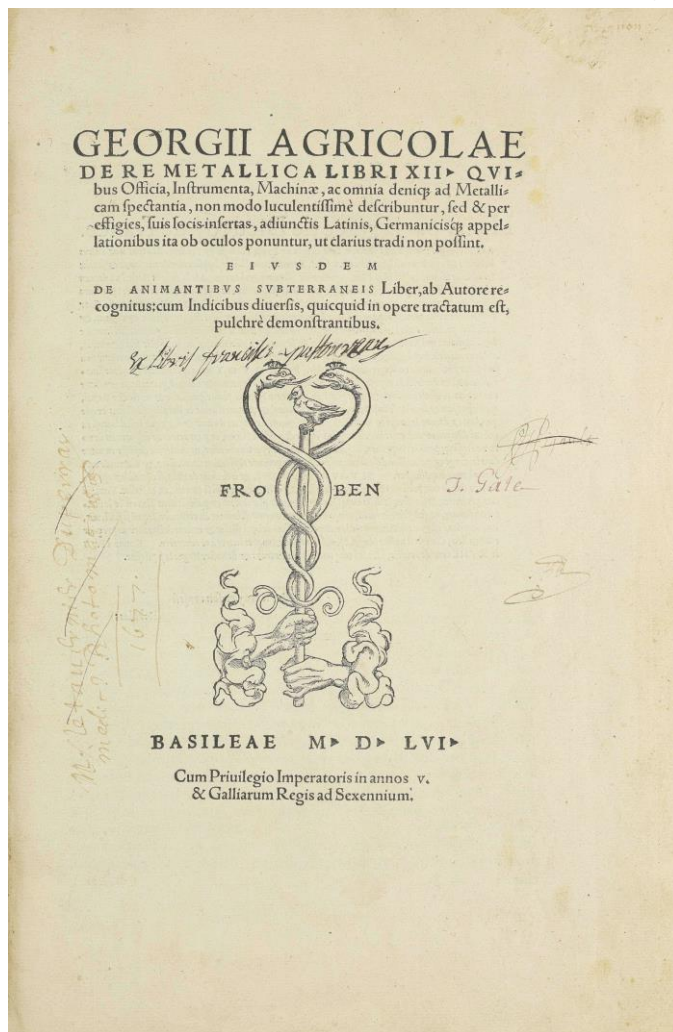
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The first systematic treatise on mining and metallurgy

1 **AGRICOLA, Georgius.** *De re metallica libri XII. - De animantibus subterraneis liber.* Basel: Hieronymus Froben and Nicholas Episcopius, March 1556. Folio (332 x 223 mm). [10], [2: blank], 538 [i.e. 502], [74] pp. With woodcut printer's device on title and final leaf verso, large woodcut initials, 2 folding woodcut plates bound after i2 (the first folded in at fore-margin), 273 woodcut illustrations and diagrams in text (many full page); bound without blank leaf alpha6. Signatures: [alpha]6, a-z6, A-Z6, Aa-Bb6 (-alpha6). Contemporary French calfskin, spine with 6 raised bands and tooled with small gilt flourons in compartments, boards with blind fillets and gilt fleurons including 4 smaller at corners and a large in the center; the spine expertly rebacked preserving most of the original compartment leather, corners restored, all edges gilt, original endpapers preserved (leather over boards spotted, wear to extremities, upper board slightly bowed, endpapers soiled and spotted, lower joint split c. 5 cm at head). Internally clean and crisp throughout with just very minor occasional spotting and soiling; early edge repair at fore-margin of 4 leaves u3-6 (done at the time of binding likely using-up the paper of the blank leaf and not affecting illustrations or text), small hole (paper flaw) in blank area of leaf z1; minor edge chipping at head of three leaves A3-5; errors in pagination and signatures pen corrected; minor brown-staining of two leaves K1-2; light damp-staining at top gutter of gatherings P and Q. Provenance: M. Duperray, Rouen (inscribed on front pastedown "Duperray Rhotomagensis 1677"), inscriptions "J. Gale" and "Pigault" on title-page; further illegible inscription on title and on p. 285. An exceptional, very wide-margined copy, rarely found with the plate woodcuts unaffected by the binders knife as here. (#003764) € 35,000

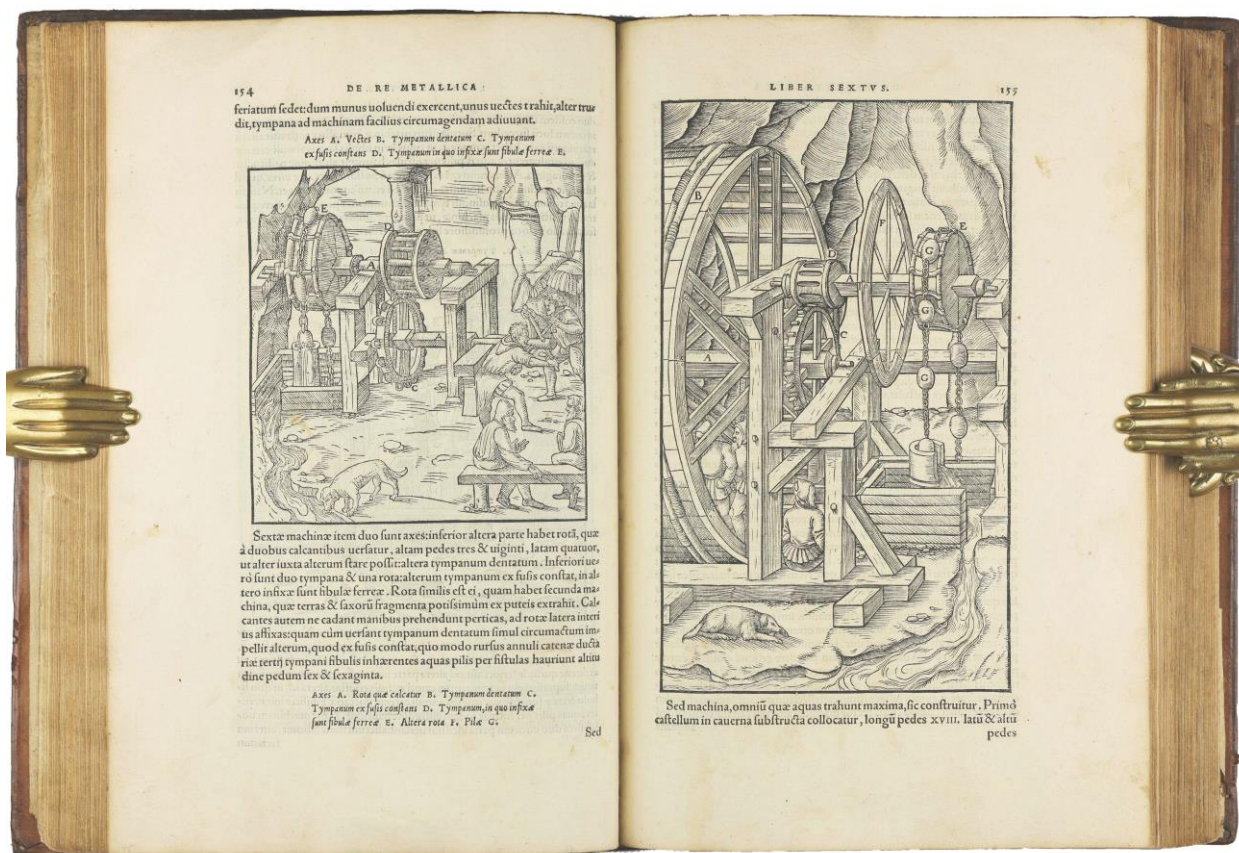
FIRST EDITION OF 'THE FIRST SYSTEMATIC TREATISE ON MINING AND METALLURGY AND ONE OF THE FIRST TECHNOLOGICAL BOOKS OF MODERN TIMES' (PMM). "Agricola - he latinized his name from



Georg Bauer - studied at Leipzig, Bologna and Padua, became town physician of the mining centre of Joachimsthal in Bohemia and physician at Chemnitz in Saxony from 1534 until his death. Living in mining regions all his life made it possible for him to study mining practices at first hand and these direct observations made his books particularly valuable and effective. Mining has been practised from primitive times; gold and silver, copper and lead have been used for thousands of years, and even iron, a late-comer, is prehistoric. Though the actual consumption of metals was slight in the Middle Ages as in preceding epochs, craftsmen then wrote the first coherent treatises on the treatment and fabrication of metals (e.g. the *Schedula Diversarum Artium* of Theophilus Presbyter). In the late Middle Ages there were very important advances in mining and metallurgy, reflected first in the *Proberbüchlein* of c. 1510 (the first printed book on the subject), then in Biringuccio's fine *Pirotechnia* (1540) and finally in this great work of Agricola's, by far the most authoritative account of south German technology. The *De Re Metallica* embraces everything connected with the mining industry and metallurgical

processes, including administration, prospecting, the duties of officials and companies and the manufacture of glass, sulphur and alum. The magnificent series of two hundred and seventy-three large woodcut illustrations by Hans Rudolf Manuel Deutsch add to its value. Some of the most

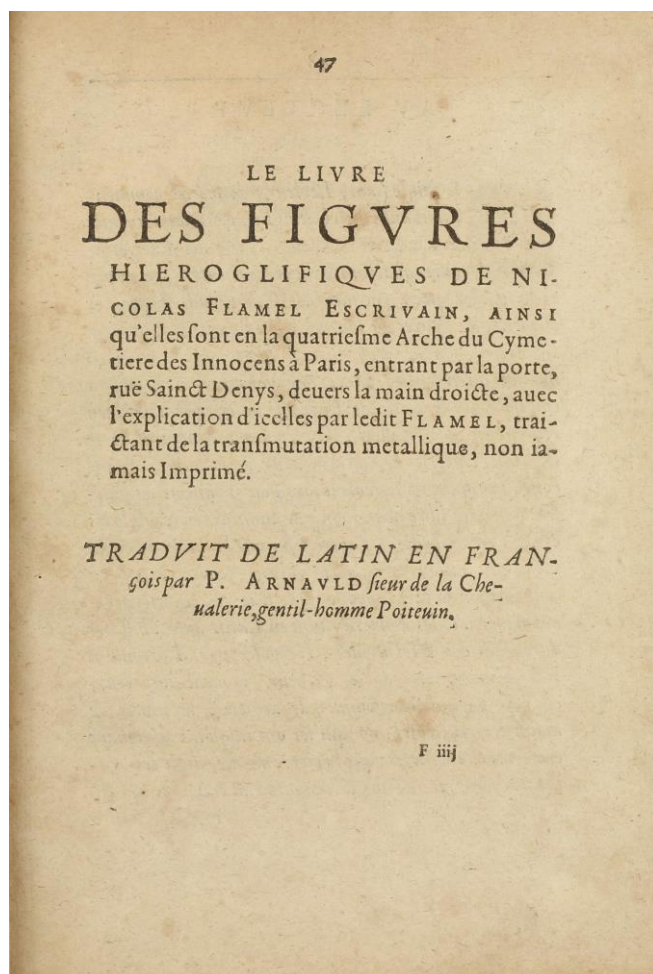
important sections are those on mechanical engineering and the use of water-power, hauling, pumps, ventilation, blowing of furnaces, transport of ores, etc., showing a very elaborate technique. In Book V, and also in the *De Ortu et Causis Subterraneorum*, Basle, 1546, Agricola made an important contribution to physical geology. He recognized the influence of water and wind on the shaping of the landscape and gave a clear account of the order of the strata he saw in the mines. Writing on the origin of mountains, he describes the eroding action of water as their cause with a perspicacity much in advance of his time. The most important of Agricola's many other treatises was the *De Natura Fossilium* (also Basle, 1546), which has earned him the title of 'Father of Mineralogy'. After the classical writings of Pliny and Theophrastus on the subject, mineralogy during the Middle Ages was chiefly concerned with the medicinal and magical properties of stones. Agricola supplied a new scientific classification of minerals based on their physical properties. He described eighty different minerals and metallic ores (including twenty new ones), their mode of occurrence and mutual relation. The *De Re Metallica* was frequently reprinted and is said to have reached China in the seventeenth century. Interest in it was revived in the eighteenth century by Abraham Gottlieb Werner; and in 1912 it was translated into English by Herbert Hoover, afterwards President of the United States" (PMM 78).



References: Dibner 88, Horblit 2b, PMM 79, Norman 20, Adams A-349; Brunet I, 113; Duveen pp.4-5; Hoover 17; E. Darmstaedter, *Georg Agricola*, München, 1926.

2 ARNAULD, Pierre. *Trois traitez de la philosophie naturelle non encore imprimez : scavoit Le secret livre du tres-ancien philosophe Artephius, traitant de l'art occulte et transmutation metallique, Latin François : plus Les figures hieroglyphiques de Nicolas Flamel ainsi qu'il les a mises en la quatriemesme arche qu'il a bastie au Cimitiere des Innocens à Paris, entrant par la grande porte de la ruè S. Denys, & prenant la main droite, avec l'explication d'icelles par iceluy Flamel ; ensemble, Le vray livre du docte Synesius Abbé grec, tiré de la bibliotheque de l'empereur sur le mesme subiect . . .* Paris: Guillaume Marete, 1612. 4to (208 x 150 mm). 103 [1] pp. With 8 allegorical woodcut illustrations in text, woodcut initials, a folding woodcut plate representing the "hieroglyphics" of Flamel. Signatures: A-N⁴. 19th century straight-grained plum morocco, spine lettered and decorated in gilt, boards and board edges tooled in gilt, marbled endpapers (minor wear to extremities, corners bumped, upper joint partially split, spine and parts of boards sunned, black-dyed edges). Text somewhat browned throughout, light waterstains to first and final pages, repaired and paper-backed split in folding plate slightly affecting two letters and the woodcut, a few cancelled old ink annotations and markings. (#003725) € 3500

FIRST EDITION, VERY RARE, of three important alchemical treatises. The first edition of *Trois traitez de la philosophie natvrelle* appeared 1612 in two issues of the same press, differing typographically



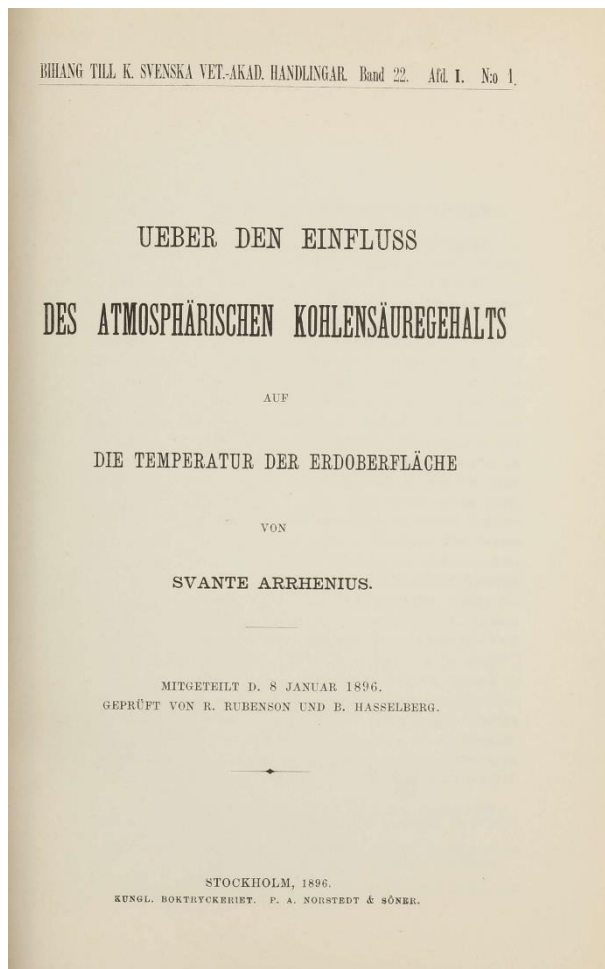
throughout, one having 98 pages, the other 103 pages. Different editions and issues give the publisher variously as Guillaume Marete, M. Guillaume, M. Guillemot, and the widow of M. Guillaume or Guillemot Marete, with Thiboust not always mentioned. The surplus copies of the 98-page issue were reissued 1659 with a new title-page differing only in the imprint (A Paris, Chez laques d'Allin, M. DC. LIX). The treatise contains the editio princeps of "Les figures hieroglyphiques", a work presented as a text composed by Nicolas Flamel between 1399 and 1413. This one tells there that he acquired for two florins a mysterious and old book, 'all engraved of letters and figures', under the title of 'Book of Abraham the Jew, prince, Levite priest, astrologer and philosopher, to the people of the Jews [...]'. This treatise, written by a 'mighty learned man', explains the process of the 'Great Work'. The famous folding plate represents several pieces engraved on wood forming an arcade in the image of that which Nicolas Flamel had erected at the mass graves of the Innocents. It would contain the process of the 'Great Work', concealed under allegorical figures. The main subject shows the Eternal

Father, on his right Nicolas Flamel, his hands joined at the feet of Saint Paul. Pernelle, his wife, on the left in the same attitude. Below are various subjects, including a Last Judgment, and, in the lower part of the tympanum, the Massacre of the Innocents. The work contains two additional treatises: "The secret book dealing with occult art & the Philosopher's stone" (Latin and French translation opposite) by Artephius, alchemist and Hermetic philosopher who is said to have lived in the Middle Ages; as well as 'The Vray Book of the Philosopher's Stone' by Synesius, Greek alchemist, poet and philosopher, bishop of Ptolemais (370-415) (Hatchuel). References: Caillet 3976; Duveen 27; Ferguson 1:47-48 (variant issue); Goldsmith (BL) A-916; Rosenthal, *Bibl. magica*, 53.

Formulating the Greenhouse Effect - the rare offprint issues for private distribution only

3 **ARRHENIUS, Svante.** *Ueber den Einfluss des atmosphärischen Kohlensäuregehalts auf die Temperatur der Erdoberfläche.* Offprint: Bihang Till K. Svenska Vet.-Akad. Handlingar, Bd. XXII/I, 1. Stockholm: Kungl. Boktryckeriet P. A. Norstedt & Söner, 1896. 8vo (215 x 140 mm). 102 pp. Original wrappers with publisher's ink stamp at top margin. Text generally clean and crisp. [WITH:] *Ueber die Wärmeabsorption durch Kohlensäure und ihren Einfluss auf die Temperatur der Erdoberfläche.* Offprint: Ofversigt af Kongl. Vetenskaps-Akademiens Förhandlingar 1901, no. 1. Stockholm, 1901. 8vo (215 x 140 mm). pp. 25-58. Original wrappers with publisher's ink stamp at top margin. A near pristine set. (#003703) € 5500

DSB I, p. 302; Poggendorff IV, 40. FIRST EDITION of Arrhenius' landmark works on global warming, exceptionally rare with the final part published in 1901 and in the offprint wrappers intended for private distribution (not to compare with the regular journal issues which have printed wrappers with price stated). That the true offprints are frequently mixed up in literature and sales catalogues is owed to the fact that the regular issues of this supplement series to the 'Proceedings of the Royal Swedish Academy of Sciences' were distributed in single numbers with printed wrappers. None of latter are offprints in the classical sense (i.e. copies given by the publisher to the author for distribution to colleagues and friends).



In developing a theory to explain the ice ages Arrhenius was the first to use basic principles of physical chemistry to calculate the extent to which increases in atmospheric carbon dioxide (CO₂) will increase Earth's surface temperature through the greenhouse effect. These calculations led him to conclude that human-caused CO₂ emissions, from fossil-fuel burning and other combustion processes, are large enough to cause global warming. This conclusion has been extensively tested, winning a place at the core of modern climate science. Arrhenius, in this work, built upon the prior work of other famous scientists, including Joseph Fourier, John Tyndall and Claude Pouillet. Arrhenius wanted to

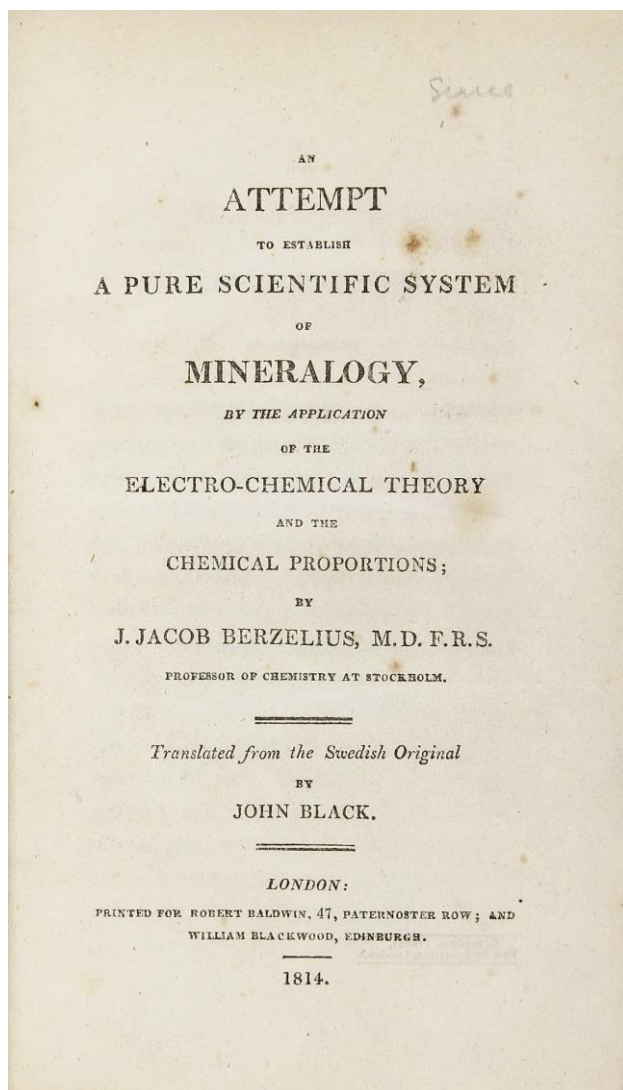
determine whether greenhouse gases could contribute to the explanation of the temperature variation between glacial and inter-glacial periods. (cf. H. Rodhe et al. *Svante Arrhenius and the Greenhouse Effect*. In: *Ambio*, vol. 26, no. 1, 1997, pp. 2-5). In the second and final part, Arrhenius also replies to the criticism of his global warming theory by Knut Ångström.

4 **BAUMÉ, Antoine.** *A manual of chemistry, or a brief account of the operations of chemistry, and their products. Translated [by John Aikin] from the French of M. Baumé, demonstrator in Chemistry at Paris, and Member of the Royal Academy of Sciences.* Warrington: printed by W. Eyres for J. Johnson, 1778. 12mo (165 x 100 mm). vi, [2], 400 pp., advertisement leaf for J. Johnson bound after preface. Contemporary half calf over marbled boards, gilt-lettered spine, marbled endpapers (rebacked, boards rubbed and soiled). Slightly browned internally, minor occasional foxing (stronger to title and final page). Provenance: Wigan Free Public Library (armorial bookplate to front-pagestown, shelf-mark stamp to title verso with light bleed-through). Still very good copy. (#003782) € 900

Duveen p. 53 ("rare"). FIRST EDITION IN ENGLISH, AND OF GREAT RARITY. Rarebookhub records a single copy at auction of the first edition sold at Sothebys in 1971. Antoine Baumé (1728-1804)

apprenticed with the chemist Claude Joseph Geoffroy and was admitted to the École de Pharmacie in 1752, where he was appointed professor of chemistry the same year. The money he made from a business he ran in Paris dealing in chemical products enabled him to retire in 1780 to devote himself to applied chemistry. However, when the French Revolution ruined him financially, he was forced to return to a commercial career. He developed numerous improvements to technical processes, e.g. for bleaching silk, dyeing, gilding, purifying saltpetre, etc., but he is best known as the inventor of the hydrometer, or the "spindle" (or Baumé scale), which allows measurements of the density of liquids. The scale is still associated with his name, but is often incorrectly spelled "Beaumé" (Wikisource).

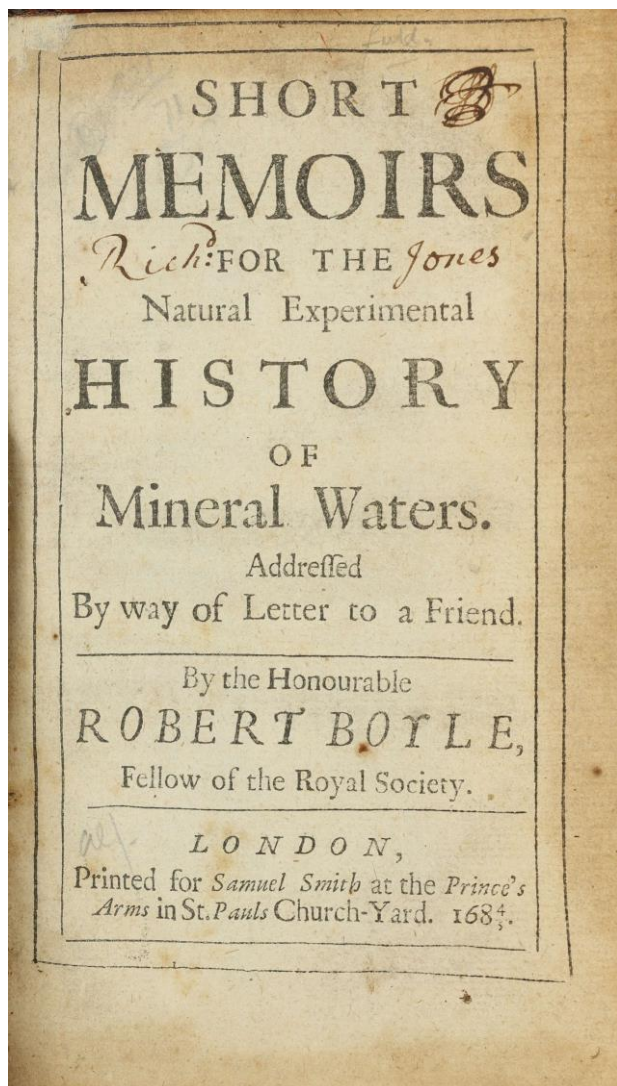
5 **BERZELIUS, Jons Jacob.** *An Attempt to Establish a Pure Scientific System of Mineralogy, by the Application of the Electro-Chemical Theory and Chemical Proportions.* London: Robert Baldwin, 1814. 144 pp., including publisher's adverts at pp. [13]-144. [Bound with] **WARDROP, James.** *On Blood-letting. An Account of the Curative Effects of the Abstraction of Blood.* London: J.B. Bailliere, 1835. [2],



viii, 148 pp., including half-title. [Bound with] **EYRE, James.** *Practical Remarks on Some Exhausting Diseases, Particularly Those Incident to Women.* John Churchill, 1845. [2], iv, 75 [1] pp. half-title. 3 works bound in one volume. 8vo (187 x 111 mm). Contemporary half calf over marbled boards, spine with morocco label lettered in gilt (extremities rubbed, corners bumped, spine repaired). Internally only little browned, minor spotting in places. Fine copy of a rare sammelband. (#002474) € 3500

I. Wheeler Gift 721; Norman 225 and Partington IV, pp. 142-177 (both original ed.). VERY RARE FIRST EDITION in English, translated by John Black from the Swedish original "*Försök att genom användandet af den elektrokemiska teorien och de kemiska proportionerna grundlägga ett rent vettenskapligt system för mineralogien*" published in the same year. "It was Berzelius who, by improving the methods of chemical analysis through his own investigations and by inspiring and directing the work of other Swedish chemists, led the way to a more widespread recognition of the paramount place which chemistry must occupy in the study of mineralogy" (Adams, *The Birth and Development of the Geological Sciences*). II. FIRST EDITION. Very rare. III. FIRST EDITION. Very rare.

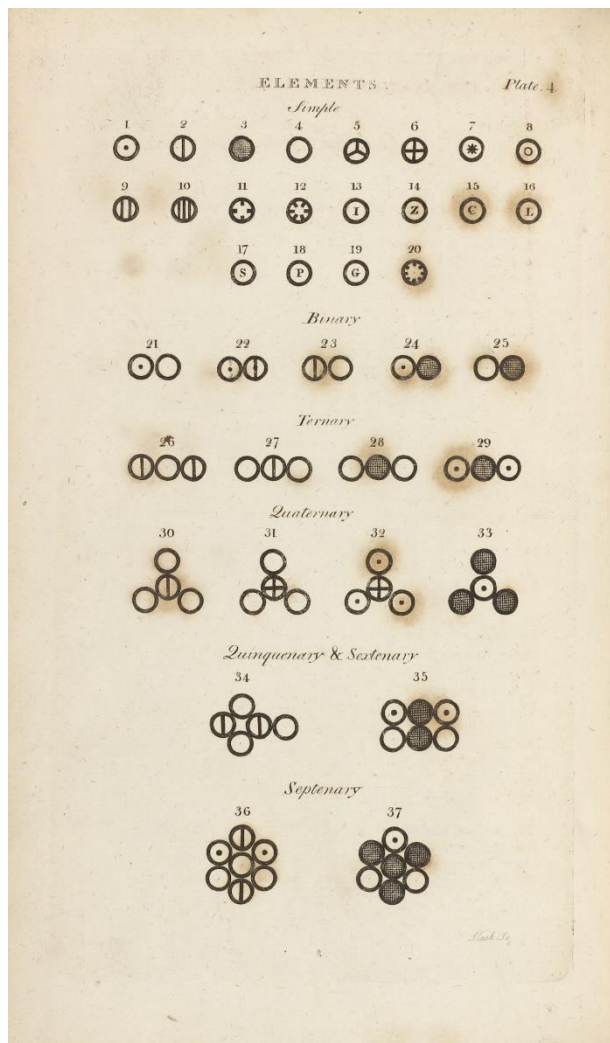
6 **BOYLE, Robert.** *Short memoirs for the natural experimental history of mineral waters. Addressed by way of letter to a friend.* London: Samuel Smith, 1684/85 [i.e. 1685]. 8vo (159 x 98 mm). [18], 112, [16] pp. Typographic headpiece to first page of text, 11 pp. of publisher's advertisements bound at the end. Signatures: A⁸ B² C-K⁸ (-B2, H3 unsigned), bound without blank leaf B2. Contemporary full calf, flat spine with gilt-lettered morocco label, boards with blind-tooling; original endpapers, red-dyed edges (rebacked preserving most of original spine, inner hinges reinforced). Text with even light browning throughout, occasional minor spotting, title-page dust-soiled and with small patch of sticking paper from flyleaf at upper left corner. Provenance: Richard Jones (inscribed on title). A very good copy, quite crisp internally. (#003774) € 3800



RARE FIRST EDITION of Boyle's treatise on the physical and chemical properties of natural mineral waters. "This is one of Boyle's unfinished 'pieces', put forth with the usual burst of apology on the part of all concerned. It is of special interest because of the insight it gives into the author's methods of work. The tract consists mainly of a series of 'Titles' for a proposed extended treatise on the 'Natural History of Mineral Waters' (pp. 17-31), followed by comments on a few of the titles which he had had time to investigate. On looking into a new subject, Boyle apparently set down methodically the various aspects of the question which he wished to consider, then 'at odd times and on various occasions', expanded his notes. The same method of presentation and exposition is evident in his 'Human Blood' ([Fulton] No. 146) and in several of the posthumous publications. Boyle proposed to study all of the physical and chemical properties of the various mineral waters, even including such properties as viscosity. Taste, smell, acidity, &c. were of course considered, and the book ends with a discourse on the 'medicinal virtues' of the various waters. [. . .] The Bookseller's 'Advertisement' at the end is interesting since it gives prices" (Fulton). References: J.F. Fulton, *A bibliography of The Honorable Robert Boyle*, 159; Wing B4023; Partington II, 534; not in Duveen.

7 **DALTON, John.** *A New System of Chemical Philosophy.* Part I. ... [Part II.]. Manchester: S. Russell for R. Bickerstaff, 1808 [vol. 1, part I]; Russell and Allen for R. Bickerstaff, 1810 [vol. 1, part II]. 8vo (204 x 125 mm), vi, [2], 220 pp., with four leaves of plates; [8], 221-560 pp., with four leaves of plates. Contemporary quarter calf (hinges repaired, some wear to spine ends, rubbed), internally little browned, occasional light spotting and staining. A very good copy. (#001757) € 8500

Dibner 44; Horblit 22; PMM 26; Sparrow 47, Norman 575. - First edition of the two parts of the first volume (the second volume was published 17 years later in 1827). While the idea that all matter is

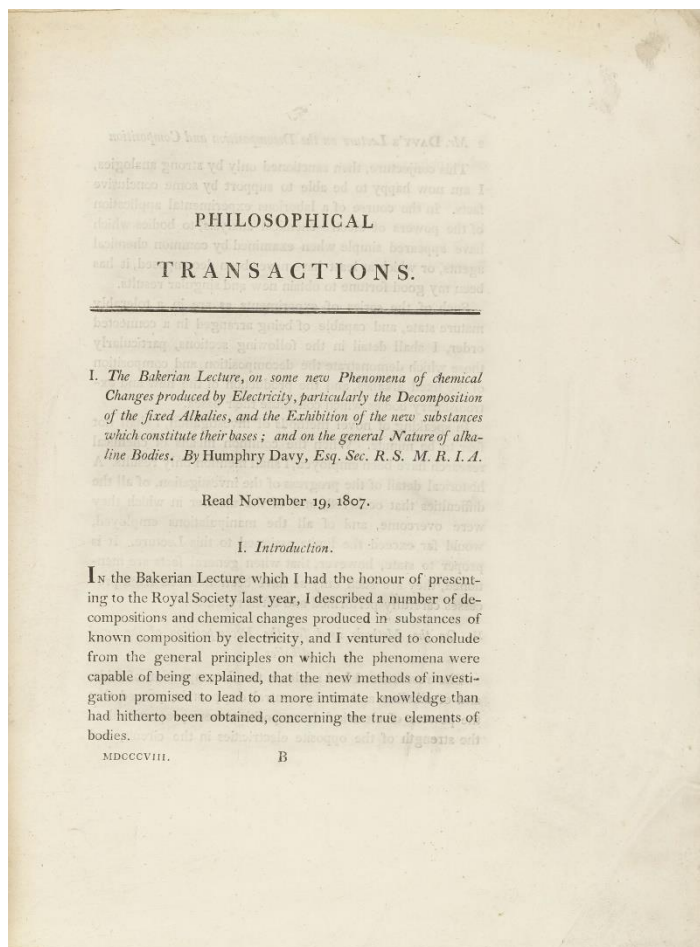


composed of singular, indestructible particles goes back to speculative philosophers and scientists (Democritus and Lucretius among the ancients, Newton among the moderns), the great exposition of such a theory and its physical implications is by John Dalton (1766-1844), as presented in his *New System of Chemical Philosophy*. Here, for the first time, Dalton argued that each of the *éléments* of Lavoisier - as defined in 1789 - "is composed of atoms all alike ... the composition of each being constant" (PMM 261), the identity of each atom being established by its particular weight. Taking the lightest atom (hydrogen) as his integer, Dalton found that oxygen weighed 6.5 times as much, sulphur thirteen times as much, and so on, providing here (also for the first time) a 'periodic table' of the then-known elements: see pp. 213-15, and p. 219 and the facing plate. He proposed to express the age-old problem of chemical composition in terms of the number of atoms of each contributing element that combined into the smallest unit (later termed a 'molecule') of any compound substance; this model of all physical matter proved confirmable through experiment, and has dominated chemical theory (with modifications) ever since. Dalton's emphasis on the indestructibility of matter was also 'new' in 1808: "we might as well attempt to introduce a new planet into the solar system, or

to annihilate one already in existence, as to create or destroy a particle of hydrogen" (p.212, see DSB III, p.537ff).

Dalton explains the publication strategy of his *New System* in his Preface: he first intended "to publish it intire in one volume", but changed his mind in order to 'exhibit and elucidate . . . those primary Laws, which seem to obtain in regard to heat, and to chemical combinations' as swiftly as possible, being warned by colleagues that 'the interests of science, and his own reputation might suffer by delay'. Since his exposition of "the doctrine of heat, and the general principles of Chemical Synthesis, are in a good degree independent of the future details, there can no detriment arise to the author, or inconvenience to his readers, in submitting what is already prepared, to the inspection of the public". Hence Dalton put into print the essential 'Part I' of his *New System* in May 1808, reserving the 'details' of his experiments and analysis for two years: that supplement, entitled 'Part II', appeared in 1810, with a prefatory apology for its two-and-a-half year delay, and with its pagination continued from that of Part I. A very belated third part (described as 'Volume II, Part I', but effectively a new work under the old title) saw print only in 1827, by which time "the theory had borne such widespread fruit that Dalton's own conclusions were almost all out-of-date" (PMM 261).

8 DAVY, Humphry. *The Bakerian Lecture, on some New Phenomena of Chemical Changes produced by Electricity, particularly the Decomposition of the Fixed Alkalies, and the Exhibition of the New Substances which constitute their Bases; and on the General Nature of Alkaline Bodies.* In: *Philosophical Transactions of the Royal Society of London for the Year 1808*, Vol. 98, part I and II, pp. 1-44 + 333-470. Two parts in two volumes. London: W. Bulmer, 1808. 4to (295 x 235 mm). vi, [2], 1-142, 26; iv, 145-376, [6] pp., part titles, index bound at end, and 9 engraved plates (2 folding). Original

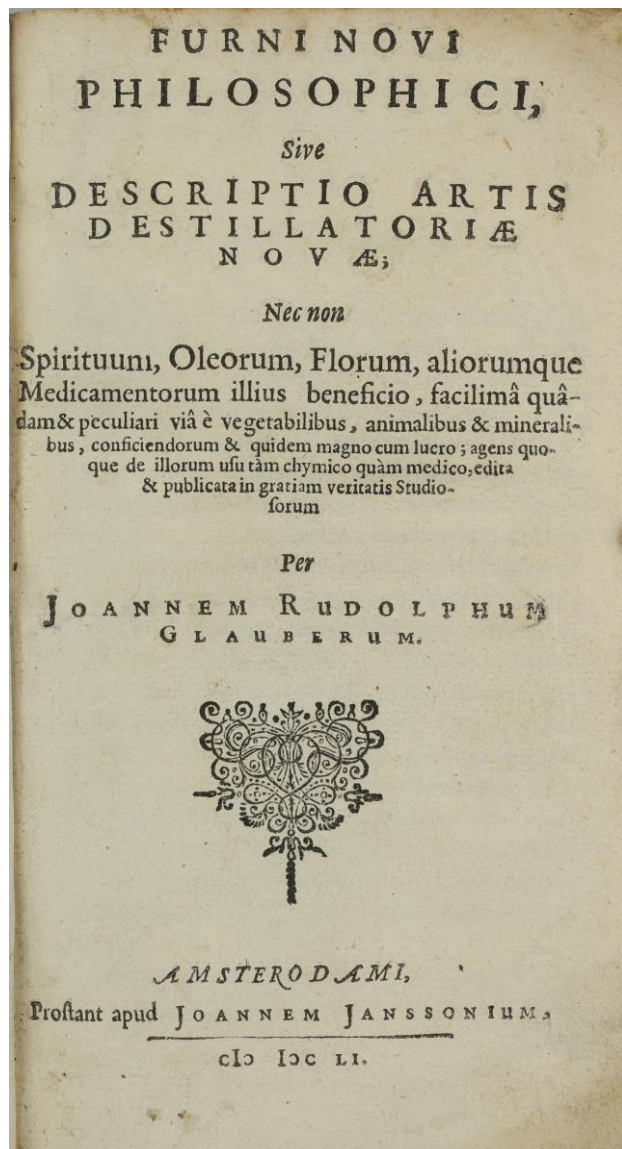


blue simple paper wrappers, all pages untrimmed and partially unopened (wrappers soiled and spotted, spine repaired using the original paper). Protected in custom-made clamshell boxes. Text and plates generally crisp and clean with only very little age-toning, some dust soiling mostly to edges and outer margins. Provenance: Benjamin Hyett Esq. A fine, unsophisticated copy in original wrappers, in this state rarely found on the market. (#003569) € 3500

FIRST EDITION, journal issue. "In his second Bakerian lecture, Davy reported his isolation by electrolysis of the elements sodium and potassium from the 'fixed' alkalies soda and potash. Classifying them as metals, he gave them their present names (the Latin '-ium' suffix denoting metallic status) and described many of their properties, including their extreme lightness and combustability. Davy's experiments also demonstrated the then-puzzling fact that the two alkaline compounds contained oxygen; according to Lavoisier, oxygen was 'the principle of acidity,' but Davy

showed that with equal justice it might be called 'the principle of alkalescence' (Norman). Reference: Norman 608 (first separate printing)

9 **GLAUBER, Johann Rudolf.** *Furni novi philosophici, sive descriptio artis destillatoriae novae; Nec non spirituum, oleorum, florum, aliorumque medicamentorum illius beneficio, animalibus & mineralibus...* Five parts and appendix bound in one / *De auri tinctura sive auro potabi vero.* Amsterdam: J. Jansson, 1651. Two works in one volume. 8vo (156 x 92 mm). 67, [5]; 148, [4]; 55 [1]; 83, [5]; 54, [2]; 72 pp.; 22 pp., including all 4 blank leaves. Separate title page with printer's device to each part, 3 folding woodcut plates, woodcut illustrations (some full-page), woodcut initials. Bound in contemporary blind-ruled full calf, spine with gilt-lettered morocco label, some gilt tooling to board



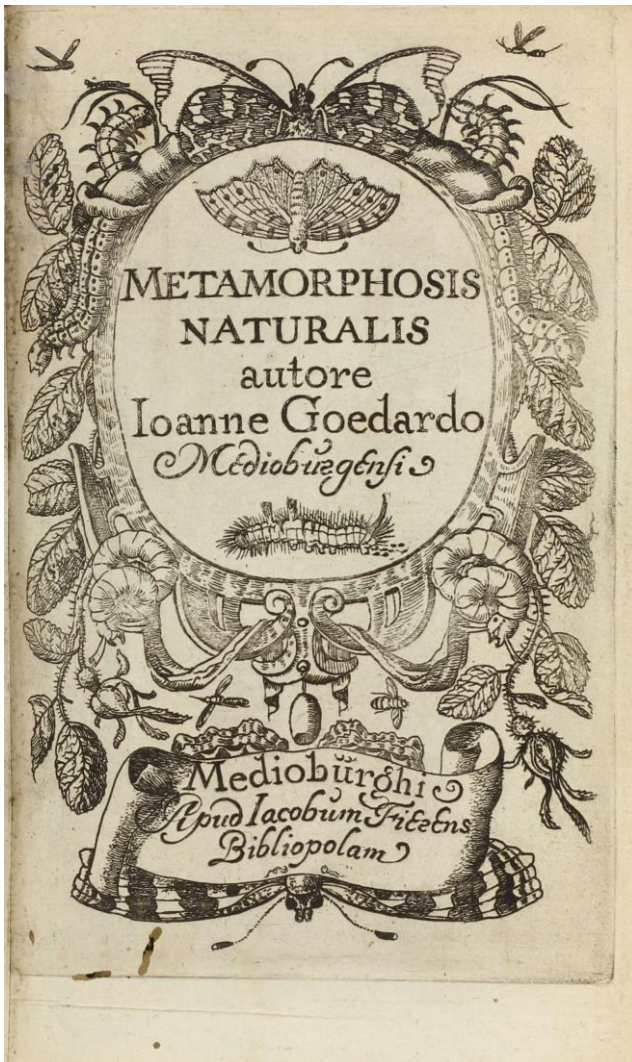
edges, original endpapers (rebacked, corners repaired, boards rubbed). Text and plates only very little browned, occasional minor spotting, short upper and inner margins, split to fold of second plate. In all a clean and crisp copy. (#003793) € 1600

I. FIRST LATIN EDITION, rarely found complete with the appendix as here, of the author's most important work being the first comprehensive treatise on industrial chemistry outside metallurgy, and containing details of Glauber's improved distilling furnaces. It further contains Glauber's discoveries about mineral acids, sodium sulphate, chlorine compounds, nitrates and sulphates, benzene, phenol, chloroethyl, alkaloids and much more. Glauber makes all these announcements on the basis of the instructions for the construction of four 'philosophical' furnaces, at the same time describing the work that can be carried out with these furnaces (cf. Gugel 54). "This is certainly one of the most remarkable books on chemistry of the seventeenth century" (Ferguson).

II. FIRST LATIN EDITION (the first was in 1646 in German language according to Poggendorf). In this writing, Glauber teaches how to bring gold into an ingestible form. He recommends this invention as a medicine for all kinds of ailments and infirmities (see Gugel 55).

References: (I). Ferguson I, 323-4; Duveen p. 258; Wellcome III, p. 125; DSB V, p. 523; Cole 530c; Caillet 4573; Dawson 230; NLM/Krivatsy 4784; K.F. Gugel, *Johann Rudolph Glauber Leben und Werk 1604 - 1670*, Würzburg, 1955. (II.) Ferguson I, 323; Wellcome III, p. 122; Dorbon 1879.

10 GOEDAERDT, Joannes. *Metamorphosis naturalis ofte historische beschryvinghe vanden oirspronck, aerd, eygenscappen ende vreemde veranderinghen der wormen, rupsen, maeden, vliengen, witjens, byen, motte ende dierghelijcke dierkens meer ; niet uyt eenighe boecken, maer alleenelijck door eygen ervarentheyd uytgevonden, beschreven, ende na de konst afgeteyckent.* Middelburgh: Jacobum Fierensium, [1662-1669]. Three parts in three volumes. 8vo (148 x 93 mm). [40], 152, [16]; [24], 288, [16]; [16], 208pp. A total of 154 engraved plates on 126 sheets. First and second vol. with additional engraved title in Latin (lacking those in 3rd volume), letterpress title of vol. I printed in red and black; engraved initials and title-page vignettes. Bound without engraved portrait in vol. II found in a few copies. Uniformly bound in 18th century mottled calf, spines with 4 raised bands, gilt-lettered morocco labels and gilt tooling, red-dyed edges, original endpapers. Worm track to lower margin of about one third of vol. I affecting one letter of title, very little browning of text and plates (title of vol. III a bit stronger), occasional minor spotting and staining. Provenance: collection of Roman Vishniac, Russian-American biologist, photographer and pioneer in photomicroscopy. (#003681) € 3500



Vol. I: *Metamorphosis Naturalis, [Deel 1]*, [1662]. [40], 152, [16] pp. Signatures: (a)⁸ (b)⁴ (c)⁸ A-1⁸ K⁴ [a]⁸. 80 engraved plates (of which 79 plates with Roman numbers, final unnumbered) on 63 sheets. With the final unnumbered leaf with the verses by Jones.

Vol. II. *Metamorphosis Naturalis, . . . , Het Tweede Deel*, [1662]. [24], 288, [16] pp. Signatures: a⁸ b⁴ a-s⁸ aa-bb⁴. 51 numbered engraved plates on 42 sheets. Small dampstain to pl. 29 and 30 and 2 text leaves.

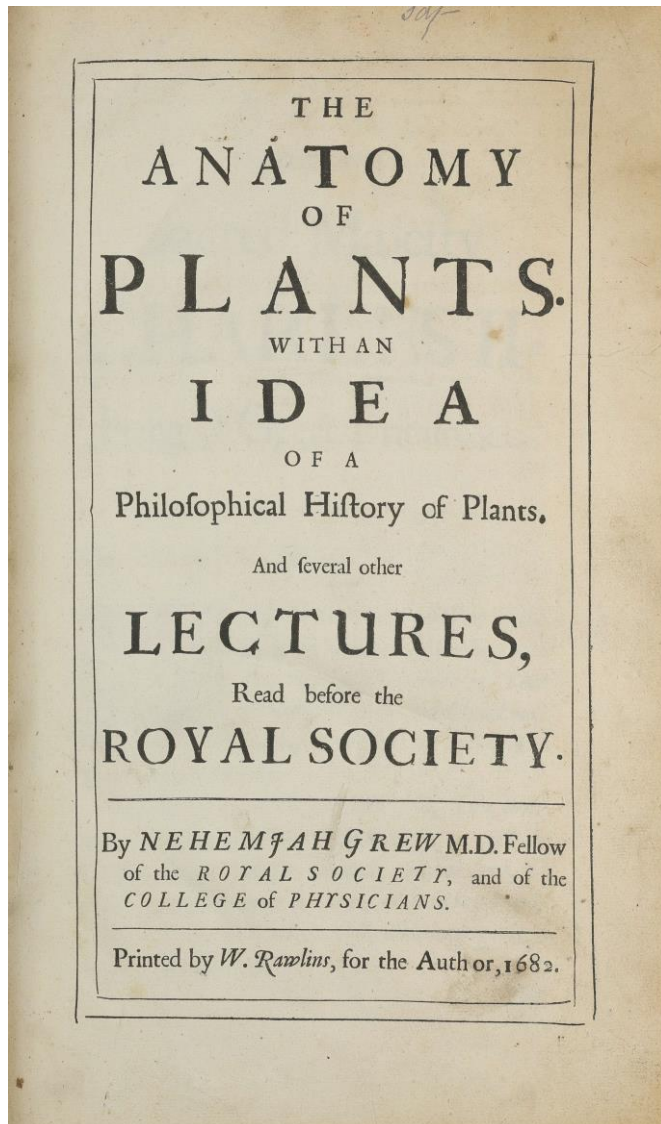
Vol. III. *Metamorphosis Naturalis, . . . , Het derde en laetste Deel*, [1669]. [16], 1-54, [2], 55-208 pp. Signatures: a⁸ A-N⁸. 23 engraved plates (numbered A to Y) on 21 sheets (2 folding, two plates numbered N). Unsigned and unnumbered leaf inserted between D3 and D4. Pen trials on p. 185 and 193, small dampstain to fore-margin of final two gatherings, plate C slightly shaved at fore-margin.

Johannes Goedaert (1617-1668) was a famous Dutch landscape and flower painter who lived all his life in Middelburg. He was one of the earliest authors to write about entomology, and one of the first to write about the insects of the Netherlands. He based his entomological discussions entirely on first-hand observation rather than paraphrasing

and citing his predecessors. Vol. III includes material found among the author's papers after his death. It was edited by Johannes de Mey with a dedication signed Clara de Bock (the author's widow).

Literature: Landwehr, *Dutch books*, p.24f.; Horn/ Schenkling 8017; Nissen, ZBI 1603; BMN II, p.215.

11 GREW, Nehemiah. *The anatomy of plants. With an idea of a philosophical history of plants. And several other lectures, read before the Royal Society.* London: Printed by W. Rawlins for the author, 1682. Folio (306 x 188 mm). [22], 24, [10], 212, [4], 221-304, [20] pp., including imprimatur leaf, sectional titles, general index, 83 engraved plates (5 double-page), woodcut headpieces and initials. Bound in early 19th-century full marbled calf, spine with 5 raised bands and gilt ruling, gilt-lettered red morocco label in second compartment (joints and spine ends expertly restored). Light browning throughout, occasional minor spotting and finger-soiling, 8 plates at end with minor waterstaining; hole (paper flaw) at fore-margin of leaf O4 (costing the printed marginal "Tab. 9") and at fore-margin of Ee1 (affecting two letters of marginals). 4 plates misbound, a few plates with marginal plate explanatory text slightly trimmed. Provenance: William Gilstrap (armorial bookplate to front pastedown). (#003755) € 2500



FIRST COMPLETE EDITION OF "THE BIRTH OF MICROSCOPIC ANATOMY OF PLANTS" (Horblit). *The Anatomy of Plants* is the first collected and revised edition of these treatises and lectures, and is recognized as Grew's "chief work which gained him the reputation of being one of the most distinguished scientists of the 17th century" (Hunt). Together with Malpighi, Grew is considered the co-founder of plant anatomy, and both men were among the first to investigate internal plant anatomy with the aid of the microscope and to demonstrate that plants have a characteristic ordered inner structure that could be classified; Grew "showed that the 'cells' first observed by Robert Hooke ... made up the normal structure of the parenchyma, and came very close to recognizing the universal cellular structure of plants" (Norman). "The publication of

'The anatomy of Plants' ... was the highlight of Grew's career as a plant anatomist. An examination of the text and the profuse illustrations in this work reveals the tremendous advance in knowledge which it represents" (DSB V, 535).

References: Horblit 43b; Norman 946; Nissen, BBI 758; Hunt 362; Pritzel 3557; Wellcome III, p.164.

12 GREW, Nehemiah; BOYLE, Robert; LEEUWENHOEK, Anton van; [LE VASSEUR, Louis, editor]. *Recueil d'experiences et observations sur le combat, qui procede du mélange des corps. Sur les saveurs, sur les odeurs, sur le sang, sur le lait, &c. Tres-curieux & utile aux medecins & à ceux qui s'appliquent à la recherche de la nature, des qualitez & des proprietes de toutes sortes de corps.* Paris: chez Estienne Michallet, 1679. 12mo (158 x 86 mm). Three parts in one volume. [16], 262, [2] pp., including privilege leaf at the end, bound without the engraved frontispiece and the engraved plate. Signatures: ã⁶, ë², A-Y⁶. Contemporary sheepskin, spine with gilt decoration, binding very worn (spine leather in two compartment gone, joints split but cords holding, corners scuffed, leather rubbed). Text with light even browning some minor spotting, first 3 leaves including title browned at margins and with paper chipping (not affecting text). A fair copy, unfortunately incomplete. (#003714) € 600

VERY RARE FIRST EDITION of a collection of papers by three of the foremost natural philosophers of the 17th century. The editor, Louis Le Vasseur, describes the three articles in his introduction and explains their inclusion in the work. Grew's article, originally published in English, has been translated to French of the importance of his experiments. Boyle's treatise includes information on 24 experiments, 12 dealing with flavors, and 12 dealing with odors. Le Vasseur explains that he decided to include Leeuwenhoek's article because his experiments and observations on blood and milk are worthy of the curiosity of scholars. The treatise by Leeuwenhoek contains five articles written between April 1674 and February 1678, providing observations for experiments conducted in April, June and July 1674, August 1675, and February 1678. The fifth article, apparently unrecorded in Dobell, may be published here for the first time. In these articles, Leeuwenhoek describes in particular the deformability and agglutination of red blood cells. This book is rare: according to online records, only two copies have sold at auction in the last 45 years. References: NLM/Krivatsy 4991; Wellcome III, 164.

Content: *Experiences de Mr. Grew, de la Société royale de Londres, docteur en medecine. Sur le combat qui arrive du mélange de diverses liqueurs avec toutes fortes de corps. Experiences curieuses de l'illustre Mr. Boyle, sur les saveurs et sur les odeurs. Observations faites avec le microscope sur le sang et sur le lait et communiquées à Mr. Oldenbourg, secretaire de la Société royale de Londres, par Mr. Leuwenhoeck de Delft en Hollande.*

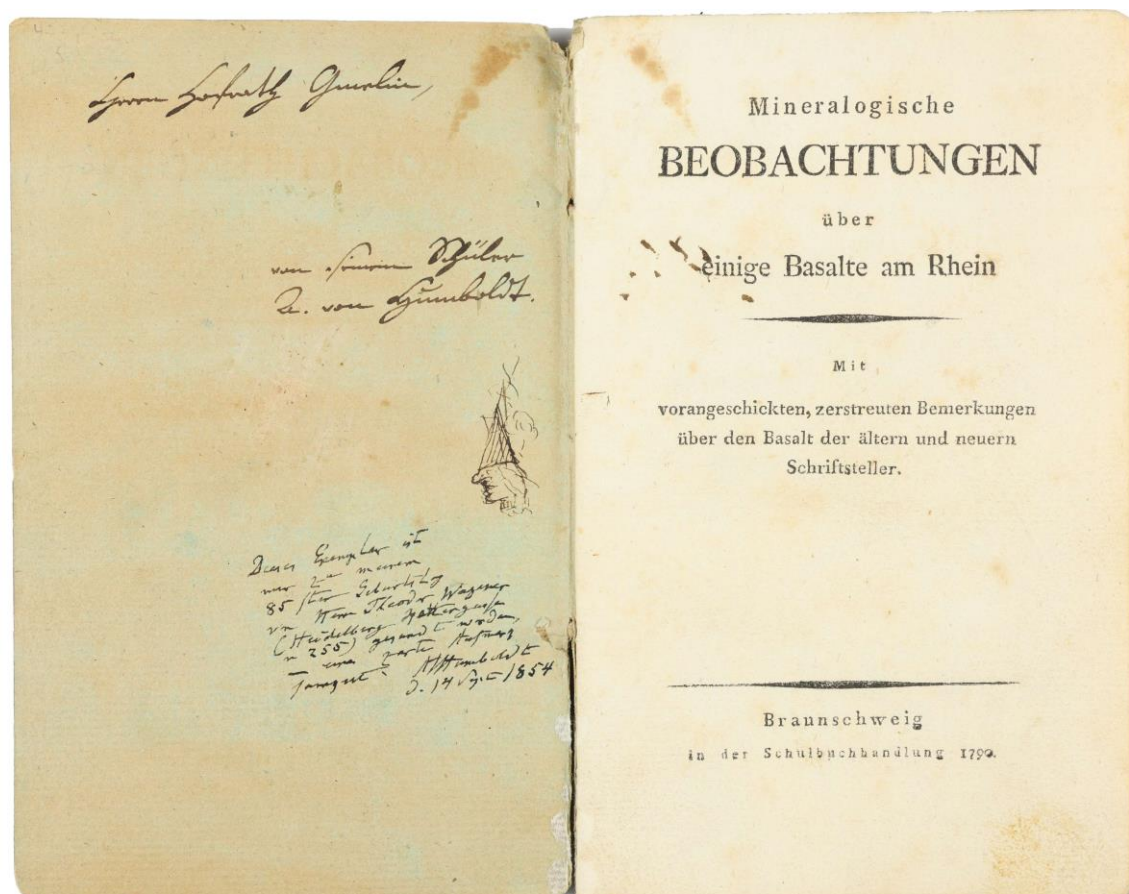
13 GRUITHUISEN, Franz von Paula. *Beyträge zur Physiognosie und Eautognosie, für Freunde der Naturforschung auf dem Erfahrungswege: von den Jahren 1809, 1810 und 1811.* München: Ignaz Joseph Lentner, 1812. 8vo (207 x 122 mm). xxiii [1], 446, [2] pp., 4 folding engraved plates and errata leaf at the end. Bound in contemporary half-calf, boards covered with brown marbled paper, spine with gilt decoration and gilt-lettered morocco label, red-dyed edges, original endpapers (rebacked preserving original spine, boards and board-edges rubbed, corners heavily worn, upper joint with worming). Text and plates with minor browning and occasional minor spotting, first free endpaper clipped at upper corner. Provenance: ?Ungethüm (color lithographed bookplate to front pastedown), shelf-mark paper label to upper board. (#003727) € 1300

RARE FIRST EDITION of Gruithuisen's collection of observations and studies in a variety of disciplines, such as philosophy, medicine, optics, astronomy or geology. Baron Franz von Paula Gruithuisen (1774-1852) was a Bavarian physician and astronomer. He taught medical students before becoming a professor of astronomy at the University of Munich in 1826. During his period of medical studies and instruction, he was noted for his contributions to urology and lithotripsy. He developed ideas on safer methods to remove bladder stones transurethrally, and his instruments served as models for subsequent devices. Gruithuisen contributions to astronomy were mainly in the area of selenography. He was the first to suggest that craters on the Earth's Moon were caused by meteorite impacts. He believed in the former presence of water on the Moon, a hypothesis which he tried to support with a map in this work showing linear features near the Mare Crisium. He argued that these features which he observed under the telescope resemble stream courses of rivers. Like others before and since his time, Gruithuisen also believed that the Moon was habitable. He made multiple observations of the lunar surface that supported his beliefs, including his announcement of the discovery of a city in the rough terrain to the north of Schröter crater he named the Wallwerk. This region contains a series of somewhat linear ridges that have a fishbone-like pattern, and, with the small refracting telescope he was using, could be perceived as resembling buildings complete with streets. He published his observations in 1824, but they were greeted with much skepticism by other astronomers of the time. His claims were readily refuted using more powerful instruments. Gruithuisen is also noted for the discovery of bright caps on the cusps of the crescent Venus, which he attempted to explain by proposing that jungles on Venus grew more rapidly than in Brazil due to the proximity of the planet to the Sun, and that as a consequence the planet's inhabitants celebrated fire festivals during which they burned massive amounts of vegetation (wikisource). References: Hirsch, II, pp. 873-874; Poggendorff, I, 964-965.

"I have never seen a more interesting Association Book in my life" (V. G. Simkhovitch)

14 HUMBOLDT, Alexander von. *Mineralogische Beobachtungen über einige Basalte am Rhein. Mit vorangeschickten, zerstreuten Bemerkungen über den Basalt der ältern und neuern Schriftsteller.* Braunschweig: Schulbuchhandlung, 1790. 8vo (155 x 100 mm). [i-v] vi-viii, [9-11] 12-126 pp. Contemporary thin cardboard, spine and front cover hand-lettered in ink, blue-dyed edges (some paper chipping at spine ends and joints, dust-soiling). Protected in a dark-blue roan pull-off case. Light even browning internally, occasional faint foxing, small ink spots to title and p. 34; a few annotations and ink corrections in text, in all crisp and clean throughout. Provenance: Johann Friedrich Gmelin; Theodor Wagner; Alexander von Humboldt; Adolph Lewisohn. Dedication copy of Alexander von Humboldt to his teacher Johann Friedrich Gmelin at Göttingen University, inscribed and signed on inner front-cover "Herrn Hofrath Gmelin / von seinem Schüler / A. von Humboldt". Further inscribed by von Humboldt below, but more than 60 years later in his well-known matured hand "Dieses Exemplar ist mir zu meinem 85sten Geburtstag von Herrn Theodor Wagner (Heidelberg, Nattergasse 255) gesandt worden, - eine zarte Aufmerksamkeit. AvHumboldt d. 14. Sept. 1854" (this copy was sent to me for my 85th birthday by Mr. Theodor Wagner, Heidelberg ..., - a delicate attention), accompanied by a small drawing in ink, likely in von Humboldt's hand. Further inscribed by him on the front cover "Alexander v Humboldt / Basalte am Rhein / 1790" and below added (in a different hand) "sehr selten". He also added his name under the printed word "der Verfasser" on the dedication page [iii] (a comparable copy presented by him to George Forster and now in the Humboldt Sammlung of the Stadt-Museum Berlin also got the added name under at this place). (#003770) € 19,500

FIRST EDITION OF THE FIRST BOOK PUBLISHED BY ALEXANDER VON HUMBOLDT AND AN AMAZING ASSOCIATION COPY. Alexander von Humboldt (1769-1859) studied physics, mathematics and languages at the University of Göttingen from 1789, where Johann Friedrich Gmelin (1748-1804) was one of his first teachers of geognosy and mineralogy. In September of the same year, Humboldt undertook a journey along the Rhine to explore the geological conditions there, including the basalt deposits. In his *Mineralogische Beobachtungen*, Humboldt comments on the doctrines of the time on the formation of rocks, neptunism and volcanism (also plutonism). One of the central controversies of German geological research at the beginning of the 19th century emerged from the two opposing theories, which Goethe also dealt with.

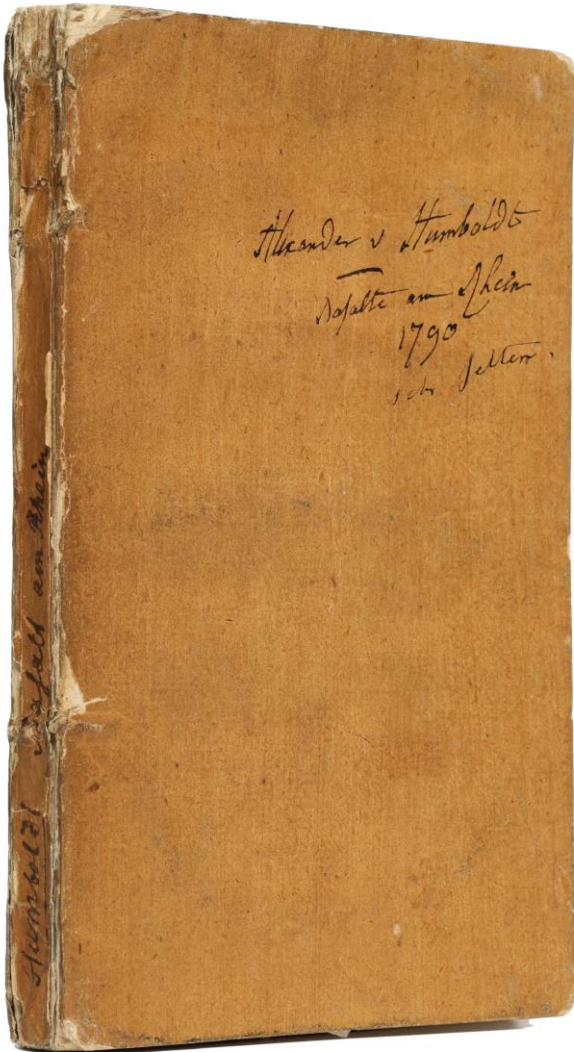


"At the climax of the dispute around 1790, when without naming the author also a small paper with the title *Mineralogische Beobachtungen über einige Basalte am Rhein* appeared. To the friends it identified itself as the work of Alexander von Humboldt by the letters 'H-t' at the end of the preface. Here, in his first independent publication, the young von Humboldt proves to be a faithful follower of Werner's neptunistic doctrine - especially concerning the genesis of basalts" (Fritz Krafft: Alexander von Humboldts "Mineralogische Beobachtungen über einige Basalte am Rhein" und die Neptunismus-Vulkanismus-Kontroverse um die Basalt-Genese. In: *Studia Fribergensia* (Beiträge zur Alexander-von-Humboldt-Forschung, Band 18), Berlin: Akademie-Verlag 1994, pp. 117-150).

During his journey along the Rhine in 1789, Humboldt became fascinated by the columnar basalt formations that he saw in the region around the town of Bonn. Humboldt was particularly interested in the way that these formations were created, and he believed that they were the result of volcanic activity. He spent a great deal of time studying the basalt formations and the surrounding geological

conditions, and he became convinced that the Rhine Valley had been the site of volcanic activity in the past. Humboldt's interest in volcanism and basalt continued throughout his life, and he went on to study other volcanic regions around the world, including the Andes Mountains in South America. He believed that the study of volcanism was important not only for understanding the Earth's geological history, but also for understanding the impact of volcanic activity on climate and human societies.

Alexander von Humboldt dedicated his first book, which was printed in a rather small run of 300 copies, to George Forster. George Forster was a British naturalist, ethnologist, and travel writer who had accompanied Captain James Cook on his second voyage to the Pacific from 1772 to 1775. Forster had also traveled extensively in Europe and had developed a keen interest in natural history and geology. He and Humboldt first met in Mainz in 1785 and quickly became close friends and intellectual collaborators. The dedication is also in recognition of his contributions to the field of natural history and as a gesture of friendship and gratitude. The dedication reads, in part: "To George Forster, the gifted and zealous friend of science, the friend of truth, the intrepid traveler who has explored the remotest corners of the world, and who, by his extensive knowledge of nature, has greatly advanced the study of science." Humboldt undertook a joint research trip with Forster from end of March to end of July 1790. This led from Mainz along the Lower Rhine to England and ended in Paris.



The association history of this copy in fact is amazing. Alexander von Humboldt had a close and formative relationship with his teacher Johann Friedrich Gmelin at the University of Göttingen. Gmelin was a prominent naturalist and mineralogist, and he recognized Humboldt's intellectual talents early on. Under Gmelin's guidance, Humboldt became interested in geology, mineralogy, and botany. Gmelin also introduced Humboldt to the work of the French naturalist Georges-Louis Leclerc, Comte de Buffon, which would inspire Humboldt's later interest in biogeography and the unity of nature. In addition to his scientific guidance, Gmelin also provided Humboldt with personal support and encouragement. When Humboldt's father disapproved of his son's scientific pursuits and threatened to cut off his funding, Gmelin convinced him to continue supporting Humboldt's education. Humboldt remained in contact with Gmelin throughout his life, and he often acknowledged Gmelin's influence on his work. In fact, when Humboldt was asked about his greatest debt to any one individual, he named Gmelin without hesitation.

Humboldt gave this copy to his teacher Gmelin and the reasons are obvious, but what about Theodor Wagner, from whom Humboldt got his copy back more than 60 years later? We do not know how Wagner came into possession of our copy and whether he received it directly from Gmelin. The two men in fact met in the early 1820s when Humboldt visited Heidelberg, and they became friends and collaborators. Wagner was a professor of physiology and comparative anatomy at Heidelberg, and he shared Humboldt's interest in exploring the natural world. They worked together on several scientific projects, including a study of the nervous system of electric fish and an investigation of the effects of altitude on the human body. Their collaboration is documented in their extensive correspondence, which has been preserved and published in various collections, including "Alexander von Humboldt - Theodor Wagner Briefwechsel 1820-1858" edited by Hartmut Walravens and published in 2001. In addition to their scientific collaboration, Humboldt and Wagner also shared a commitment to political and social reform. Both men were supporters of liberal causes and participated in the political movements of their time.

Much later, our copy was acquired by Adolph Lewisohn (1849-1938), a Hamburg-born German immigrant who rose to become an investment banker, mining magnate and philanthropist in New York City. The Humboldt copy is listed on p. 60 of his *Catalogue of the private library of Mr. Adolph Lewisohn* (New York: Privately printed, 1923). In an enclosed letter from Vladimir Gregorievitch Simkhovitch (1874-1959), an economist and professor of Economic History and Economics at Columbia University, to Lewisohn, dated June 26, 1911, the terms of the book transaction are fixed:

My dear Mr. Lewisohn: I have just communicated with the owner of the remarkable Humboldt [sic] book. I told him of your offer, and I also told him that it should be hopeless to dispose of this or of any book during the summer. The owner therefore decided to accept your offer. I should like to say that I have never seen a more interesting "Association Book" in my life, and also that I am firmly convinced, that it is one of the greatest bargains that you or any man has ever bought. I shall ask you to be good enough to send the check of \$200 addressed to Mr. V. G. Simkhovitch, Greenwich House, 26 Jones St. New York City, Yours very truly, V. G. Simkhovitch. Simkhovitch here acts as an intermediary in the sale by the unknown previous owner to Adolph Lewisohn.

Literature: Klein, U. (2018). Die frühen Schriften. In: Ette, O. (eds) *Alexander von Humboldt-Handbuch*. J.B. Metzler, Stuttgart.

15 HYDROPHILIUS, Sincerus (pseudonym). *Falscher und wahrer Lapis Philosophorum, Oder: Eines vornehmen und Christlichen Philosophi Unsätzbarer Unterricht Von allem demjenigen, was ihm bey kostbarster Suchung Des Steins der Weisen begegnet ist* . . . Frankfurt & Leipzig: Daniel Christian Hechtel, 1752. 4to (207 x 178 mm). [24], 416, [4] pp., including final blank, engraved frontispiece showing laboratory with furnaces and apparatus, title printed in red and black, engraved plate of horoscope facing p.89, woodcut head- and tailpieces, errata leaf bound at end; with red seal to end of Preface. Bound in early 20th century mottled sheep, spine with gilt-lettered morocco label, red-sprinkled edges, new endpapers (extremities little rubbed). Minor even browning internally, short tear to lower edge of frontispiece repaired, title-leaf with small cut out patch just touching a few letters (repaired), small paper repair to preliminary leaf (4 next to seal, few pencil markings, occasional dust-soiling at upper margin and corner of few pages. Provenance: Heinrich Lühr (ink stamp to upper corner of title and final text leaf). Collated and complete. (#003794) € 2500

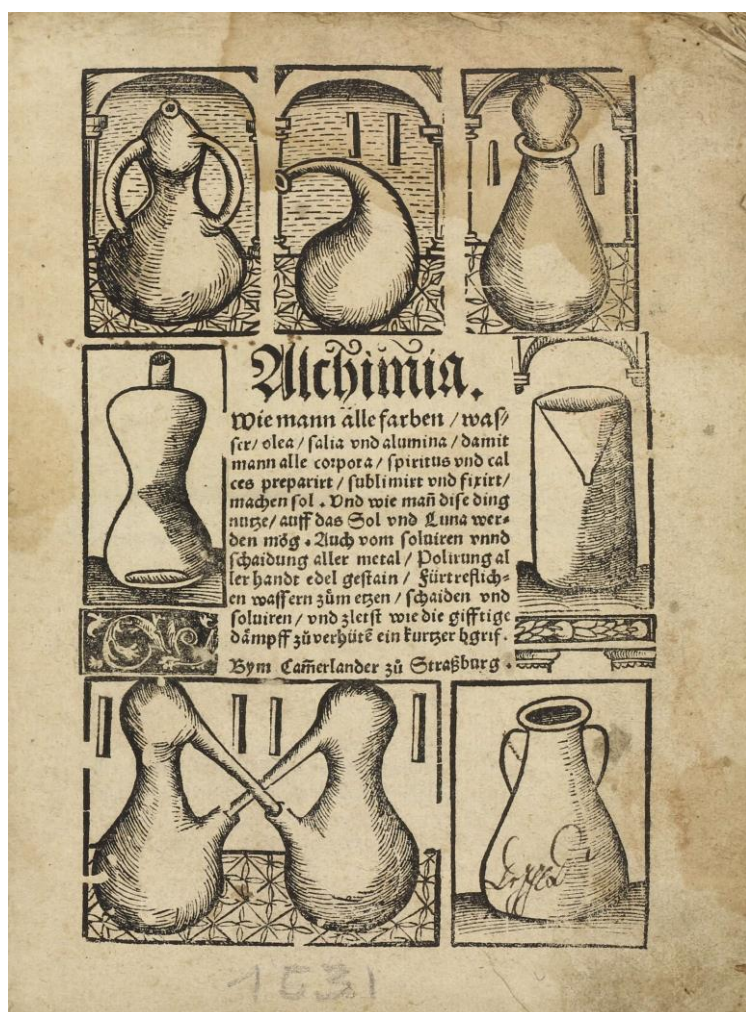
FIRST EDITION, REISSUE, with just a new title-page, of the *Chymischen und heutigen Welt, Nutzbahre Schatz-Kammer*, 1736 (see Ferguson). "The frontispiece seems to be expressive of the laborious futility of the Alchemists . . . The Appendix . . . contains receipts and cures for various diseases. The second part is a sort of pharmacopoeia of common substances and the curative virtues of the preparations. They are far from attractive" (Ferguson).



References: Caillet 3807; Ferguson I.263; Wellcome III.324.

16 **KERTZENMACHER, Peter [KÄRTZENMACHER, Petrus].** *Alchimia : wie mann alle Farben, Wasser, Olea, Salia und Alumina damit mann alle corpora spiritus und calces preparirt, sublimirt und fixirt, machen sol : und wie mann dise Ding nutze, auff das Sol und Luna werden mög : auch vom Solviren unnd Schaidung aller Metal, Polirung allerhandt Edel gestain, fürtreflichen Wassern züm etzen, schaiden und solviren und zletst wie die gifftige Dämpff zuverhüten ein kurtzer Bgrif.* Strassburg: M. Jacob Cammerlandern von Mentz, 1539. 4to (205 x 158 mm). [4], XLI, [3] leaves. Roman numbers except for f. 33-36. Colophon on f. XLI verso reads "Getruckt zů Strassburg bei M. Jacob Cammerlandern von Mentz Anno M.D. XXXIX." Title within illustrated border, printer's device on final leaf verso; 19 woodcut illustrations in text of which 7 full page and 2 repeating. Signatures: A-M⁴. Contemporary binding reusing a vellum manuscript, hand-lettered paper label to spine (cover heavily dust-soiled and spotted, spine with loss of vellum, paper label chipped). Text with light even browning, waterstaining, and dust-soiling mostly to outer margins (title stronger); f. XXIX with small hole at blank fore-margin; a few ink annotations in contemporary hand. Provenance: Johann Jacob Bazerus, M.D. (armorial bookplate to inner front cover). (#003726) € 14,000

SECOND EDITION UNDER THIS TITLE AND AUTHOR'S NAME, AND, AS THE FIRST OF 1534, "OF THE UTMOST RARITY" (Duveen).



Early treatise on the manufacturing of colors, poisonous and asphyxiating gases, and other practical applications of technological chemistry. The second part deals with what was then thought to be a transmutation and separation of gold and silver; appended is the treatise of Gilbertus Cardinal on the solution of metals and the polishing of gems. Ferguson clearly never saw a copy of the first edition, and wrongly believed that the work originally appeared in 1539 (an error followed by the Mellon Occult Collection catalogue).

Kunstbüchlein (or *skills booklet*) is the name given to a number of books printed in the 16th century, especially in southern Germany, which contain recipes for metal testing and separation, for the production of alloys, colors and inks, and which gives chemical and alchemical information. It served artisans, goldsmiths, minters, painters, illuminists, etc. This kind of art booklets can be traced since 1531

(Darmstaedter, p. 60). They can be regarded as technological tracts and collections of recipes in a traditional manner, whereby increasingly scientific knowledge is incorporated. These little art books, along with the alchemical works, represent a valuable source on the state of the art techniques, chemistry, physics and philosophy at the beginning of the Renaissance in the German-speaking countries. The alleged author, Petrus Kärtzenmacher, is mentioned on the first page of the introduction. However, little is known about this person, except that he is described on the mentioned page as a famous alchemist and citizen of Mentz (i.e., Mainz). "Kertzenmacher's booklet, which was issued (and edited differently) by two different printers, instructed his readers primarily in the technical aspects of alchemy, disclosing the techniques, materials, and equipment needed for the most basic alchemical operations. Among 'the things that belong to the art (of alchemy)' included in the

Die endet sich das erst Buch von der
Alchimi.

Vorred



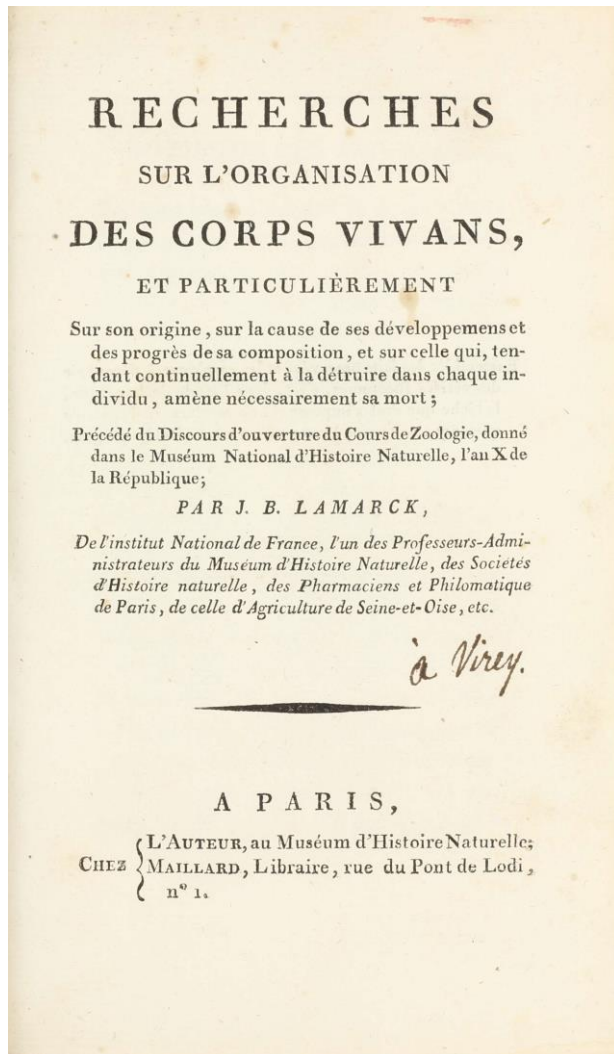
book were recipes for the preparation of substances essential to the alchemist's craft, including cinnabar (mercuric sulfide), *Spangrün* (a salt from copper), *Weinstein* (tartar), and *aqua fortis* (or nitric acid, used in dissolving gold). Kertzenmacher taught his readers how to use these substances as well, outlining, for example, how to make silver out of sulfur and quicksilver. Perhaps most important, the two printers who issued versions of Kertzenmacher's book did so in a format that was easy to use. The book contained numerous illustrations of stills and furnaces, as well as an index to facilitate finding specific recipes. The book even included a translation into

German of frequently used Latin words with which a less well-educated audience may not have been familiar, such as *sol* (sun, or gold) and *luna* (moon, or silver). Armed with this kind of informative book and the requisite materials, someone literate in the vernacular German, if not Latin, could easily begin his or her training in what Kertzenmacher promised was "the highest (art) of them all" (Nummedal).

References and Literature: Duveen p. 317; Duveen, "The Library," 5th Series, I:1 (June, 1946) p. 59; Ferchl p. 271; Ferguson 1:19; E. Darmstaedter, *Berg-, Probir- und Kunstbüchlein*, 1926, pp. 47, 60 & 78; Ferguson, *Treatises on Technological Chemistry*. Suppl. 2, p. 1-10; T. Nummedal, *Alchemy and Authority in the Holy Roman Empire*, 2008, p. 25.

17 LAMARCK, Jean Baptiste de. *Recherches sur l'organisation des corps vivans (sic) et particulièrement sur son origine, sur la cause de son développement et des progrès de sa composition... Précédé du Discours d'ouverture du Cours de Zoologie donné dans le Muséum d'histoire naturelle, l'an X de la République.* Paris, chez l'auteur, Maillard, no date [1802]. 8vo (200 x 127 mm), viii, 216 pp., including half title and one folding table. Bound in 20th century half black morocco and green cloth over boards, gilt-lettered spine, new endpapers, green sprinkled edges. Internally crisp and clean with only minor occasional spotting (a bit stronger to first and final pages). Two pages with ink annotations in contemporary hand. Provenance: collection of Roman Vishniac, Russian-American biologist, photographer and pioneer in photomicroscopy. A fine and tall copy. (#003680) € 1800

Norman 1264; DSB VII, pp. 589-91. - RARE FIRST EDITION OF THE FIRST FULL-LENGTH EXPOSITION OF LAMARCK'S THEORY OF EVOLUTION. In this expanded presentation of his theory, first enunciated two years earlier in the *Système des animaux sans vertèbres*, Lamarck attempted to explain the reasons for



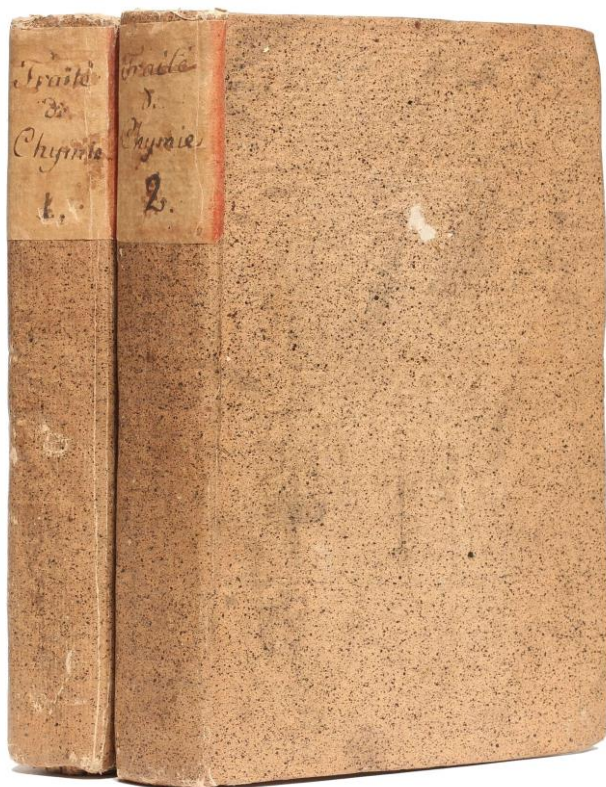
and modus operandi of the evolution of animal and plant species. "Lamarck believed that changes in species occurred over time as the result of two factors: first, a natural tendency in the organic realms towards increasing complexity, as a means of explaining the hierarchical groupings of the major groupings [...] of animals and plants; and second, the influence of the environment as the factor responsible for all deviations from this norm" (Norman).

"Lamarck's conception of a natural tendency toward increasing complexity [in living organisms] provided a perfect complement to his views of the mineral kingdom with the opposite natural tendency. In both cases a long time span allowed nature to do her work and local circumstances explained irregularities. Among living beings, irregularities included all organisms below the level of the 'masses; which usually meant classes but sometimes was extended to orders and families, never to genera and species" (DSB).

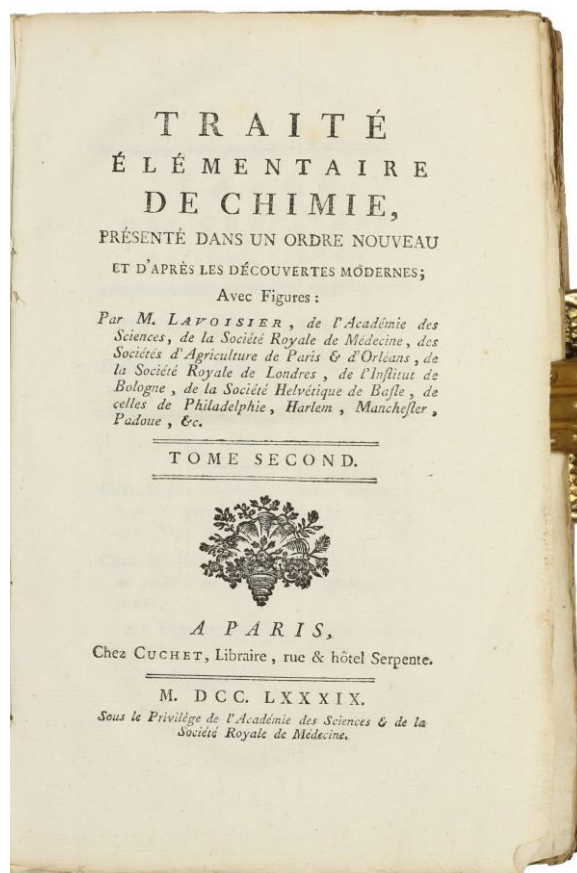
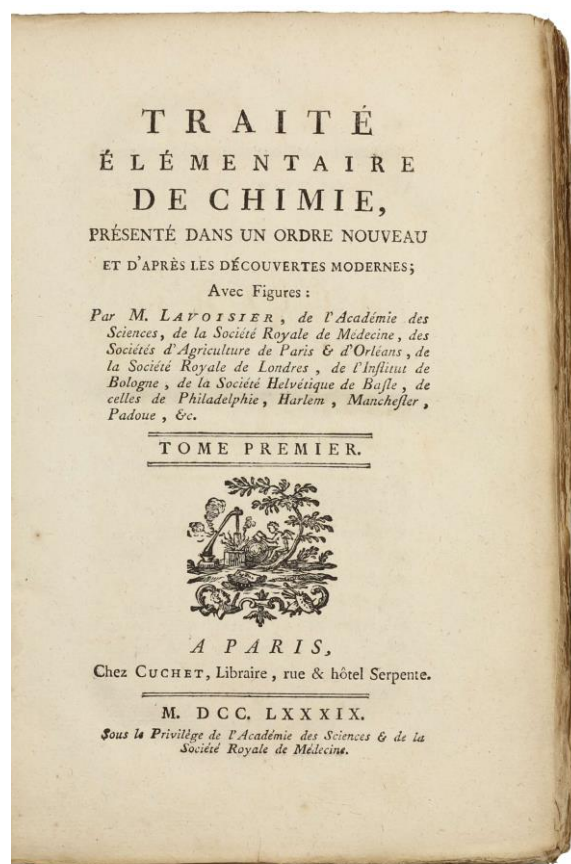
This work contains two of Lamarck's most famous hypotheses: "spontaneous generation, as a means of generating the simplest life forms; and the development, through repeated use, of new and heritable organs, as a means of producing more complex species" (Norman).

In the original wrappers, uncut and mostly unopened

18 **LAVOISIER, Antoine Laurent.** *Traité élémentaire de chimie, présenté dans un ordre nouveau et d'après les découvertes modernes; avec figures.* . . Two parts in two volumes. Paris: Chez Cuchet, 1789. 8vo (212 x 138 mm). xlv, 322; viii, 323-653, [3] pp., including half title to each part, woodcut vignette to titles, woodcut head- and tailpieces, 2 folding letterpress tables in volume I, 3-pages errata and 13 folding engraved plates bound at end of volume II. Original sprinkled drab boards, spines with ink-lettered paper labels, all edges uncut (light wear to extremities), vol. II mostly unopened. In custom folding box of brown morocco. Internally crisp and clean with little browning of text and engraved plates, occasional minor spotting and dust soiling to outer margins, marginal clean tears to pp. 111/2 and 307/8, folding tables in vol. I browned as usual, paper flaw at lower blank margin of p. 229/30. Provenance: collection of Roman Vishniac, Russian-American biologist, photographer and pioneer in photomicroscopy. (#003665) € 14,500



FIRST EDITION, second issue, and exceptionally rare in this unsophisticated state.



Antoine Laurent Lavoisier's *Traité élémentaire de chimie* is considered to be the first modern textbook of chemistry, presenting a systematic and logical approach to the study of chemistry. Here Lavoisier

introduced the concept of conservation of mass in chemical reactions, which is one of the fundamental principles of modern chemistry. He also recognized the role of oxygen in combustion and respiration, and his experiments helped to debunk the long-held theory of phlogiston. Last but not least, Lavoisier's work paved the way for the development of the metric system of measurement, which is still used today. To summarize, Lavoisier's milestone work marked a major turning point in the history of chemistry and laid the foundation for the modern study of the subject.

Lavoisier's *Traite* ". . . was a decisive move in the final overthrow of alchemy and the phlogiston theory introduced by Stahl a century earlier. By the use of the balance of weight determination at every chemical change and the building of a rational system of elements, Lavoisier laid the foundation of modern chemistry" (Dibner).

The illustrations for this edition were conceived and executed by Lavoisier's wife, a skilled painter and engraver who had studied under Louis David, and who collaborated with her husband in his scientific experiments and researches. The second issue contains tables and various approvals of the work not included in the single-volume first or trial issue, of which only two copies are known.

References: PMM 238; Dibner 43; Grolier/Horblit 64; Norman 1295; Wellcome III, p. 460; Duveen 340.

The first English paleontological work using coloured illustrations

19 **MARTIN, William.** *Petrificata Derbiensia; or, Figures and Descriptions of Petrifications Collected in Derbyshire.* Volume I (all published). Wigan: printed by D. Lyon, sold by White, (1793)-1809. 4to (256 x 200 mm). ix [3], ii, ii, [102], 28 pp., including half-title, 54 hand-colored engraved plates (many heightened with gum arabic) and explanatory text. Bound in 20th century half calf, spine with 5 raised bands, black lettering piece and gilt decoration. Pages and plates uncut. Occasional minor spotting, few plates with light color offsetting to text, a few pencil notes. Provenance: paper slip with pencil notes tipped in between first endpaper. A very good, crisp and clean copy. (#003702) € 4500

FIRST EDITION of the first English paleontological work using coloured illustrations, describing the Carboniferous limestone and other fossils of Derbyshire. Originally issued in 4 parts in 1793, then completed and issued in book form in 1809.



"Martin's claim to fame lies chiefly in his *Petrificata Derbiensia*, subtitled 'Figures and Descriptions of Petrifications collected in Derbyshire.' [...] William Martin's best known book, with its pseudolatin title, was a collection of hand-coloured engravings of Carboniferous fossils from Derbyshire, dedicated to Sir Joseph Banks, and published in August 1809. It was printed by D. Lyon in Wigan and, while several sales outlets were noted, no publisher is cited; so effectively it was privately published by Martin in Macclesfield. However, bibliographies usually list Wigan as the place of publication. *Petrificata Derbiensia* has 52 plates with no particular arrangement, either by stratigraphy or by biological group, though a key was included after the title pages. [...] Among the fossils illustrated are 18 plants, 13 brachiopods, 6 corals (including one bryozoan), a miscellany of molluscs, two trilobites, several crinoid stems and one of tufa encrusting a feline skull. Short diagnoses in Latin, usually only one or two lines, were followed by English descriptions amounting to one or two pages for each fossil. Somewhat more than half the fossils are from the Carboniferous Limestone and the rest from Millstone Grit or Coal Measures. The title page noted that it was Volume 1. An announcement for Volume 2 in 1809 declared 'A considerable portion of the plates [...] will be appropriated to the illustration of specimens of such species of Reliquia as have not hitherto been figured or described by English authors'. Regrettably, volume 2 was never published. [...] His drawing of attention to Derbyshire fossils doubtless spurred others on to more complete works later in the 19th century. Many of his specific names survive and other fossils have been named after him" (Ford).

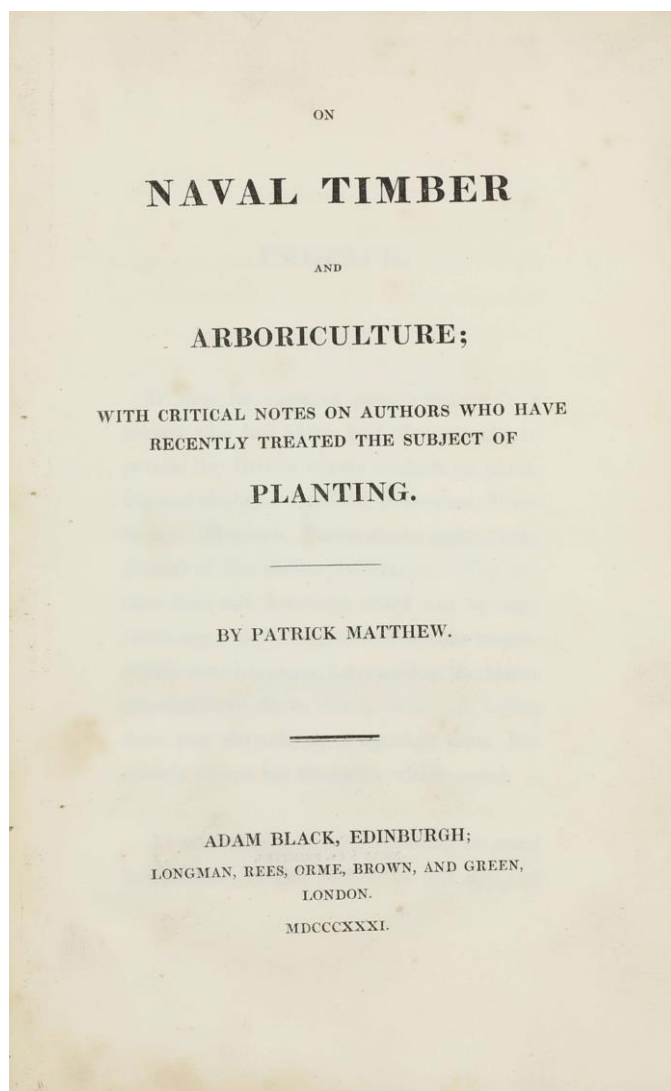
References: Nissen ZBI 2715; Upcott I, 143; T.D. Ford, William Martin, 1767-1810, pioneer palaeontologist. In: *Mercian Geologist*, 2003, 15(4), pp. 225-31.

Formulating a theory of natural selection 28 year before Darwin

20 MATTHEW, Patrick. *On naval timber and arboriculture : with critical notes on authors who have recently treated the subject of planting.* Edinburgh / London: Adam Black / Longman, Rees, Orme, Brown, and Green, 1831. 8vo (230 x 145 mm). xvi, 391 [1] pp., including half-title and some woodcut text illustrations. Original brown cloth, spine with publisher's printed paper label, original endpapers (covers soiled and spotted, spine tanned, corners bumped, cloth at head of spine slightly frayed, paper label with abrasion affecting 4 letters). All pages uncut and partly unopened. Text with very light even age toning and very minor occasional spotting, light dust-soiling to outer margins of a few leaves. In all crisp and clean throughout. Provenance: Charles Sidey, Perth (bookseller's ticket to front pastedown). A very good, highly unsophisticated copy. (#003740) € 13,500

VERY RARE FIRST EDITION. In the appendix p. [363]-391 the author outlines the fundamental principle of natural selection.

In 1831, Matthew published a book titled *On Naval Timber and Arboriculture*, in which he proposed a theory of natural selection, pre-dating Charles Darwin's publication of "On the Origin of Species" by 28



years. Matthew argues that species evolved through a process of natural selection, with individuals that were better adapted to their environment having a greater chance of surviving and passing on their traits to their offspring. He also suggested that evolution occurred through the gradual accumulation of small changes over long periods of time. Although Matthew's ideas were not widely recognized or accepted in his lifetime, they are now considered to be a significant contribution to the development of the theory of evolution. Darwin later admitted that Matthew had anticipated him. He writes to Wallace in 1860 "He gives most clearly but very briefly . . . our view of Natural Selection. It is a most complete case of anticipation". Darwin acknowledges Matthew in the historical sketch of *On the origin of species*.

Matthew is considered the first to clearly and completely anticipate the Darwin-Wallace theory. He used the expression "natural process of selection" and was acknowledged by Darwin in the third and subsequent editions of his *Origin*: "Mr. Patrick Matthew . . . gives precisely the same view on the origin of species as that . . . propounded by Mr. Wallace and myself." Matthew's anticipation of Darwin is found in the appendix to his little-read book on

arboriculture; however, he gives no scientific evidence for his view. Even so, Matthew had cards printed up identifying himself as "the discoverer of natural selection."

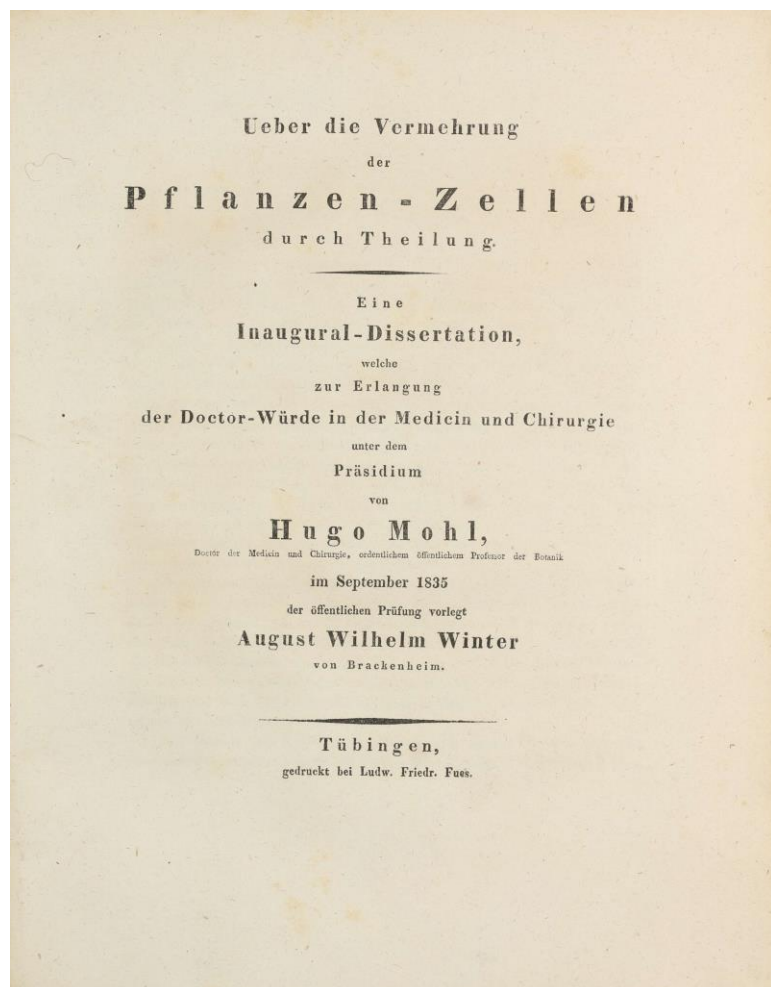
References: Norman 1457; Garrison-Morton 216.3

The first description of the division of a cell

21 MOHL, Hugo von & BRACKENHEIM, August Wilhelm Winter von. *Ueber die Vermehrung der Pflanzen-Zellen durch Theilung. Eine Inaugural-Dissertation.* Tübingen: Ludwig Friedrich Fues, 1835. 20 pp., 1 lithographed plate. [Bound after:] **MOHL, Hugo von.** *Erläuterung und Vertheidigung meiner Ansicht von der Structur der Pflanzen-Substanz.* Tübingen: Ludwig Friedrich Fues, 1836. iv, 39 [1] pp., 2 lithographed plates. [Bound before:]. **MAJER, Carl E. & MOHL, Hugo von.** *Untersuchungen über die Lenticellen.* Tübingen: Ludwig Friedrich Fues, 1836. 19 [1] pp. **ENDERLE, Carl Joseph & MOHL, Hugo von.** *Untersuchungen über den Mittelstock von Tamus Elephantipes.* Tübingen: Ludwig Friedrich Fues, 1836. 16 pp. **MOHL, Hugo von.** Ueber den Bau des Cycadeen-Stammes und sein Verhältniss zu dem Stamme der Coniferen und Baumfarn. Offprint from: *Denkschriften der k. b. Akademie der Wissenschaften*, Band 10. München, 1832. 46 pp., 3 lithographed plates. **HÜTTENSCHMIDT, Carl Robert & MOHL, Hugo von.** *Untersuchungen über die Entwicklung des Korkes und der Borke auf der Rinde des baumartigen Dicotyledonen.* Tübingen: Ludwig Friedrich Fues, 1836. 26 pp. **FRISONI, Eduard & MOHL, Hugo von.** *Ueber die Verbindung der Pflanzen-Zellen untereinander.* Tübingen: Ludwig Friedrich Fues, 1835. 24 pp., 2 lithographed plates. 7 papers in one volume, 4to (265 x 209 mm). Contemporary marbled boards, spine with gilt-lettered red paper label, blue-sprinkled edges (minor rubbing of boards and board edges, corners bumped and scuffed). Little even browning throughout, occasional minor foxing of text and plates. Provenance: Bibliotheca Collegii Exaeten (ink stamp to first title), Gräfl. Schaesbergische Bibliothek (bookplate to front pastedown); Collection of Peter and Margarethe Braune. Very good copy. (#003542) € 8500

EXCEEDINGLY RARE FIRST APPEARANCE OF MOHL'S DESCRIPTION OF CELL DIVISION present in a Sammelband with other offprints and dissertations by him and his students.

Mohl was the first to propose that new plant cells are formed by cell division (mitosis). Hugo von Mohl



(1805-1872) was a German botanist. "[He] was one of the central figures in the emerging fields of plant anatomy and physiology. His most famous contributions concerned the plant cell, in particular the cell wall and cell division, and the origin of plant vessels from cells. These studies paved the way for cell theory. Moreover, he greatly engaged in the transformation of botany into an inductive science and promoted its institutional autonomy from medicine as well as from philosophy, co-founding in Tübingen Germany's first faculty of natural sciences" (Dröscher).

In 1832 Mohl was appointed professor of botany in Tübingen, a post which he never left. The process of cell division as observed under a microscope was first discovered by him in 1835 when he worked on green algae. His findings were published in the dissertation by one of his students in 1835. Mohl studied medicine in

Tübingen, but his dissertation of 1828 already had a botanical focus as it dealt with the pores of plant cells. Publications on the anatomical structure of the trunks of palm trees, tree ferns and cycads soon followed. These were often illustrated with numerous self-drawn plates. "Mohl's meticulous studies

revealed the first description of the division of cells. Observing division of the alga *Conferva glomerata*, he recognized the tough secondary fibrous substance of the plant now known as the cell wall" (DSB). Mohl's findings on mitosis were later confirmed by Unger, Hofmeister, Nägeli and others and summed up by Virchow in 1858 with the words "omnis cellula e cellula" (see NDB 17, 1994). This disproved Schleiden's cell formation theory, who, generalizing the rare special case of free cell formation during the formation of the endosperm, advocated the idea that cells arise from a slimy matrix in which a cell membrane forms around each cell nucleus. Mohl also described the tetrad division of pollen and spore mother cells and proved that all plant fibers consist of different types of cells. He also recognized that the *tracheae* of flowering plants arise from rows of cells whose transverse walls are completely or partially dissolved, and that as the cell walls grow thicker, new layers are deposited on the thin primary wall, with the pits being left out. In 1846 Mohl coined the expression 'protoplasm' for the living content of the cell. He attributed the secondary thickening of the trees to the fact that the cambium ring arises directly from the meristem of the vegetation point, a view which, after a long discussion, was only confirmed for most trees in 1922 by S. Kostychev. In his book *Grundzüge der Anatomie und Physiologie der Zelle* (1851), Mohl critically summarized what was then known about this subject. He also engaged in the construction and manufacture of microscopes; he could grind and set lenses himself. In 1843 he founded together with D. v. Schlechtendal the *Botanische Zeitung* and was its co-editor until 1872 (see NDB 17, 1994).

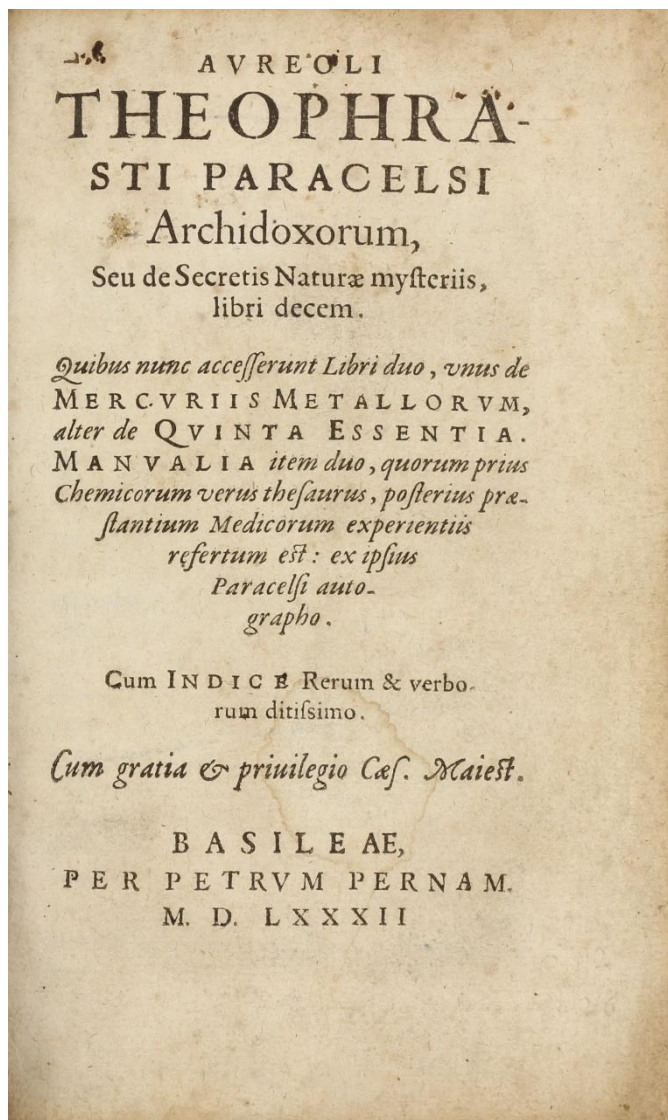
References: K. Mägdefrau, *Mohl, Hugo von*. In: Neue Deutsche Biographie 17, 1994, pp. 690-91 (NDB); DSB IX, p. 441; A. Dröscher, *Mohl, Hugo von*. In eLS, John Wiley & Sons, Ltd (Ed.), 2015).

22 MOHL, Hugo von. *Vermischte Schriften botanischen Inhalts*. Tübingen: Ludwig Friedrich Fues, 1845. 4to (268 x 215 mm). viii, 442 pp., 13 lithographed plates (of which 5 hand-colored). Contemporary half roan and marbled boards (rubbed and scuffed, minor edge chipping, head of spine torn). Little browning internally and some, mostly marginal, spotting and staining. Provenance: from the Collection of Peter and Margarethe Braune. (#003549) € 400

Dibner 32; Evans 87; Roller-Goodman II, 252; Stafleu and Cowan 6187. FIRST EDITION of this collection. "After a century Mohl remains famous for his works on the microscopic anatomy of plants and for his contributions to knowledge of the plant cell . . . the history of biology credits Mohl with the invention of the term 'protoplasm'" (DSB IX, p. 441). Chapter XXVII (titled "Ueber die Vermehrung der Pflanzen durch Theilung") reprints the dissertation of 1835 which contains the first description of the division of a cell.

23 PARACELUS, Theophrastus (Bombast von Hohenheim). *Archidoxorum, seu de secretis naturae mysteriis, libri decem. Quibus nunc accesserunt libri duo, unus de mercuriis metallorum, alter de quinta essentia.* Basel: Peter Perna, 1582. 8vo (168 x 105 mm). [24], 415 [1] pp. Signatures: [alpha]⁸ [beta]⁴ a-z⁸ A-C8. Contemporary limp vellum with yapp edges, spine and lower edge hand-lettered in ink, straps gone (vellum browned and soiled). Text with uneven browning (some gatherings stronger) and minor spotting in places, small wormtracks at lower blank margin of a few gatherings and at upper margin of final gathering C, ink smudge on p. 180, pp. 250 to end with light pale waterstain at lower gutter. Contemporary ink inscriptions in Latin on first free endpaper recto and verso, two text pages with annotations and underlinings. Very good, well margined and unsophisticated copy. (#003741) € 5500

EARLY, IMPROVED AND IN PARTS COMPLETELY REVISED EDITION, which is based on Dorn's Latin translation of 1570 and strongly considering the edition of Toxites of 1574. The changes Toxites made

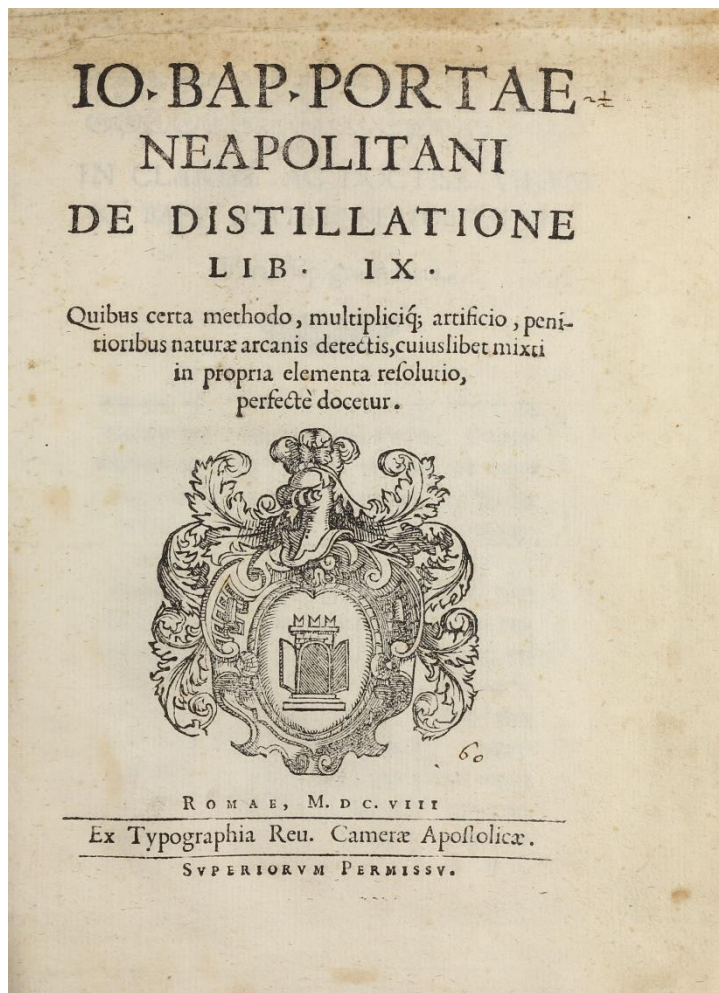


to the text of the first edition are mostly improvements. The more important textual changes, which are not found in any of the other editions, are found only in very small numbers (see Sudhoff). The *Archidoxorum* is a collection of talismanic healing arts to achieve relief and healing with the seven classical metals, the seven planets and the zodiac signs on seals along with mysterious signs for many diseases and ailments.

"Paracelsus's reputation as a founder of chemistry rests on his *Archidoxa*, which contains the greater part of his chemical work. Paracelsus was the first to attempt a system of chemistry; his system dealt with all chemicals known to him, and involved a classification of materials and operations. While the influence of medieval alchemy is clearly evident in Paracelsus's chemical work, it is balanced by some real advances: he attempted systematic chemical research incorporating metallurgy and pharmacology, introduced new, laboratory methods, and devised new methods for rendering therapeutic chemical preparations less harmful. His chemical achievements form the link between medieval alchemy and the powerful Paracelsian movement of the 1570s that culminated in the rise of iatrochemistry in the late sixteenth and seventeenth centuries" (Norman).

References: VD 16 P 399; Adams P 264; NLM/Durling 3510; Sudhoff 191; Wellcome I, 253 (Perna edition of 1570); Norman 1637 (Berg edition of 1570).

24 **PORTA, Giovanni Battista della.** *De distillatione lib. IX. Quibus certa methodo, multiplicique artificio, penitioribus naturae arcanis detectis, cuiuslibet mixti in propria elementa resolutio, perfecte docetur.* Rome: Camera Apostolica, 1608. 4to (215 x 160 mm). [20], 154, [6] pp. Title with printer's device, woodcut initials, head- and tailpieces, full-size engraved portrait of the author, 35 woodcut text illustrations, epigrams at beginning with Hebrew, Greek, Chaldaean, Persian and Illyrian scripts; colophon and woodcut device on final leaf verso. Signatures: *4 *6 A-V⁴. Bound in contemporary limp vellum, bottom edge titled in manuscript (single wormhole in upper joint, light soiling and rubbing of covers, inner front hinge partially broken). Some soiling at head of title, text very little browned, some minor spotting, paper flaw with paper thinning and tear at fore-marging of leaf S1 (outside text area), portrait leaf detached. A very good+ copy in untouched first binding. (#003607) € 8500



RARE FIRST EDITION. Della Porta's treatise gives the most comprehensive view of the applications of distillation in the sixteenth century. The work is an expansion of the section on distillation in Book X of the enlarged edition of his *Magia naturalis* (1589). "It deals in successive books with the names of the vessels used in the various distillation processes (fancifully compared with animals and birds) and the degree of heat; distillation of waters; oils of flowers, exotic plants, resins, and woods; strong waters (aqua regia), water or oil of vitriol, oil of sulphur (with figure of a multiple-headed alembic), and expressed oils" (Partington). "This book is as rare as it is beautiful [. . .] among the many fine

woodcuts contained in the book, the most curious are those depicting pieces of apparatus likened to different animals" (Duveen).

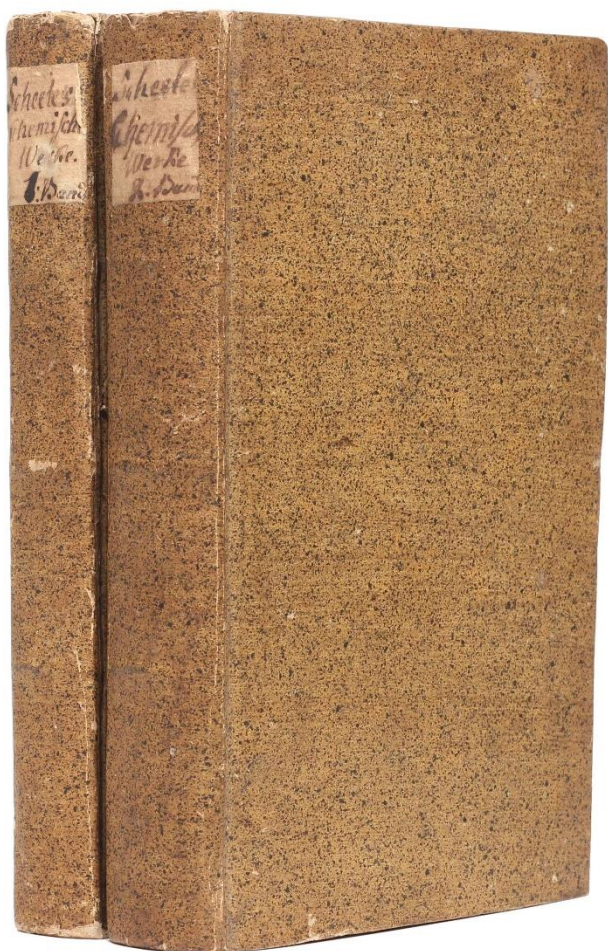
Bibliography: Norman 1725; Partington I, p.24; Ferguson II, 215f.; Duveen 481; NLM/Krivatsy 9177; Riccardi I(ii), 312.

25 SCHEELE, Carl Wilhelm. *Sämmtliche Physische und Chemische Werke, nach dem Tode des Verfassers gesamlet und in Deutscher Sprache herausgegeben von D. Sigismund Friedrich Hermbstädt.* Berlin: Heinrich August Rottman, 1793. Two parts in two volumes. 8vo (190 x 117 mm). xxxii, 264; 446 pp., folding engraved plate at the end of the second part. Uniformly bound in contemporary sprinkled cardboard, each spine with hand-lettered paper label, red-sprinkled edges (minor rubbing and dust-soiling, original pastedowns, no free endpapers). Light uniform age-toning, some scattered spotting mostly to outer margins, a few dog-ears and creases. Provenance: from a private Swedish collection. A very good copy in original bindings. (#003751) € 6500

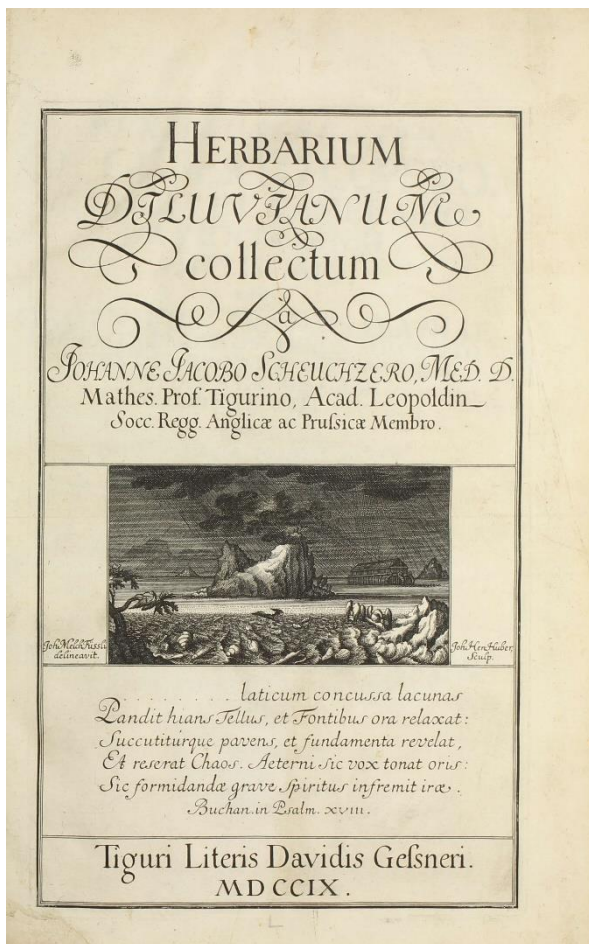
FIRST COLLECTED EDITION, AND VERY RARE, of Scheele's works in German, which contains in vol. 1 his independently made discovery of oxygen in his famous chemical treatise on the air and fire (*Chemische*

Abhandlung von der Luft und dem Feuer). The treatise includes accounts of the numerous chemical experiments Scheele performed to demonstrate that common air, when freed from "aerial acid" (carbon dioxide) and water vapor, consists of two gases: "fire air" (oxygen) which supports combustion, and "fire air" (nitrogen), which does not. Vol. 2 consists of essays from the Transactions of the Academy of Sciences at Stockholm. Grolier/Horblit summarizes his other achievements thus: "He was the discoverer of chlorine, barium, manganese . . . and many compounds" (Grolier/Horblit). "Scheele was an experimental genius; he made more discoveries of first-rate importance with fewer opportunities and scantier appliances than any one else, and his skill, insight and power of illuminating experimental results have never been surpassed, if, indeed, they have ever been equalled" (Ferguson). He also noted the action of light on chloride of silver and the insolubility of blackened silver chloride in ammonia - discoveries that would later prove significant for photography.

References: Ferguson 330-332; for first edition of the *Chemische Abhandlungen*, see Dibner 41; Grolier/Horblit 92 and Norman 1905.



26 **SCHEUCHZER, Johann Jakob.** *Herbarium diluvianum collectum.* Zürich: David Gessner, 1709. Folio (370 x 245 mm). [2], 44 (i.e., 42) pp., including engraved title with large vignette by J.H. Huber after J.M. Füssli, 10 folding engraved plates depicting fossil plants (one printed in brown) bound at the end. Page numbers 33-34 omitted in pagination. 20th century three-quarter calf over black cloth covered boards by Period Binders of Bath, gilt lettered spine, new endpapers (light rubbing of extremities). Text and plates crisp and clean throughout, very minor occasional spotting, small torn-off portion of title at lower inner margin backed by paper (outside print area). Provenance: H.W.J. Van Amerom (bookplate to front pastedown), plates with explanations added in light pencil. Very good copy. (#003718) € 2800



end. Page numbers 33-34 omitted in pagination. 20th century three-quarter calf over black cloth covered boards by Period Binders of Bath, gilt lettered spine, new endpapers (light rubbing of extremities). Text and plates crisp and clean throughout, very minor occasional spotting, small torn-off portion of title at lower inner margin backed by paper (outside print area). Provenance: H.W.J. Van Amerom (bookplate to front pastedown), plates with explanations added in light pencil. Very good copy. (#003718) € 2800

FIRST EDITION with plates depicting specimens believed by Scheuchzer to have been relics of Noah's flood. This work firmly entrenched Scheuchzer (1672-1733) as the father of European palaeobotany, and his blend of science influenced by religion dominates this work and the work of others through the nineteenth century. The title vignette after J. M. Fussli by J. H. Huber shows a landscape with Noah's Ark. The beautiful engravings show plant petrefacts, one of them with dendrites in sanguine print, all in excellent impressions. The present volume remained a standard work on the subject until well into the 19th century. References: Nissen, BBI 1752; Pritzel 8173.

27 **STENO, Nicolaus [STENSEN, Nils].** *De solido intra solidum naturaliter contento dissertationis prodromus.* Florence: Typographia sub signo Stellae, 1669. 4to (198 x 154 mm). [2], 78, [2] pp. Title printed in red and black and with engraved vignette; folding plate with engraved diagram and folding explanatory letterpress, final errata leaf, woodcut initial, head- and tailpieces. Bound in 20th century blindstamped calf, spine with 5 raised bands and some gilt tooling, new endpapers (minor rubbing of extremities). Very little age toning and faint small dampstain to top blank margin of first 4 ff., but in all very crisp and clean throughout. Provenance: bookplate to front pastedown monogrammed "KEH". (#003678) € 19,000

FIRST EDITION of this "Early foundation work in geology, with introduction of observational methods and statements on the sedimentary origin of rock and the effects of faulting and erosion" (Horblit).

"Nicolaus Steno (Niels Stensen), the Danish geologist and anatomist, travelled extensively in Europe



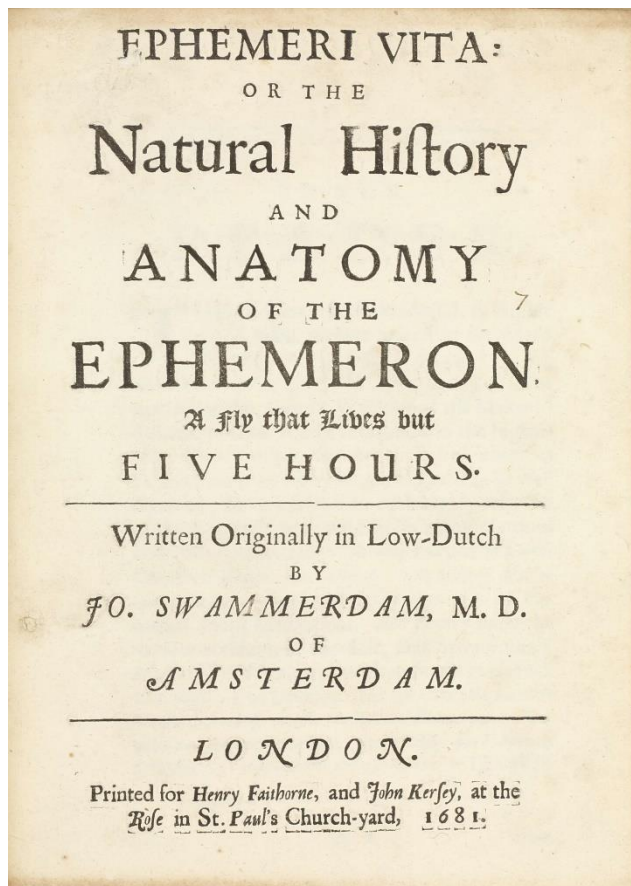
before settling in Florence as physician to the Grand Duke Ferdinand II. [. . .] The ancient belief that fossils are merely imitative forms of natural organisms produced by a 'plastic force' in the earth had first been challenged by Leonardo da Vinci, who declared that fossil shells are in fact remains of organisms that once lived. Fracastoro had similar ideas and Agricola did work on the same lines. But the greatest advance in this field is due to Steno. In 'A Dissertation concerning a Solid Body' he described the composition of the earth's crust in Tuscany and a famous diagram in his book shows six successive types of stratification: the first attempt ever made to represent geological sections. This was a sequence which he believed would be found all over the world. He explained the true origin of fossils found in the earth as being remains of once living things and he discriminated between the volcanic, chemical and mechanical modes of the origin of the rocks. He was the first clearly to recognize that the strata of the earth's crust contain the records of a chronological sequence of events from which the history of the earth can be

reconstructed. He attempted to find the principles of stratigraphy. Seeing that most strata had not remained in their horizontal position, he attributed their disturbance and tilting to the collapse of cavernous spaces below them and to volcanic action. He deduced that these changes in the original position of the strata are the real causes of the unevenness of the earth's surface. This was in direct contradiction to the accepted belief that mountains had existed ever since the beginning of things or had simply grown. He also recognized that some mountains had been shaped by denudation and explained how one of the effects of the dislocation of the strata was the opening of fissures through which water could escape, the origin of springs. Like those of other investigators before him, Steno's conclusions were sometimes stultified by the theological conviction that the earth could not be more than six thousand years old and that the fossils had been chiefly deposited during or since the deluge. As Steno turned towards religion, such theological concepts prevented him from further developing his theory, which might have led to charges of heresy, and he virtually abandoned scientific studies in

later life. In spite of such limitations his book marks a great advance in geology and it cleared the path for the modern sciences of palaeontology and geology as they were gradually established by Leibniz, Lamarck and particularly by James Hutton. [. . .] The *De Solido* was intended only as an introduction to a larger work; but this was never written" (PMM).

References: PMM, *Printing and the Mind of Man*, 151; Horblit 96; Sparrow 185; Dibner 90; Norman 2013.

28 **SWAMMERDAM, Jan.** *Ephemeris Vita or the Natural History and Anatomy of the Ephemeron.* London: Henry Faithorne and John Kersey, 1681. 4to (214 x 163 mm). [8], 44, [8] pp. Signatures: A-G⁴

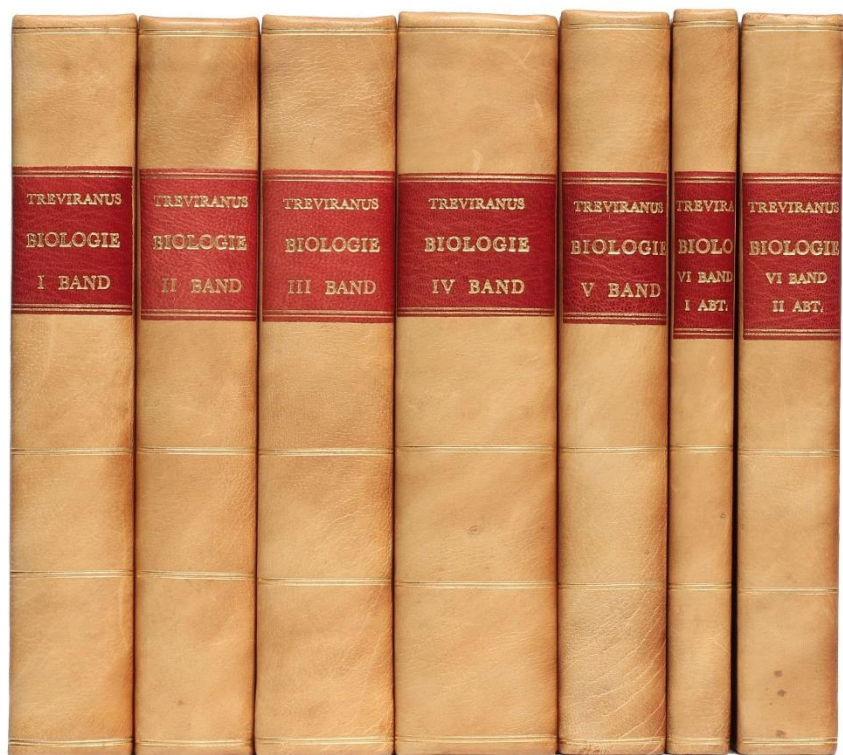


H². 8 engraved plates on 5 sheets (2 folding). Bound in 20th century calf antique, spine with morocco gilt lettering piece, gilt dentelles, new endpapers. Text and plates quite crisp and clean with only very little browning and occasional spotting, small hole in title page and abrasion to first letter of title with slight loss, lower margins of H1 and H2 repaired and reinforced, light browning. Provenance: collection of Roman Vishniac, Russian-American biologist, photographer and pioneer in photomicroscopy. (#003669) € 3000

FIRST ENGLISH EDITION, and exceptionally rare, of Swammerdam's monograph on the mayfly, originally published in Dutch in 1675 and translated by the well known British anatomist Edward Tyson. Swammerdam made remarkable observations on insect anatomy, including his description in this work of metamorphosis, which had never been covered in greater detail before. His illustrations of the anatomy of the mayfly were also of unprecedented accuracy and detail. References: Nissen ZBI 4060; Wing S6233; Osler 963.

29 TREVIRANUS, Gottfried Reinhold. *Biologie oder Philosophie der lebenden Natur für Naturforscher und Aerzte.* Göttingen: Johann Friedrich Röwer, 1802-1822. Six volumes bound in seven. 8vo (186 x 113 mm). xiv, 477 [1]; iv, 508; iv, 593 [1]; x, 662; vi, 476; iv, 1-169 [3]; vi, 171-579 [1] pp. Vol. V with 4 engraved plates bound at end; vol. VI.1 and VI.2 with 2 folding letterpress tables each, vol. VI.2 with two title pages. Uniformly bound in 20th century half calf over marbled boards, each spine with gilt-lettered red morocco label and gilt ruling, red sprinkled edges, new endpapers. Vol. VI bound in two. Text, plates and tables with just some minor even browning. Provenance: College of Medicine of State Univ. of NYC (ink stamp on final page in each vol.); collection of Roman Vishniac, Russian-American biologist, photographer and pioneer in photomicroscopy. A very good, clean set. (#003682) € 1500

FIRST EDITION of this interdisciplinary treatise for naturalists and physicians and one of the main works of romantic natural philosophy. "[Treviranus] was the first to deal extensively with the use of the microscope and laid the foundation for modern histology" (Hirsch-Hübötter). This work forms a comprehensive compendium of the history of physical life with comments on the "organization of living nature" and animal nutrition. The large folded tables show listings of the weight ratios of the major parts of the animal brain and eye for numerous species. In addition to the works of H. Steffens, Treviranus occupies an exceptional position in the middle between medicine and philosophy; He, the representative of the development idea influenced by Schelling, succeeds in combining both in a masterly way. Due to the long period of publication, complete copies as here are quite rare.



References: Hirsch-Hübötter V, 633; Horn-Schenkling 22304.

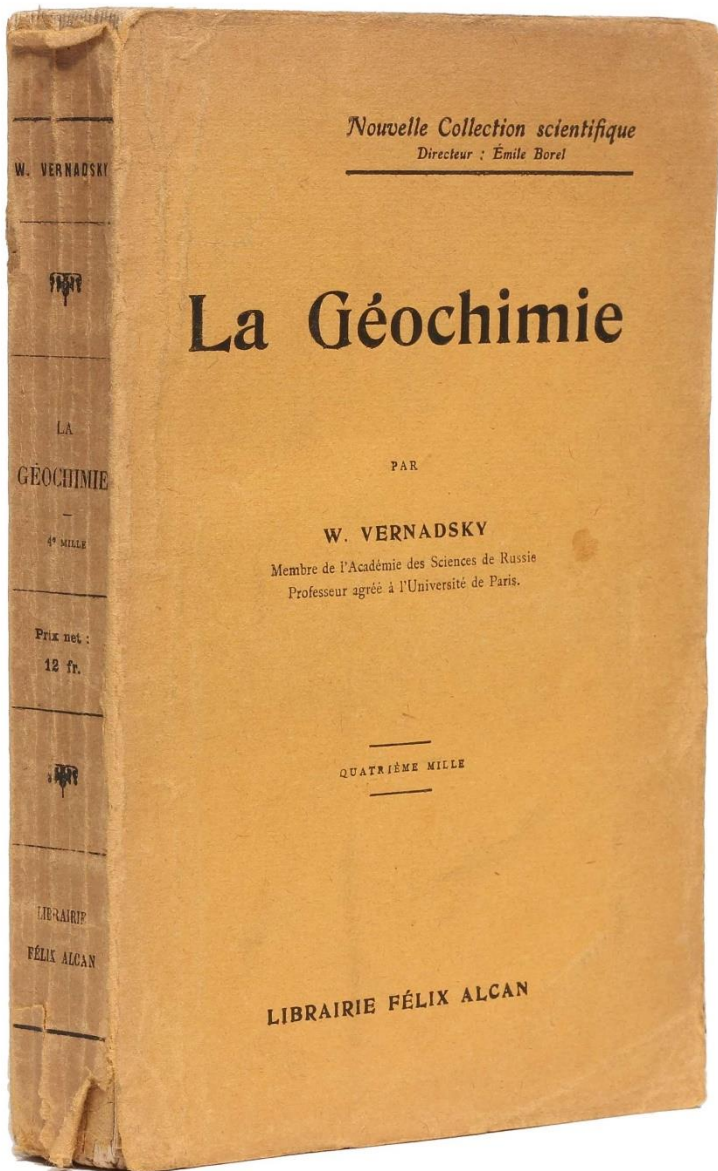
30 VERNADSKY, Vladimir Ivanovich. *La géochimie*. Nouvelle Collection scientifique series. Paris: Félix Alcan, 1924. 8vo (186 x 120 mm). [8], iii [1], 403 [1] pp., including half-title and first blank. Original printed wrappers (light marginal dust-soiling, short split of front wrapper at foot, slight peeling at head of spine, lower front corner creased). All pages uncut and partially unopened. Light browning of text at margins, title-page creased at lower gutter. Provenance: illegible ownership inscription to first blank. (#003687) € 1500

FIRST EDITION, AND OF EXCEPTIONAL RARITY, OF A FOUNDATION WORK OF GEOCHEMISTRY. Vernadsky (1863-1945) was a geologist, geochemist, and mineralogist, and one of the founders of geochemistry, radiogeology, and biogeochemistry. He is considered a theorist of the doctrine of the biosphere and noosphere. He also studied the structure of silicates, the role of organisms in

geochemical processes, and the radioactivity of minerals. From the spring of 1922 to the summer of 1925, Vernadsky was invited to Paris by the Rector of the Sorbonne, Paul Appell, where he gave seminars and conferences which appeared in 1924 in the form of a book in French entitled *La Géochimie*. Starting from dynamic mineralogy, Vernadski and one of his students, Alexandre Fersman, developed geochemistry as a new branch of science, dealing with the chemical composition of organic matter and analyzing the geochemical process and its effects in which organisms are involved. He also frequented the laboratory of Marie Curie. During the same period, the Norwegian chemist Victor Goldschmidt developed similar concepts and published in 1926 *Geochemische Verteilungsgesetze der Elemente* (Laws of geochemical distribution of the Elements).

Vernadsky also first popularized the concept of the noosphere and deepened the idea of the biosphere to the meaning largely recognized by today's scientific community. The word 'biosphere' was invented by Austrian geologist Eduard Suess, whom Vernadsky met in 1911. In Vernadsky's theory of the Earth's development, the noosphere is the third stage in the earth's development, after the geosphere (inanimate matter) and the biosphere (biological life). Just as the

emergence of life fundamentally transformed the geosphere, the emergence of human cognition will fundamentally transform the biosphere. In this theory, the principles of both life and cognition are essential features of the Earth's evolution, and must have been implicit in the earth all along. This systemic and geological analysis of living systems complements Charles Darwin's theory of natural selection, which looks at each individual species, rather than at its relationship to a subsuming principle. Vernadsky's visionary pronouncements were not widely accepted in the West. However, he was one of the first scientists to recognize that the oxygen, nitrogen and carbon dioxide in the Earth's atmosphere result from biological processes. During the 1920s he published works arguing that living organisms could reshape the planets as surely as any physical force. Vernadsky was an important pioneer of the scientific bases for the environmental sciences (Wikisource).



31 WEGENER, Alfred. Die Entstehung der Kontinente. In: *Dr. A. Petermanns Mitteilungen aus Justus Perthes' geographischer Anstalt* **58/1**, 1912, pp. 185-195, 253-256, 305-309, folding plate/map and text illustrations. Gotha: Justus Perthes. 4to (270 x 220 mm). In two volumes (with part I extending into vol. II): xvi, [4], 344 pp., 56 plates, maps and diagrams (some folding). Publisher's original plum cloth, blind-stamped boards (little wear and soiling), spine and front board gilt-lettered. Book block uncut. Some sheets working loose, some reinforced at gutter. Internally clean with only little spotting and browning. Provenance: Werner Floss. Still very good copy. (#003654) € 2500

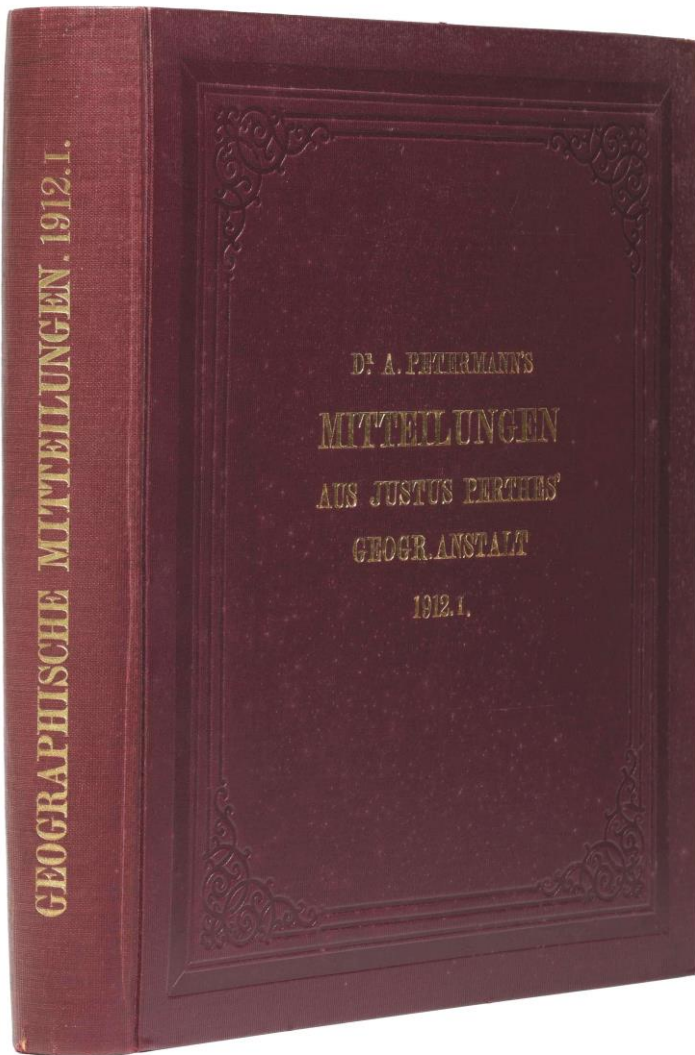
Norman 2192 - FIRST EDITION, journal issue. Wegener was the originator and one of the chief defender's of the theory of continental drift. This, his first paper on the subject, attracted little attention, and it was only with the publication of a 2nd edition of his treatise in 1919 that his theory

became a subject of wide controversy. It was largely ignored from the 1930s to the 1950s, when new paleo-magnetic evidence appeared to support the theory.

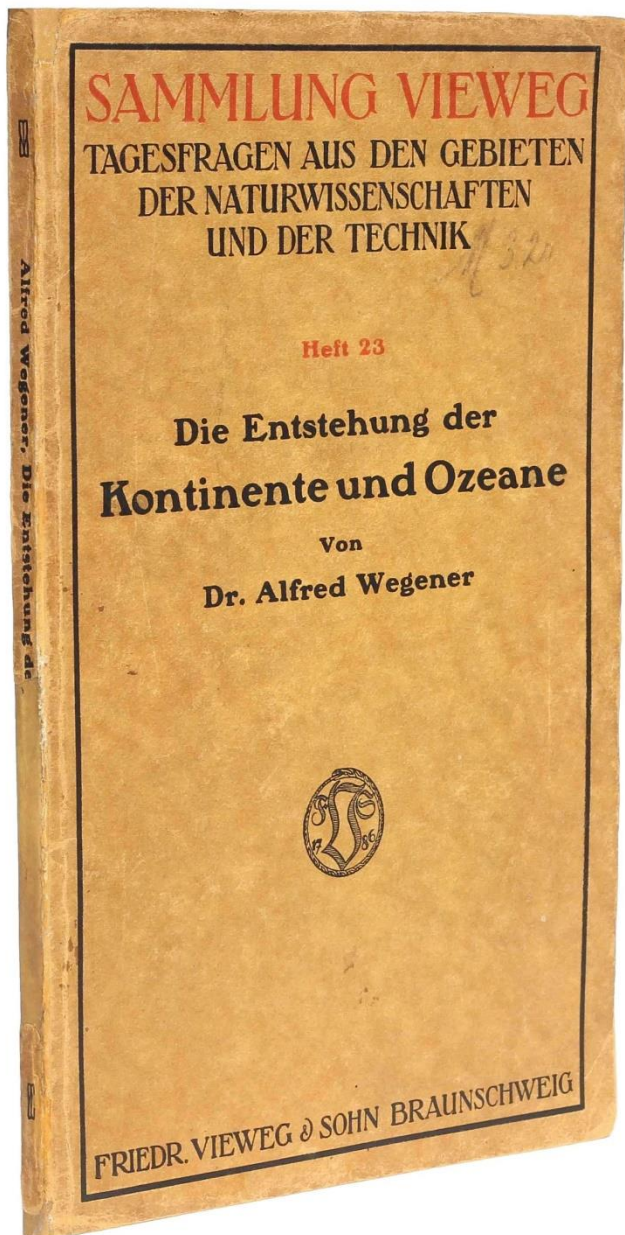
Wegener proposed the theory that the continents were once joined together in a single supercontinent he called Pangaea, and that they have since drifted apart over time. He collected and studied geological, paleontological, and climatological evidence from around the world to support his theory of continental drift, including matching geological formations, fossils, and rock types on different continents. Wegener proposed that the continents moved due to the gradual movement of the Earth's crust, driven by convection currents in the mantle. His theory of continental drift inspired further research and discoveries, including the development of plate tectonics theory in the 1960s and 1970s, which provided a mechanism for the movement of the Earth's crust.

Overall, Wegener's contributions and achievements in the development of the theory of continental drift laid the

foundation for our modern understanding of the structure and movement of the Earth's crust. Although his theory was initially met with skepticism and criticism, it has since been widely accepted and has had a significant impact on the field of geology.



32 WEGENER, Alfred. *Die Entstehung der Kontinente und Ozeane.* Braunschweig: Vieweg & Sohn, 1915. 8vo (222 x 144 mm). iv [2], 94 pp., 20 illustrations in text. Original publisher's printed wrappers (chipping at lower spine repaired with partial loss of printed title), pages untrimmed. Internally clean and unfoxed, a few pencil annotations and markings. Provenance: M.K. Engelbert van Bevervoorde (pencil signature to title-page). A very good copy, rarely found in original publishers binding. (#002942) € 3200



DSB XIV, 217; Norman 2192 (journal issue). - First edition in book form of the famous work on the continental drift, the mainwork of Wegener. The text appeared first in *Petermanns Mitteilungen* 1912. Later editions appeared in 1920, 1922 and 1929; foreign editions after 1922. Wegener began his university career at the physical institute of the University Marburg in 1909, where he worked until 1919. After his habilitation in the fields of astronomy, meteorology and cosmic physics in Marburg, he became the director of the local observatory in 1910 and in parallel worked as a lecturer at the physical institute. Wegener became widely known for his pioneering theory on continental drift, which he published in two papers in 1912, both entitled "Die Entstehung der Kontinente" (The origin of continents).. Although it was thought ludicrous at first, it has since been confirmed and is now quite acclaimed. In 1915 he published a book-length extension of his work on continental displacements now entitled "Die Entstehung der Kontinente und Ozeane." Because of the First World War, Wegener's book went unnoticed outside Germany. In 1922, however, a third (revised) edition was translated into English, French, Russian, Spanish, and Swedish, pushing Wegener's theory of continental drift to the forefront of debate in the earth sciences. The present first edition is much rarer than the journal issue.

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