Catalogue 211

Jonathan A. Hill Bookseller

New York City · 2014

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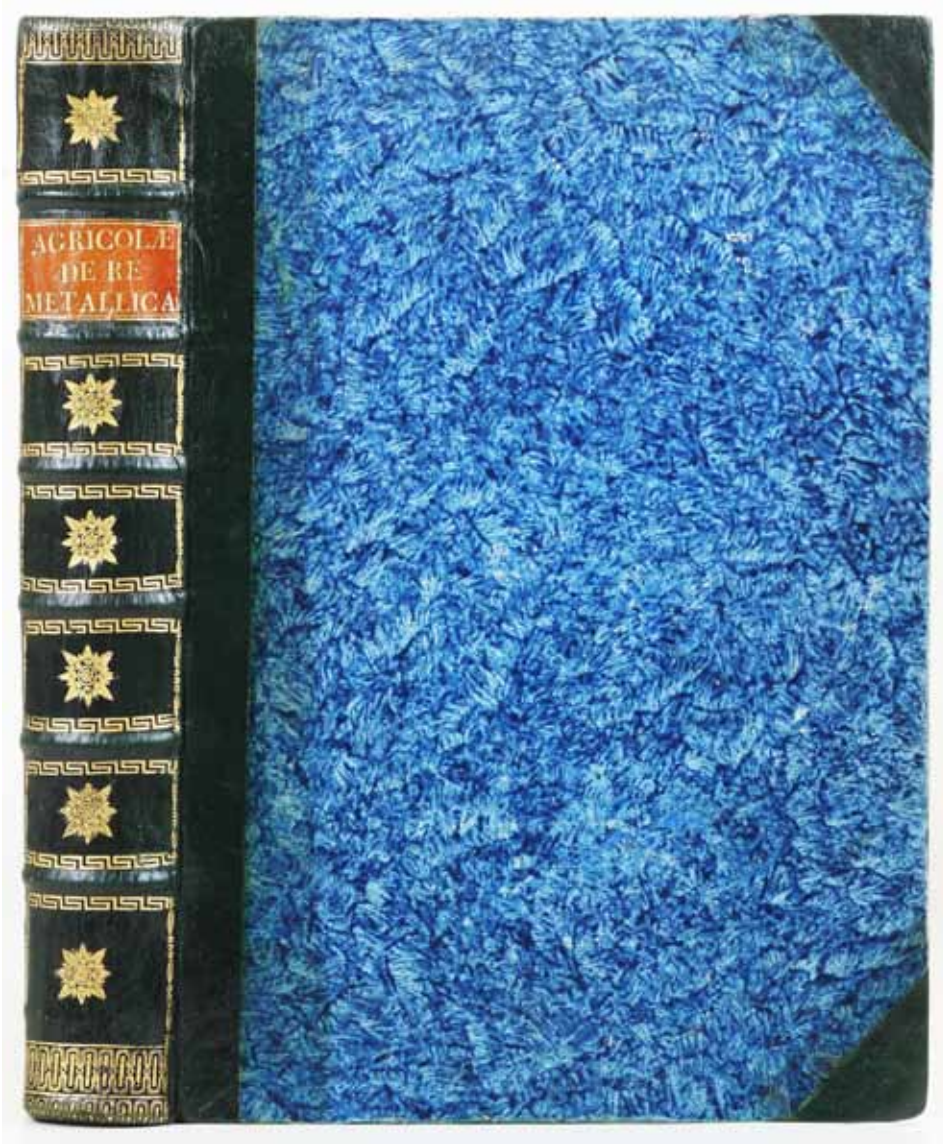
Catalogue 211



Item 3. *Agricola,* 1566 (greatly reduced)

Catalogue 211

The Earth is Old:

Geology, Evolution, Mining, & Metallurgy

Jonathan A. Hill, Bookseller
New York City
2014

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Terms are as usual: Any book returnable within five days of receipt, payment due within thirty days of receipt. Persons ordering for the first time are requested to remit with order, or supply suitable trade references. Residents of New York State should include appropriate sales tax.

Subject index at end

Additional illustrations of many of these books can be found on my webpage

Catalogue format by Abe Lerner,
with cover and front matter design by Jerry Kelly

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ALMOST ALL THE BOOKS DESCRIBED IN THIS CATALOGUE were assembled from 1980 until his death in 2001 by a well-known private collector. Trained as a petroleum geologist, he formed this collection to demonstrate that the earth was truly old and that life evolved, contrary to the creationist beliefs so prevalent in American society today and which he found so distressing.

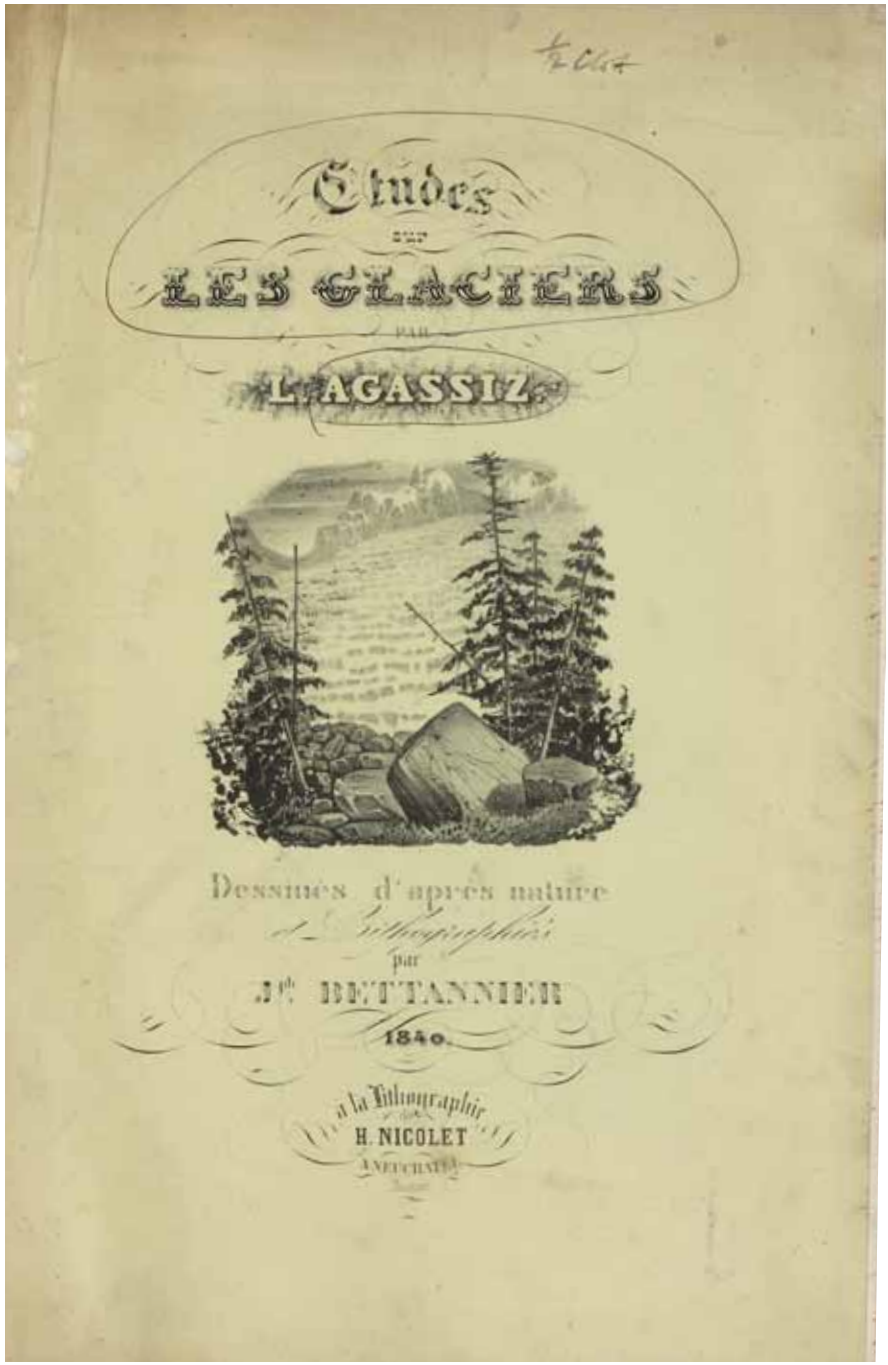
* * * * * * * * *

Catalogue 211

The Ice Age

1. AGASSIZ, Jean Louis Rodolphe. *Études sur les Glaciers…* 3 p.l., v, 346 pp., 1 leaf of errata. 8vo, cont. cat's paw calf (joints repaired, corners a bit worn, minor rubbing), arms in gilt on covers of The Society of Writers to the Signet, spine lettered in gilt, red morocco lettering piece on spine [**with**]: an atlas with the orig. lithographed upper wrapper & 18 lithographed plates, 14 of which are accompanied by outline key plates on tissue paper. Large folio, cont. cloth-backed marbled boards, arms in gilt on upper cover of The Society of Writers to the Signet, spine lettered in gilt. Neuchatel: Jent & Gassmann, 1840. $9500.00

First edition of this classic work on glaciers, with the essential upper wrapper to the atlas volume containing a further illustration. "From 1835 to 1845, while still serving as a professor at Neuchatel, Agassiz studied the glacial formations of Switzerland and compared them with the geology of England and central Europe. The resulting concept of the 'Ice Age' was remarkable for its breadth of generalization and for the exacting field study represented. Agassiz held that in



Item 1. *Agassiz,* 1840 (greatly reduced)

the immediately recent past there had been an era during which large land masses over much of northern Europe were covered with ice. With the onset of warming periods, the recession of the ice was responsible for upheaval and subsistence. The marks of glaciers could be discerned in the scratched and polished rocks as well as in the configurations of the earth in glaciated regions. Glacial movement was responsible for modern geological configurations…Such events…were still sufficient to convince such naturalists as Darwin and Lyell that Pleistocene glaciation was a primary mechanism in causing the geographical distribution and consequent genetic relationship of flora and fauna otherwise inexplicably separated by land and water masses."–*D.S.B.,* I, p. 73.

A very good set, from the library of The Society of Writers to the Signet. The upper wrapper of the atlas volume contains some instructions from a librarian at The Society to the library's binder.

❧ Dibner, *Heralds of Science,* 98. *En Français dans le Texte* 258. Horblit 1. *Printing & the Mind of Man* 309. Zittel, pp. 223-27.

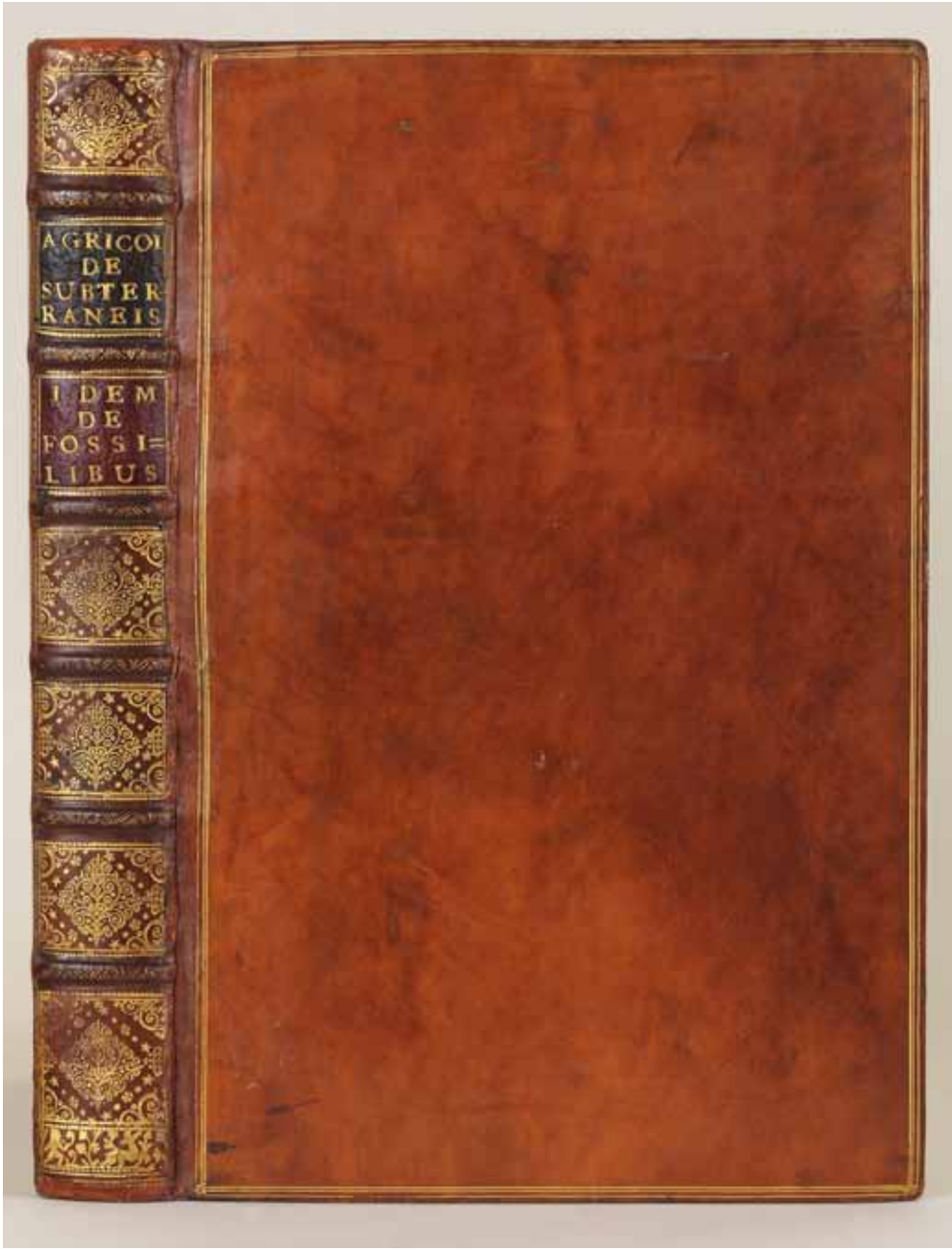
"The First Handbook of Modern Systematic Mineralogy"–Horblit; Alexandre Brongniart's Copy

2. AGRICOLA, Georgius. *De Ortu & Causis Subterraneorum Lib. V. De Natura eorum quae effluunt ex terra Lib. IIII. De Natura fossilium Lib. X. De Veteribus & Novis Metallis Lib. II. Bermannus, sive De re metallica Dialogus. Interpretatio Germanica vocum rei metallicae, addito Indice foecundissimo.* Woodcut printer's device on title, repeated on verso of last leaf, & a full-page woodcut illus. on p. 146. 487, [52] pp. Folio, 18th-cent. polished calf (joints carefully repaired), triple gilt fillet round sides, spine richly gilt, red & green morocco lettering pieces on spine. Basel: Froben, 1546.

$30,000.00

First edition, and a very handsome copy, of "the first handbook of modern systematic mineralogy."–Horblit 2a. With the bookplate of Alexandre Brongniart (1770-1847), the well-known geologist and mineralogist (see *D.S.B.,* II, pp. 493-97).

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



Item 2. *Agricola,* 1546 (greatly reduced)

more general interest, it contains but incidental reference to Geology and Mineralogy."–Hoover.

Very fine copy in fresh crisp condition. A marvelous association copy, linking two of the greatest geologists. Some neat contemporary annotations in Greek and Latin throughout. Later bookplate of Jules Chappée, Le Mans, 1890. With the blanks g6 and M6.

❧ Duveen, pp. 5-6. Hoover 14. See Partington, II, pp. 44-45 for a detailed account. See also *Printing & the Mind of Man* 79.

A Classic of Mining & Metallurgical Technology

3. AGRICOLA, Georgius. *De Re Metallica Libri XII. Quibus Officia, Instrumenta, Machinae, ac omnia denique ad Metallicam spectantia, non modo luculentissimè describuntur, sed & per effigies, suis locis insertas, adjunctis Latinis, Germanicisque appellationibus ita ob oculos ponuntur, ut clarius tradi non possint. Eiusdem de Animantibus Subterraneis Liber, ab Autore recognitus: cum Indicibus diversis…* Woodcut printer's device on title & on verso of last leaf, two folding woodcut plates (the second just shaved at head), & about 270 splendid woodcuts (many full-page) in the text. 6 p.l. (sixth leaf blank), 502 pp., 37 leaves. Folio (324 x 223 mm.), fine 18th-cent. green sheep & blue paste-paper boards (some minor foxing & browning), spine decorated in gilt, orange leather lettering piece on spine. Basel: [H. Froben & N. Episcopius], 1556. $75,000.00

First edition, and a fine, crisp, and large copy of "the first systematic treatise on mining and metallurgy and one of the first technological books of modern times…The *De Re Metallica* embraces everything connected with the mining industry and metallurgical processes, including administration, prospecting, the duties of officials and companies and the manufacture of glass, sulphur and alum. The magnificent series of two hundred and seventy-three large woodcut illustrations by Hans Rudolf Manuel Deutsch add to its value. Some of the most important sections are those on mechanical engineering and the use of water-power, hauling, pumps, ventilation, blowing of furnaces, transport of ores, etc., showing a very elaborate technique."–*Printing & the Mind of Man* 79.

Agricola mentions a large number of minerals, many for the first time, and describes and illustrates numerous mining and metallurgical processes, many of which are still in use. The separate parts of the machinery are shown. Book V contains Agricola's 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 famous woodcuts depict various mining and metallurgical machinery,

Fornax in qua opus ferrendi perficitur A. Fornax in qua non perficitur B. Catinus C. Cuniculi D. Pontes E. Spinæ F.

Antp

Aut argenti quidem, siue plumbi cum argento permixti, quod flammam appellamus, ab æreo fecundo hæc ratio eſt. Stannum uerò in ſecundas fornaces inferetur, in quibus plumbum ab argento ſeparatur: de qua ratione, quã cum proximo libro plumbum uerbis expoſui, unum aliud dicam. Apud nos aliquot annos ſtanni tantummodo quatuor & quadraginta centenaria, & æris unum ſimul in ſecundis fornacibus fuerunt cocta, nunc ſtanni ſex & quadraginta, æris unum & dimidium coquuntur: alibi uerò ſtanni plerunque centum & uiginti, æris ſex: quo modo ſpumæ argenti componenda plus minus centũ & decem, molybdænæ triginta conſtituntur. Omnibus autem his modis argentum, quod ineſt in ære inuicto, cum reliquo argento permiſcetur, ipſum æs, æque ac plumbum, parcius in argenti ſpumam, parcius in molybdænam mutatur. Stannum, quod non liqueſcit, è margine ãi catinum cornu uncinato trahatur. At mauis torrendi, in quamuis operas diſtributum, quatuor perficiatur diebus. Primo, ut etiam cæteris tribus, magiſter mane hora quarta ordiatur, & unã cum miniſtro ſtirpes è paribus fãiliſcentibus decutiat, & hos aduehat ad fornacem, illas autẽ ſpumis ſuperiniciat. Malleus uerò longus ſit palmos ores & totidem digitos, aceta eius pars lata palmum, teres craſſa digitos tres, manubrium ligneum longũ quatuor pedes.

Pontes A. Malleus B.

Deinde

Item 3. *Agrícola,* 1566 (greatly reduced)

men at work, and the first illustration of a railway (p. 276 — trucks containing ore on wooden rails).

A pleasing copy in a most attractive 18th-century binding. From the library of Marchese Massimiliano Spinola, Castello Spinola. Bookplates of Dr. Piergiorgio Borio.

❧ Dibner, *Heralds of Science,* 88. *D.S.B.*, I, pp. 77-79. Hoover 17. Horblit 2b. Partington, II, pp. 46-55. Sparrow, *Milestones of Science,* p. 8 & pl. 26.

"Of Great Importance"
Printed on "Schreibpappir"

4. ALBINUS, Peter. *Meisznische Land und Berg-Chronica, In welcher…Bergwercken, sampt zugehoerigen Metall und Metallar beschreibungen…* Each title within an elaborate woodcut pictorial border, two full-page engravings, & numerous woodcuts & maps in the text, woodcut initials and head- & tailpieces. First title printed in red & black. 6 p.l., 449, [15] pp.; 4 p.l., 205, [6] pp. Two vols. in one. Folio, cont. vellum over boards (binding a little soiled, light browning throughout as is always the case). Dresden: "durchaus auff Schreibpappir gedruckt," 1589-90. $7500.00

First edition, and a fine copy, of this early mining book, splendidly printed on special paper ("Schreibpappir"). "This work is of great importance in connexion with the early history of mining in Saxony."–Zeitlinger, 2nd Supp., 13976. Albinus's book also contains valuable information on the output of gold and silver along with details on the magnet-stone, wolfram, and many other metals.

The present book contains much original information on the life and works of Agricola and is also of great significance for the early history of European porcelain manufacturing. For more on this see W. Prandtl, "Zur Vorgeschichte des Meissner Porzellans" in *Chymia,* Vol. IV (1953).

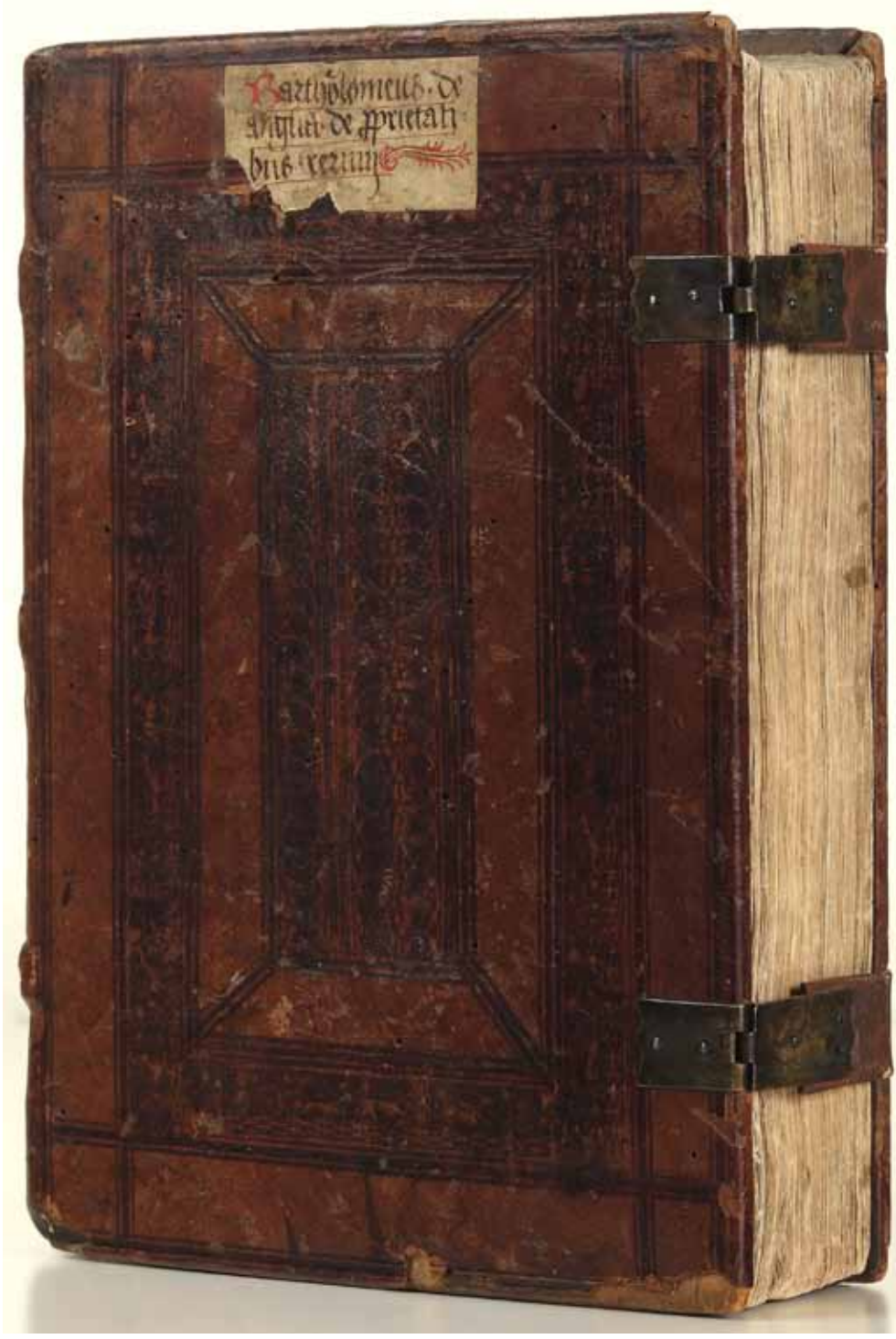
Albinus (1534-98), was professor of poetry and mathematics at the University of Wittenberg and historiographer to the Electorate of Saxony.

Very nice copy. Foot of spine a little defective. Bookplate of Hans Joachim Höupler. Attractive copies of this book are scarce.

❧ Ferchl, p. 6–"die sehr viel hütten-chemische Nachrichten enthält. Quelle über das Leben Georg Agricolas." Hoover 43.

The First Important Encyclopedia of the Middle Ages

5. BARTHOLOMAEUS, Anglicus. *Liber de Proprietatibus Rerum*. Gothic type, 52 lines & headline to the page, double columns. Rubricated initials. 258 leaves, including the final blank. Small thick folio (277 x 200 mm.), cont. goatskin over wooden boards (minor wear & defects to



Item 5. *Bartholomaeus, Anglicus,* 1491 (greatly reduced)

binding which is a little wormed, single wormhole through text of first 25 leaves), panelled in blind, cont. paper label with author & title on upper cover, orig. clasps & catches (clasps repaired). Strasbourg: [Printer of the 1483 Jordanus de Quedlinburg (Georg Husner), 11 August] 1491. $55,000.00

Eleventh edition of the first important encyclopedia of the Middle Ages; "still important for its information on political geography and its accounts of natural history."–Stillwell, *The Awakening Interest in Science during the First Century of Printing 1450-1550,* p. 186.

This encyclopedia was immensely popular for more than three centuries. Divided into nineteen books, the contents are as follows: "(1) God; (2) angels and demons; (3) psychology; (4-5) physiology; (6) family life, domestic economy; (7) medicine; (8) cosmology, astrology; (9) time divisions; (10) form and matter, elements; (11) air, meteorology; (12) flying creatures; (13) waters and fishes, dolphins, whales; (14) physical geography; (15) political geography, (in 175 chapters; this contains a number of interesting remarks, notes on economic geography, etc.); (16) gems, minerals, metals; (17) trees and herbs; (18) animals; (19) color, odor, savor; food and drink, eggs; weights and measures; musical instruments."–Sarton, II, p. 586.

"Book 16 contains 104 short chapters on as many mineral substances as earths, stone, ores, metals, salts, etc., as well as gemstones, the latter often given names that now defy identification of the materials concerned. Gemstones are alabaster, adamante, amethyst, agate, alabandina, beryl, carbuncle, chrysoprase, chalcedony, chrysolite, rock crystal, coral carnelian, hematite, heliotrope, jet, jasper, hyacinth, pearl, marble, onyx, opal, prase, sapphire, emerald, sard, sardonyx, topaz, turquoise; very brief descriptions with comments on curious or medicinal lore associated with each."–Sinkankas, *Gemology,* p. 70.

Bartholomew (fl. 13th cent.), studied at Oxford, Paris, and Magdeburg.

Very good copy, preserved in a box. This copy has extensive marginalia in a calligraphic hand in Books III–V and occasionally elsewhere by the writer who recorded his ownership on the inside front cover at Beyharting in 1551.

❧ *BMC,* I, 142. GKW 3412. Goff B-140. Klebs 149.11. Thorndike, II, pp. 401-35.

The Origins of Meteorites

6. BENZENBERG, Johann Friedrich. *Die Sternschnuppen sind Steine aus den Mondvulkanen, die einen Durchmesser von 1 bis 5 Fuss haben, und welche bei 8000 Fuss Geschwindigkeit in 1 Secunde nicht wieder auf den Mond zurückkommen, und die dann mit Millionen um die Erde herumlaufen…* Four lithographed plates (one folding). 1 p.l., xvi, 80 pp. 8vo, early wrappers

(some foxing). Bonn: E. Weber, 1834. $4500.00

First edition of this interesting book; from the library of Carl Friedrich Gauss. Benzenberg (1777-1846), professor of mathematics at the Lyceum in Düsseldorf, performed many original scientific investigations in the fields of astronomy, physics, and geodetics. He is most famous for being the first to demonstrate that the earth revolves, a problem which had perplexed scientists since Copernicus. Gauss and Benzenberg were at Göttingen at the same time and surely knew each other.

This is one of several works by Benzenberg on the origin of meteorites. He agreed with Chladni's theory concerning their cosmic origins. But Benzenberg used his data to formulate a theory that shooting stars are stones from moon volcanoes.

Three of the plates depict several meteorites and their paths in the sky. The folding plate contains a fine map of the moon.

Very good copy with the stamp of the Royal Observatory at Göttingen on half-title (with release stamp), title, and on the backs of the plates. While this copy does not have the stamp of the Gauss Bibliothek, it is from Gauss's library. Preserved in a box.

❧ *D.S.B.,* I, pp. 615-16. Not known to Whitaker, *Mapping and Naming the Moon* or Ashworth, *The Face of the Moon.*

"A Milestone in the Literature of Mineralogical Chemistry"–Neville

7. BERGMAN, Torbern Olof. *Manuel du Minéralogiste; ou Sciagraphie du Règne Minéral, distribué d'après l'Analyse Chimique*…Mise au jour par M. Ferber…et Traduite et augmentée de Notes par M. Mongez. One engraved plate depicting chemical apparatus. lxxxviii, 343 pp. 8vo, cont. mottled calf, flat spine gilt, red morocco lettering piece on spine. Paris: Cuchet, 1784. $1250.00

First edition in French; this was an important work in the chemical classification of minerals. Bergman's *Sciagraphia regni mineralis*, first published in 1782 in Latin, contains his general reform of nomenclature. "Following Linnaeus, Bergman divided inorganic substances into classes, genera, and species; and, as Linnaeus had done for plants and animals, he defined each class and genus by one word and each species by two. There were four classes: salts (including acids and alkalies as well as neutral salts), earths, metals, and phlogistic materials."–*D.S.B.,* II, p. 7.

Mongez (1751-88), has added to his translation extensive notes regarding each substance, citing works of other chemists and mineralogists.

Very good copy.

Cole 110. Hoover 114. Neville, I, p. 124. Partington, III, pp. 184-85.

8. BERTRAND, Élie. *Dictionnaire Universel des Fossiles propres et des Fossiles accidentels, contenant une Description des Terres, des Sables, des Sels, des Soufres, des Bitumes, des Pierres simples & composée, communes & prétieuses transparents & opaques, amorphes & figurées, des Minéraux, des Métaux, des Pétrifications du Règne animal, & du Règne végétal, &c. avec des recherches sur la formation de ces fossiles, sur leur origine, leur usages, &c.* Titles printed in red & black. 1 p.l., xxxii, 284 pp.; 1 p.l., 256 pp. Two vols. in one. 8vo, cont. sheep, spine nicely gilt. The Hague: P. Gosse, Jr. & D. Pinet, 1763. $1500.00

First edition, The Hague issue (there is also an Avignon issue). Bertrand (1712-77), Swiss naturalist and geologist and a member of many scientific societies throughout Europe, wrote several interesting books on earthquakes, the structure of the earth, and other geological matters.

"Scarce. An early comprehensive dictionary defining terms used in the 18th century study of oryctology, which by today's convention would include all of the earth sciences such as geology, mineralogy, crystallography, paleontology, and vulcanology. In the alphabetical list, various terms deal with earths, salts, sulfurs, bitumens, petroleum, simple and complex stones, common and precious gems, minerals, metals, petrifications of animals and plants, the latest theories on their formation, and their uses. In many instances a substantial definition is provided, which shows Bertrand's good knowledge of the subject."–Schuh, *Mineralogy & Crystallography: A Biobibliography, 1469 to 1920, 523.*

Nice copy.

❧ Kafker, *The Encyclopedists as Individuals: A Biographical Dictionary of the Authors of the Encyclopédie,* pp. 34-39. Poggendorff, I, 170.

9. BERZELIUS, Jöns Jacob. *De l'Emploi du Chalumeau dans les Analyses chimiques et les Déterminations minéralogiques*…Traduit du Suédois par F. Fresnel. Four folding engraved plates. 2 p.l., vi, 396, [2] pp., one leaf of errata. 8vo, orig. wrappers (some fraying & some wear to spine), uncut. Paris: Méquignon-Marvis, 1821. $950.00

First edition in French (1st ed., in Swedish: 1820) of this very scarce and famous work in which Berzelius describes the use of the blowpipe in chemistry and mineralogy. "The scientific apparatus and reagents available in Sweden when Berzelius began his work were very inadequate…The new forms of apparatus that he built were described in the various editions of his textbook and became standard pieces of equipment in laboratories all over the world. He was especially skillful in the use of the blowpipe, which had been developed in the Scandinavian countries. He utilized it in many of his analytical procedures, and the book that he wrote concerning it popularized its use abroad."–*D.S.B.,* II, p.

93.

The apparatus which Berzelius developed allowed him to greatly improve the accuracy of qualitative and quantitative analysis, and he introduced many new methods.

The translation by Fulgence Fresnel (1795-1855), is known to be excellent.

Very good uncut copy. The plates depict cross-sections of the blowpipe and other chemical apparatus.

❧ Cole 137. Neville, I, p. 143. Partington, IV, pp. 146-49.

The Earliest Geological Account of Scotland

10. BOUÉ, Ami. *Essai Géologique sur l'Écosse*. Seven folding lithographed plates & two folding maps (one hand-colored). x, [2], 519, [4] pp. 8vo, orig. pink wrappers (quite restored & rebacked), uncut. Paris: Courcier, [1820]. $1350.00

First edition of the earliest geological account of Scotland. While a student at the University of Edinburgh, Boué (1794-1881), became interested in geology through the influence of his teacher, the mineralogist Robert Jameson. Boué's rambles throughout Scotland allowed him to form his own conclusions as to the origin and age of the many igneous rocks of that country. This work contains much original information.

"Boué "distinguished very exactly between basaltic sheets and dykes, and described the various volcanic rocks petrographically. Although a student of Jameson, he attached himself to Hutton's part in regard to the origin of basalt, phonolite, trachyte, porphyry, and granite."–Zittel, p. 270.

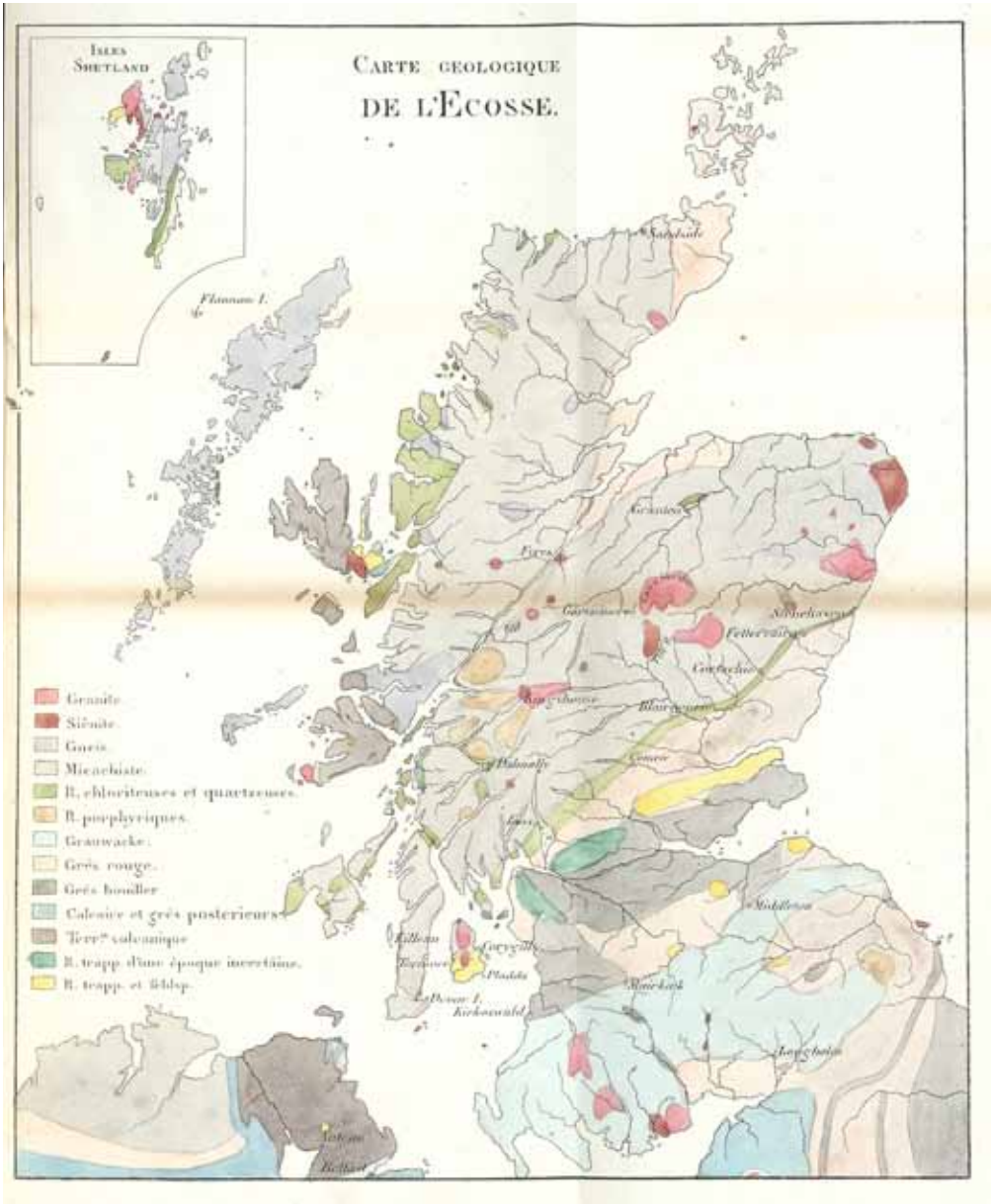
A very good copy, entirely uncut, of a scarce book, preserved in a morocco-backed slipcase.

❧ *D.S.B.*, II, pp. 341-42. Geikie, *The Founders of Geology*, p. 264–"In many respects this remarkable work was far in advance of its time, particularly in regard to the views expressed in it regarding the trappean rocks."

Helped to Eradicate Neptunian Dogmas

11. BREISLAK, Scipione. *Introduzione alla Geologia*. xxvii, [1], 36, 367, [1] pp.; 490 pp. Two vols. 8vo, orig. marbled wrappers (minor foxing), entirely uncut. Milan: Stamperia Reale, 1811. $1500.00

First edition and a fine set in original state. This highly influential work was rapidly translated into French and German and widely circulated. Its criticism of Neptunian dogmas was largely instrumental in eradicating them from the teaching of the universities and colleges. Breislak gives a good account of volcanic phenomena and volcanic rocks in Italy, and contributes a number of valuable observations on gaseous explosions, volcanic ejecta, and on lava and



Item 10. *Boué,* 1820 (much reduced)

basalt.

"Considered one of the founders of volcanology in Italy, Breislak was the first to determine that basaltic rocks were of extrusive origin; he also emphasized that the tufaceous deposits of Campania originated under water, and he reconstructed the evolution of Vesuvius."–*D.S.B.*, II, p. 439.

Fine set of this important book, preserved in a box.

❧ Ashworth & Bradley, *Theories of the Earth 1644-1830* (Linda Hall Library: 1984), 47. Zittel, pp. 78-79 & 144-45.

12. BREITHAUPT, Johann Friedrich August. *Die Bergstadt Freiberg im Königreiche Sachsen, in Hinsicht auf Geschichte, Statistik, Cultur und Gewerbe, besonders auf Bergbau und Hüttenwesen*. Lithographed frontis. xvi, 276 pp. 8vo, orig. printed wrappers, uncut. Freiberg: Craz & Gerlach, 1825. $1350.00

First edition of this rare account of the great mining city Freiberg in Saxony which owes its origin to the discovery of silver mines ca. 1163. Freiberg has traditionally been the seat of the general administration of the mines throughout Saxony and is the home of the famous mining academy, which produced so many famous geologists and mineralogists.

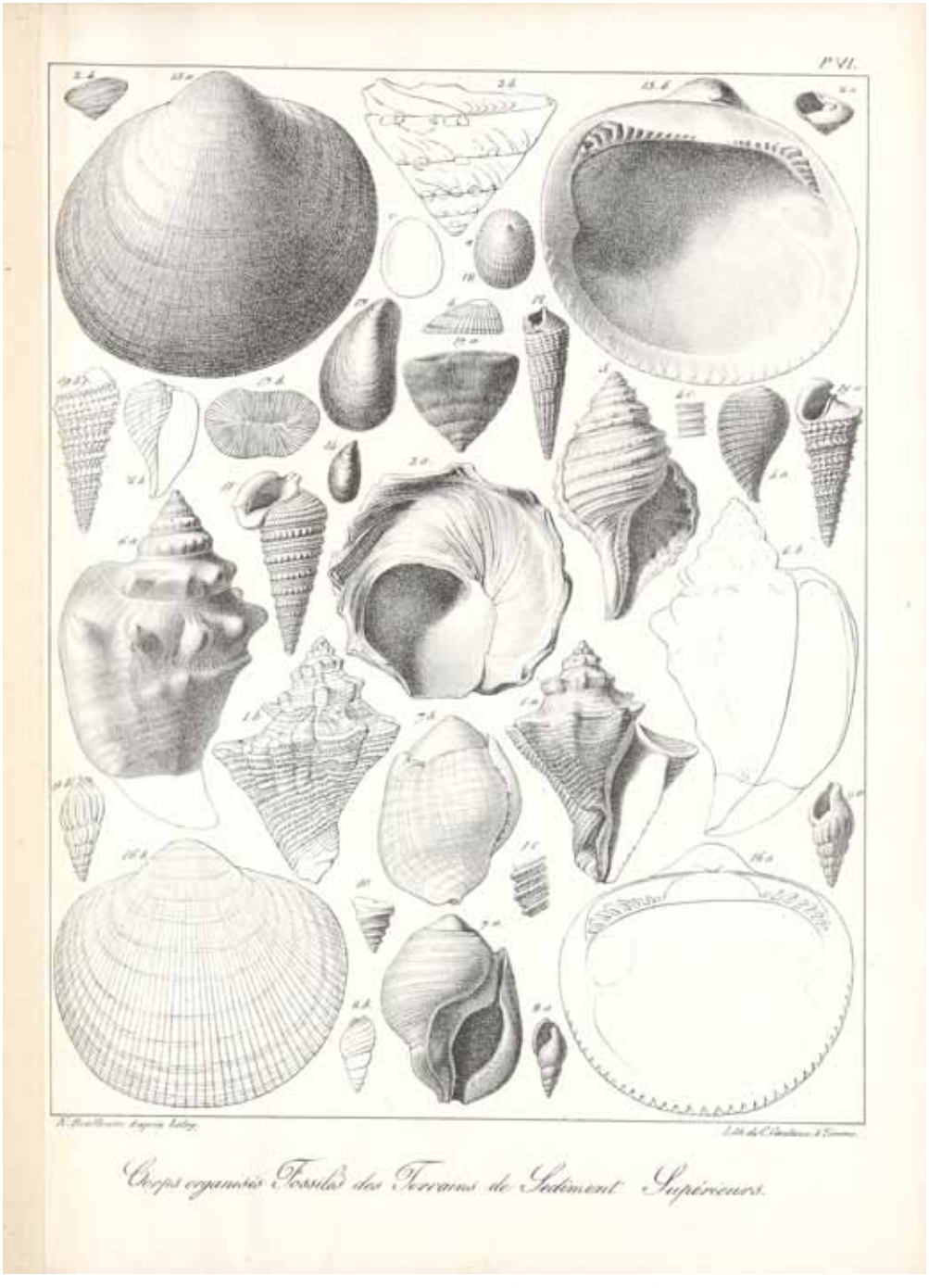
Breithaupt (1791-1873), a leading mineralogist and professor of mineralogy at the mining academy at Freiberg (succeeding Mohs in 1826), has provided an extremely detailed account of the history, the chief landmarks, trades, educational institutions, and governmental structure of the city. The information regarding the mining and metallurgical activities of the town, as well as *Bergakademie* is incredibly rich.

Fine copy in original state.

❧ *D.S.B.*, II, pp. 440-41.

13. BRONGNIART, Alexandre. *Mémoire sur les Terrains de Sédiment Supérieurs Calcaréo-Trappéens du Vicentin, et sur quelques Terrains d'Italie, de France, d'Allemagne, etc., qui peuvent se rapporter a la même Époque*. Six lithographic plates. 2 p.l., iv, [1], 86 pp. Large 4to, cont. red morocco-backed marbled boards, spine gilt. Paris: F.G. Levrault, 1823. $1250.00

First edition. This important work describes rocks containing fossils which "varied greatly in lithology, some being associated with volcanic rocks; they might be flat-lying or highly folded; and they might outcrop at any altitude from sea level to the summits of the Alps…his demonstration of such spectacular elevation of relatively recent strata later acted as powerful evidence for a greatly expanded time scale of the earth's history in the hands of those who, like Charles Lyell, believed that the elevation had occurred slowly and



Item 13. *Brongniart,* 1823 (much reduced)

gradually."–*D.S.B.,* II, pp. 495-96.

Nice copy with half-title.

With an Autograph Letter

14. BRONGNIART, Alexandre. *Classification et Caractères Minéralogiques des Roches Homogènes et Hétérogènes*. 2 p.l., 144 pp. 8vo, cont. sheep-backed marbled boards (spine faded & worn at ends, some foxing throughout). Paris: Levrault, 1827. $750.00

First edition of this mineralogical classification and description of rocks by the eminent French geologist Brongniart (1770-1847), who had long given his attention to minerals and rocks. In 1822 he succeeded Haüy as professor of mineralogy at the Muséum d'Histoire naturelle.

Tipped in on the half-title of this copy is an A.L.s. (somewhat creased) by Brongniart saying he is enclosing a sample of a mineral for analysis.

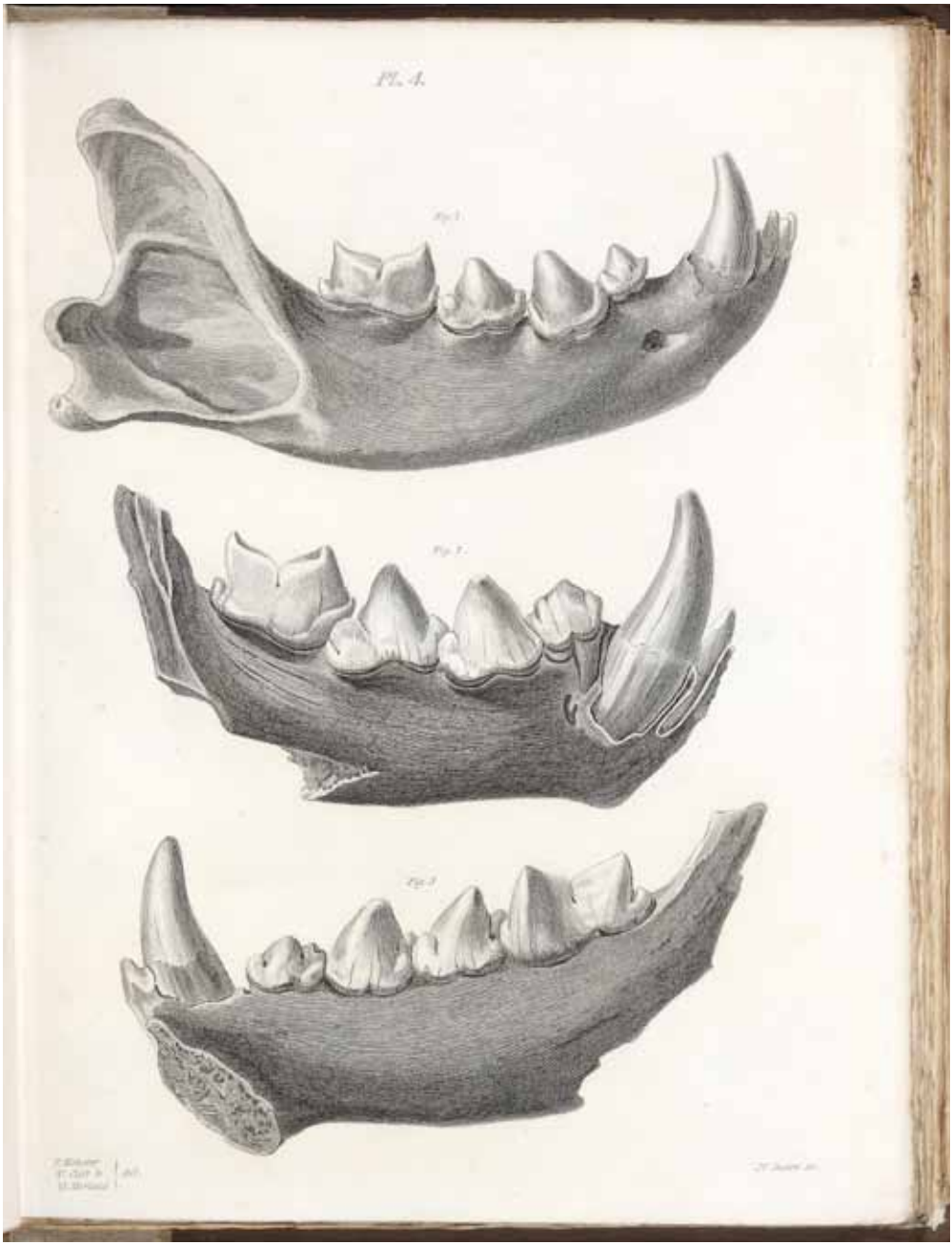
Very good copy. Provenance: 1. Daubrée, probably Gabriel-Auguste Daubrée (1814–1896), geologist; 2. Stanislas Meunier, with his stamp at the foot of the title, and autograph note on the endpaper, given him by Daubrée in January 1867; 3. Comte Delamarre de Monchaux, purchased from the Librairie Lechevalier because of the autograph letter, at the sale of Meunier's books (note on front endpaper).

❧ *D.S.B.,* II, pp. 493-97. Schuh, *Mineralogy & Crystallography: A Biobibliography, 1469 to 1920*, 870–"Very scarce. An early mineralogical classification and description of rocks according to Abraham Gottlob Werner's theories. In this work, Brongniart first proposed the word 'melaphyre' for one type of basalt."

15. BRONGNIART, Alexandre. *Tableau des Terrains qui composent l'Écorce du Globe, ou Essai sur la Structure de la Partie connue de la Terre*. viii, 435 pp. 8vo, cont. sheep-backed marbled boards (some foxing), flat spine gilt. Paris: F.G. Levrault, 1829. $1250.00

First edition. "Brongniart's last major geological work, the *Tableau…* (1829), was the culmination of his life's work on the ordered classification and interpretation of rocks…it was an attempt to tackle problems that are still important in modern geology. Having recognized that the rocks formed at one period might be widely different in appearance, he was concerned to establish a system of nomenclature for the periods of earth history."–*D.S.B.,* II, p. 496.

Nice copy with half-title. First thirty leaves some marginal worming.



Item 17. *Buckland,* 1823 (much reduced)

16. BRUECKMANN, Franz Ernst. *Epistola Itineraria LXXII. De Sylvae Hercynicae Antris. Die Alte- und Neue- Kelle, nec non die Hölle vocatis*. One folding engraved plate. 12 pp. Small 4to, disbound. Wolfenbuettel: 1738. $1350.00

First edition. Brückmann (1697-1753), a member of the Academia Caesarea Naturae Curiosorum, was a prolific author on mining, mineralogy, and related natural history subjects. He practiced medicine at Helmstädt and Braunschweig and, after receiving a considerable inheritance, traveled widely and formed an important mineral collection. He published three separate *Centuria* of letters (I: 1728-41, with each "Epistola" being published separately; II: 1749; and III: 1756).

This rare work — WorldCat locates no copy in the U.S. — describes the famous "Heimkehle" gypsum cave near Ellrich in the southern Harz mountains. It was first mentioned in 1357 and is one of the two largest gypsum caves in Germany. The plate depicts the cave.

Fine copy, preserved in a box.

❧ Hirsch, I, pp. 731-32. Poggendorff, I, 312-13.

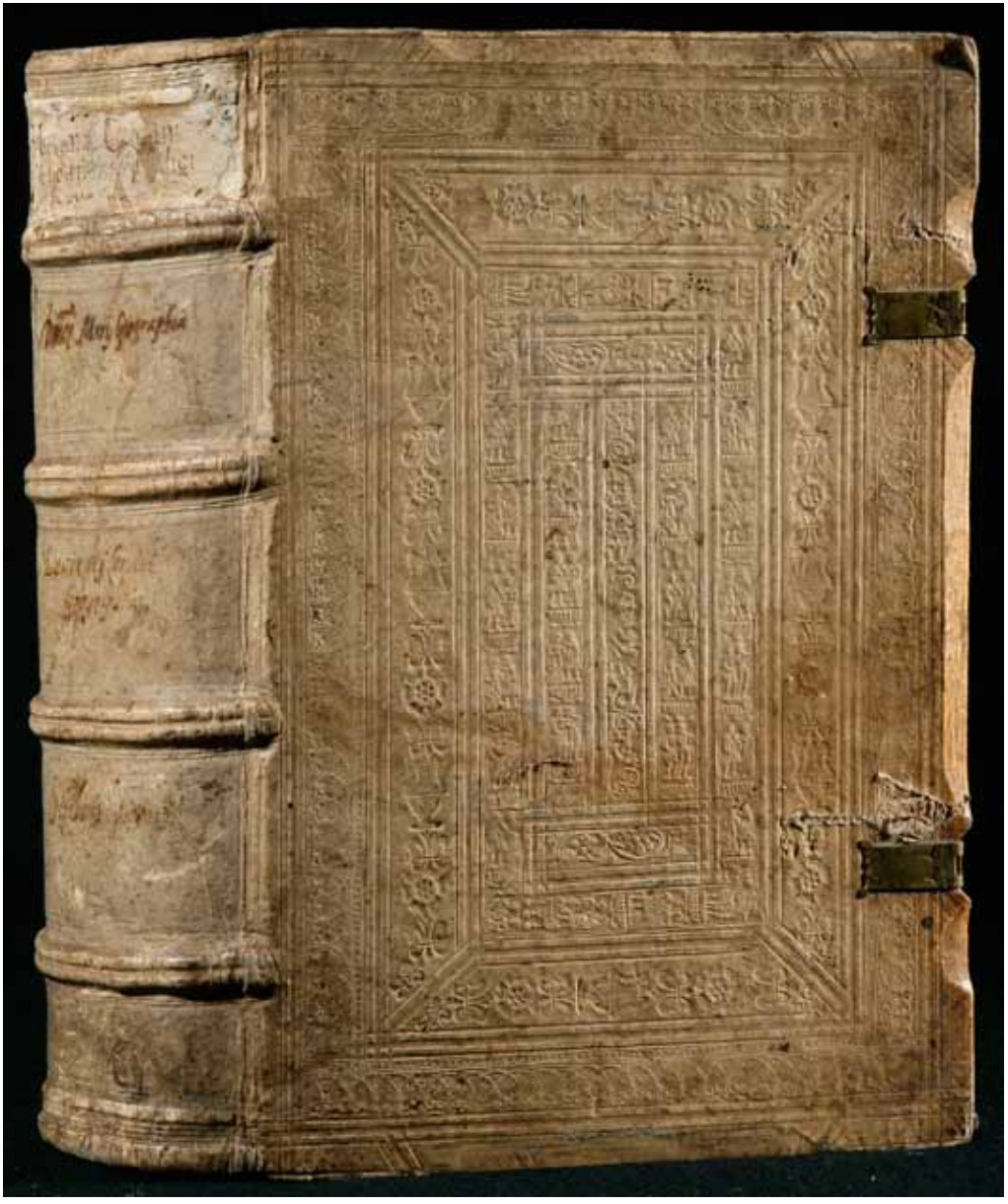
17. BUCKLAND, William. *Reliquiae Diluvianae; or, Observations on the Organic Remains contained in Caves, Fissures, and Diluvial Gravel, and on other Geological Phenomena, attesting the Action of an Universal Deluge*. Twenty-seven engraved or lithographed plates & maps (3 are hand-colored, one is folding) & one folding printed table. Several illus. in the text. vii, [1], 303 pp. Large 4to, orig. boards (neatly rebacked retaining the orig. paper label), entirely uncut. London: J. Murray, 1823. $2250.00

First edition of an important work in which Buckland concluded "that species of animals that now exist together only in the tropics had coexisted in northern Europe with species still in existence, and that this demonstrated a tropical climate in antediluvial times, before the deluge buried the bones in a layer of mud."–*D.S.B.,* II, 569.

This work was seized upon with eagerness by all who were desirous of having the records of revelation supported by the interpretations of scientific investigations.

Buckland (1784-1856), reader in geology at Oxford for many years, raised geology to rank alongside the more prominent sciences of the University and gave Oxford an international name in science.

Nice copy and uncommon. With the signature of William Sturges Bourne (1769-1845), Canning's home secretary.



Item 19. *Cardano,* 1557 (greatly reduced)

18. BUCKLAND, William. *Geology and Mineralogy considered with Reference to Natural Theology*. 87 plates (one colored by hand & some folding). xvi, 599, [1] pp.; vii, 128 pp. Two vols. 8vo, cont. polished calf, double gilt fillet round sides, spines richly gilt, red leather lettering pieces on spines. London: W. Pickering, 1836. $950.00

First edition. Buckland's importance lay "in helping to redefine the nature and method of a geological explanation…Buckland and other geologists wished to produce detailed explanations that would in effect constitute a geological history, period by period, of the events of a given locality…Buckland was thus one of the men, perhaps the ablest and probably the most acute, who built a typically 'British' geology, based on careful local stratigraphy and local dynamic explanations but revivified by the addition of fossil evidence."–*D.S.B.*, II, pp. 567-68.

Fine and attractive set. A few of the plates are shaved and most are somewhat foxed. Number VI of the famous Bridgewater Treatises.

Cardano's Second Great Encyclopedia of Natural Science

19. CARDANO, Girolamo. *De Rerum Varietate Libri XVII*. Fine medallion woodcut port. of the author on title, numerous woodcut illus. in the text, & a woodcut plate illustrating a volvelle inserted at p. 438. Tables in the text. 6 p.l., 707, [32] pp. Thick folio, cont. blind-stamped panelled pigskin over wooden boards (binding a little soiled, minor foxing here & there), orig. clasps & catches. Basel: [H. Petri], 1557.

[**bound with**]:

NIGER, Dominicus Marius. *Geographiae Commentariorum Libri XI . . . Una cum Laurentii Corvini Novoforensis Geographia. Et Strabonis Epitome per D. Hieronymum Gemusaeum translata*. Woodcut printer's device on title & another version on verso of final leaf. 48 p.l., 787, [1] pp. Folio. Basel: [H. Petri, 1557]. $35,000.00

A very attractive sammelband of two important works in a handsome contemporary blind-stamped panelled pigskin binding over wooden boards.

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

"Of special chemical interest is Book X (p. 375-410), comprising one chapter on

MINERALOGIA,

SIVE

NATVRALIS PHILOSOPHIÆ THESAVRI,

IN QVIBVS METALLICÆ CONCRETIONIS medicatorúmque fossilium miracula, terrarum pretium, colorum & pigmentorum apparatus, concretorum succorum virtus, lapidum atque gemmarum dignitas continentur.

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

PRODERIT HÆC PRETIOSA SVPELLEX NON Philosophiæ modò, ac Medicinæ, verùm etiam sacræ & humaniorís literaturæ studiosis.

LVGDVNI,
Sumptib. IACOBI & PETRI PROST.

M. DC. XXXVI.

CVM PRIVILEGIO REGIS.

Item 20. *Cesi,* 1636 (greatly reduced)

fire . . . a chapter on distillation with woodcuts of apparatus, and a chapter on chemistry. It finishes by a chapter on glass."–Duveen, p. 117.

II. First edition of this rare and massive geography. Niger, of Venice, wrote his "Geography" in 26 books, 11 on Europe, 11 on Africa, and 4 on Asia. This first edition contains the commentary of Wolfgang Weissenburger. The text was used by Hakluyt and Holinshed.

Nice fresh copies. Signature of "Lud. Romanus. 1580" on title.

❧ I. *D.S.B.,* III, pp. 64-67. Partington, II, pp. 9-15. Thorndike, V, pp. 563-79. Wheeler Gift Cat. 45.

The First to Use the Term Mineralogy in the Modern Sense

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

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

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

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

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

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

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

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

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

Eased the Way for Darwin

21. [CHAMBERS, Robert]. *Vestiges of the Natural History of Creation*. vi (half-title bound at end), 390 pp. 8vo, orig. red blindstamped cloth (cloth & hinges well-repaired). London: J. Churchill, 1844. $450.00

First edition of the author's best-known book. "The *Vestiges* played a significant role in mid-nineteenth-century biology. By presenting an evolutionary view of nature, it received the first wave of reaction and thus eased the way for Darwin's *On the Origin of Species* fifteen years later."–*D.S.B.*, III, p. 192. Very good copy.

Presentation Copy of a Geological Classic

22. CHARPENTIER, Jean de. *Essai sur les Glaciers et sur le Terrain Erratique du Bassin du Rhone*. One large folding hand-tinted map (tear neatly repaired without loss), 8 lithographic plates (one folding), & text illus. 2 p.l., x, 363 (i.e. 362) pp., one leaf of errata. 8vo, orig. printed upper wrapper bound in cont. half-cloth & marbled boards, spine gilt. Lausanne: M. Ducloux, 1841. $1650.00

First edition. This is a classic work on the phenomenon of erratic blocks and the function of glaciers in transporting them. Charpentier's theory, delivered in a paper in 1834, was met with disbelief and scorn. "Undismayed, Charpentier continued his observations and invited the incredulous to visit him and see the evidence for themselves. Among his visitors was Louis Agassiz, who was soon carried away with such enthusiasm for the theory of the Ice Age that he visited a number of glaciers and blocks and rushed into print, ahead of Charpentier,

Item 22. *Charpentier,* 1841 (reduced)

with his *Études sur les Glaciers* (1840)…Charpentier received Agassiz' book on 28 October 1840, three days before he finished his own *Essai sur les Glaciers*, which was published in February 1841. The scrupulous care with which he weighed the evidence and described the phenomenon of erratic blocks and the function of glaciers in transporting them makes this book a classic."–*D.S.B.,* III, p. 211.

While Agassiz is generally credited with the origin of the theory of the Ice Age, the theory had in fact been developed long before by Charpentier.

Very nice copy with a presentation inscription from the author on the upper wrapper: "à Monsieur Schwedler hommage de l'auteur" (the final four letters of "auteur" have been cropped by the binder's knife).

23. CLEAVELAND, Parker. *An Elementary Treatise on Mineralogy and Geology, being an Introduction to the Study of these Sciences…* Engraved folding map (hand-colored) & five folding engraved plates. xii, 668 pp. 8vo, orig. paper-backed boards (spine partially defective, some wear & rubbing to boards), printed paper label on spine, uncut. Boston: Cummings & Hilliard, 1816. $1950.00

First edition of the first important mineralogical text published in the United States. "The theoretical part of Cleaveland's work was compiled from the writings of European scientists. Thus, it fully described Haüy's crystallographic theory and method and closely followed Brongniart's systematic mineralogy. It also displayed a neptunist bias, in that Cleaveland not only assumed an aqueous origin for basalt but also classified rocks according to the Wernerian chronological-stratigraphic system. However, because it was the first important American mineralogical text and contained much valuable information concerning the minerals of the United States, it was favorably received and praised on both sides of the Atlantic."–*D.S.B.,* III, p. 313.

A good copy in original state, preserved in a box.

The Foundation of Vertebrate Paleontology;
An Uncut Set in the Original Wrappers

24. CUVIER, Georges. *Recherches sur les Ossemens Fossiles de Quadrupèdes, ou l'on rétablit les Caractères de plusieurs Espèces d'Animaux que les Révolutions du Globe paroissent avoir détruites*. 154 engraved plates (many folding) & one large folding handcolored engraved geological map. Four vols. Large 4to, orig. marbled wrappers (minor foxing & browning), publisher's printed labels on spines, entirely uncut. Paris: Deterville, 1812. $16,500.00

First edition of this great work, the foundation of vertebrate paleontology. "In the whole literature of comparative anatomy and palaeontology there is scarcely any work that can rank with this great masterpiece of Cuvier."–Zittel, p.

137–(who gives a full account of this book on pp. 135-41).

This brilliantly written and lavishly illustrated work, in which Cuvier's many separate publications on fossil remains were united, virtually founded the science of paleontology and greatly advanced the development of comparative anatomy. By his presentation of evidence of progressive development he shattered the dogma of immutability of species and provided material for the Darwinian concept of evolution. The *Discours Préliminaire* in Vol. I (later published as the much discussed *Discours sur les Révolutions du Globe*) contains Cuvier's famous theory on the past history of the earth.

A fine set preserved in four boxes. Because this is an uncut set, none of the plates have been cut into by the binder's knife (most sets and their plates have suffered by being trimmed down).

❧ Evans, *Exhibition of First Editions of Epochal Achievements in the History of Science* (1934), 104. *En Français dan la Texte* 224. Horblit 20b.

25. CUVIER, Georges. *Essay on the Theory of the Earth*. Translated from the French of M. Cuvier…by Robert Kerr…with Mineralogical Notes, and an Account of Cuvier's Geological Discoveries, by Professor Jameson. Two engraved plates (both somewhat foxed). xiii, 265, [1] pp. 8vo, cont. speckled half-calf & marbled boards, spine gilt, red leather lettering piece on spine. Edinburgh: W. Blackwood, et al., 1813.

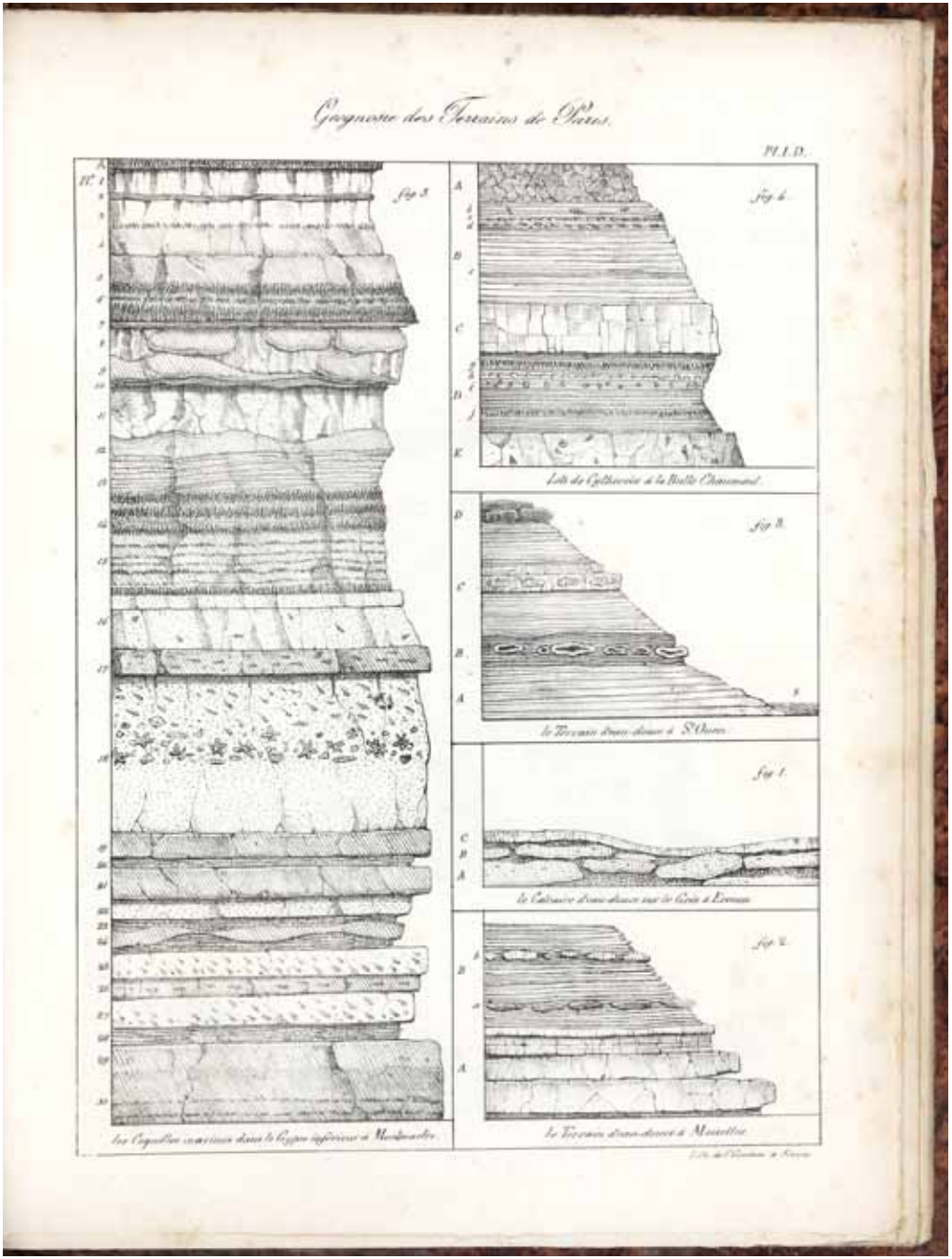
$1950.00

First edition. "In 1812 Cuvier published a mammoth five volume work on vertebrate fossils. In a lengthy preliminary discourse, he discussed the implications of fossils for the history of the earth. The preface was quickly translated into English and published as Cuvier's theory of the earth, which indeed it was. Cuvier had studied and mapped the Paris basin, and he argued that the abrupt transition between formations proved that the earth had undergone successive revolutions. The radical change in fossil populations between formations was further evidence of repeated catastrophes. Catastrophism was not a new doctrine, but Cuvier was one of the first to support it by detailed fossil evidence…The *Essay* was first published in 1813."–Ashworth & Bradley, *Theories of the Earth 1644-1830* (Linda Hall Library: 1984), 48–(describing the second ed. of 1815).

Nice copy with half-title.

❧ Porter, *The Making of Geology,* p. 209–this book "became the most popular general account of the Earth in Britain in the 1810s."

26. CUVIER, Georges. *Essay on the Theory of the Earth*. Translated from the French of M. Cuvier…by Robert Kerr…with Mineralogical Notes, and an Account of Cuvier's Geological Discoveries, by Professor



Item 27. *Cuvier,* 1822 (reduced)

Jameson. Four engraved plates. xvi, 332 pp., 2 leaves of publisher's ads. 8vo, cont. grey-green polished half-calf & marbled boards, spine gilt, black leather lettering piece on spine. Edinburgh: W. Blackwood, et al., 1815. $1650.00

Second edition, "with [considerable] additions." "For this [1815] edition, a section of the Paris basin was included, adapted from another Cuvier work, but with an added limestone face as a bit of Scottish geological whimsy."–Ashworth & Bradley, *Theories of the Earth 1644-1830* (Linda Hall Library: 1984), 48.

A very fine and pretty copy, with half-title, from the library of Sir. Joseph Radcliffe, Bart., with his armorial bookplate.

❧ Porter, *The Making of Geology,* p. 209–this book "became the most popular general account of the Earth in Britain in the 1810s."

"A Landmark in the History of Geology"–D.S.B.

27. CUVIER, Georges & BRONGNIART, Alexandre. *Description Géologique des Environs de Paris…Nouvelle Édition, dans laquelle on a inséré la Description d'un Grand Nombre de Lieux de l'Allemagne, de la Suisse, de l'Italie, etc., qui présentent des Terrains analogues a ceux du Bassin de Paris*. 16 lithographed plates (one folding) & two hand-colored engraved maps (one of which is very large & folding). 3 p.l., viii, 2, 5-428 pp. Large 4to, cont. marbled boards (small defect towards head of spine), green leather lettering piece on spine. Paris: G. Dufour & E. d'Ocagne, 1822. $1500.00

New edition, a rewritten and greatly expanded version of Cuvier and Brongniart's *Géographie Minéralogique des Environs de Paris* (1808 & 1811). This geological classic extended geological time, showed an alteration between marine and fresh water conditions, and demonstrated the value of precisely collected and identified fossils as criteria for tracing a detailed series of strata.

Brongniart, with the assistance of Cuvier, "drew up a systematic table of the succession of stratigraphical horizons in accordance primarily with the sequence of the deposits of the ground, and with the particular fossils characterising each group of deposits."–Zittel, p. 104. Of the nine formations Cuvier and Brongniart identified, only two were known in Werner's system.

This edition contains for the first time Brongniart's descriptions of strata from many different parts of Europe. This additional evidence led him to stress the primacy of fossil evidence over that of lithology as a criterion for age, wherever the two sources of evidence were found to conflict.

Apart from the minor binding defect, a fine, crisp, and large copy. The folding plate has a clean tear in a fold without loss.

❧ *D.S.B.*, II, p. 493-97. Zittel, pp. 104-06.

28. DANA, Edward Salisbury. *A Text-Book of Mineralogy with an extended Treatise on Crystallography and Physical Mineralogy*. Numerous illus. in the text. 1 p.l. (ads), ix, 720 pp. 8vo, orig. cloth (foot of each joint a bit worn), spine gilt. New York: J. Wiley & Sons, 1922. $125.00

"Third edition, revised and enlarged by William E. Ford." This copy belonged to Joseph Murdoch, professor of mineralogy at UCLA (1937-67), and contains his annotations made while a student.

Very good copy.

"Very Scarce"

29. DANA, James Freeman & DANA, Samuel Luther. *Outlines of the Mineralogy and Geology of Boston and its Vicinity*. Folding hand-colored engraved geological map. 108 pp. 8vo, attractive antique cloth-backed blue boards (minor browning). Boston: Cumming & Hilliard, 1818. $1500.00

First edition of this pioneering work in American geology. "Among the earliest publications on the geology and mineralogy of New England mention must be made of J.F. and S.L. Dana's *Outlines…*, which bears the date of 1818, and which is further noteworthy for containing a geological map of a part of Massachusetts on the Connecticut River and the various reprints of Maclure's. The classification adopted was that of Werner, and hence of course, purely lithological."–Merrill, *History of American Geology*–(who gives a detailed treatment of this book).

Harvard graduates, the Dana brothers wrote this work shortly after finishing their college educations. Samuel Luther Dana (1795-1868), established an important bleaching factory in Lowell and is perhaps most famous for his rustically entitled *A Muck Manual for Farmers* (1842 and many later editions).

Nice large copy.

❧ Schuh, *Mineralogy & Crystallography: A Biobibliography, 1469 to 1920*, 1299–"Very scarce…A section of the geology of the area, which faithfully follows Werner, has accompanying a remarkably accurate map of Boston and its vicinity, indicating in color the surface location of various rock types."

30. DARWIN, Charles Robert. *The Structure and Distribution of Coral Reefs. Being the First Part of the Geology of the Voyage of the Beagle, under the Command of Capt. Fitzroy, R.N. during the Years 1832 to 1836*. Three folding engraved maps (two are handcolored, one with a split in the fold neatly repaired) & wood engravings in the text. xii, 214 pp. 8vo, cont. half-morocco & marbled boards (minor rubbing to binding). London: Smith,

Elder, 1842. $12,500.00

First edition of Darwin's most important geological work in which he proposed a theory of "subsidence" to account for the formation and structure of coral reefs, particularly the great depth of water through which they rose from the ocean floor to the surface and the perfect hemispheres they formed around low-lying islands.

Very good copy.

❧ Freeman 271.

31. DARWIN, Charles Robert. *Geological Observations on South America. Being the Third Part of the Geology of the Voyage of the Beagle, under the Command of Capt. Fitzroy, R.N. During the Years 1832 to 1836*. One folding map, five folding plates (one is lithographed & colored, the others are engraved), & diagrams in the text. vii, [1], 279, [1] pp.; 32 pp. of ads dated July 1846. 8vo, orig. purple blindstamped cloth (well-rebacked with the orig. spine neatly laid-down, new but sympathetic endpapers). London: Smith, Elder, 1846. $25,000.00

First edition. Darwin's observations in South America demonstrated that the age of the earth must be vastly greater than was currently imagined.

A very good copy of a book which is now scarce. Minor foxing. The colored lithographed plate is slightly soiled and the others are very slightly soiled at outer margins.

❧ Freeman 273.

32. DARWIN, Charles. *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*. Folding lithographed diagram. 8vo, orig. pale green cloth (head & foot of spine with slightest chipping, occasional unimportant foxing), covers stamped in blind, spine lettered in gilt. New York: D. Appleton, 1860. $8500.00

First American edition, "second issue" with three quotations on verso of half-title. A very good and bright copy preserved in a slip-case.

❧ Freeman 378. For the first edition, see Horblit 23b; Dibner, *Heralds of Science,* 199; and *Printing & the Mind of Man* 344b.

33. DARWIN, Charles. *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*. Folding lithographed diagram. 8vo, orig. green cloth (lower hinge carefully strengthened), covers stamped in blind, spine lettered in gilt. London:

J. Murray, 1866. $3500.00

"Fourth Edition, with additions and corrections. (Eighth Thousand.)" This edition consisted of 1500 copies and was extensively revised by Darwin.

A very good fresh copy with the bookplate of Dr. Sydney Ross.

❧ Freeman 385. For the first edition, see Horblit 23b; Dibner, *Heralds of Science,* 199; and *Printing & the Mind of Man* 344b.

First Use of "Survival of the Fittest"

34. DARWIN, Charles. *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*. Folding lithographed diagram. 8vo, orig. green cloth (slightest wear to small portions of upper & lower joints, corners very slight worn), covers stamped in blind, spine lettered in gilt. London: J. Murray, 1869. $2500.00

"Fifth Edition, with additions and corrections. (Tenth Thousand.)" "The fifth edition of 1869 was of 2,000 copies and was again much revised. It is in this one that Darwin used the expression 'survival of the fittest', Herbert Spencer's term, for the first time."–Freeman, p. 79.

A very good fresh copy, binding variant A. Contemporary annotations on half-title.

❧ Freeman 387. For the first edition, see Horblit 23b; Dibner, *Heralds of Science,* 199; and *Printing & the Mind of Man* 344b.

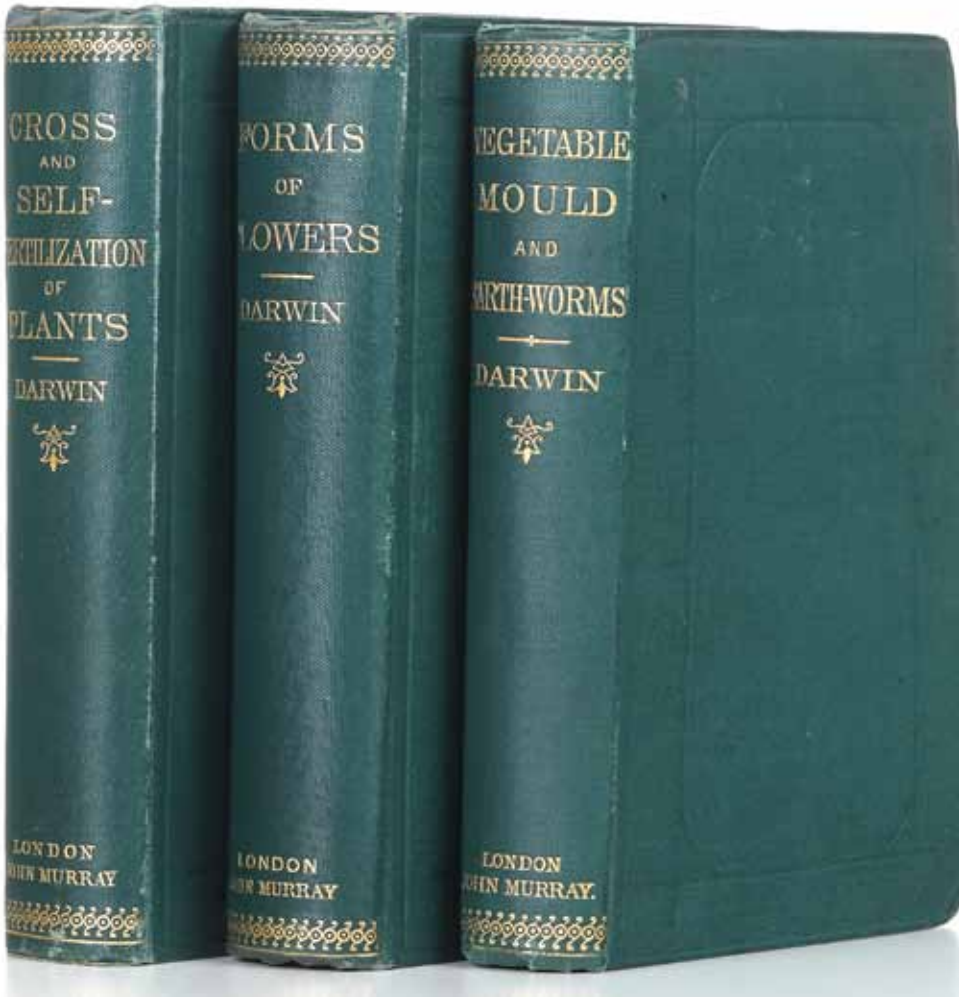
"First Issue of the Final Definitive Text";
"Remarkably Hard to Come By"

35. DARWIN, Charles. *The Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*. Folding lithographed diagram (a little foxed). 8vo, orig. green cloth (minor rubbing to joints, corners a trifle worn), covers stamped in blind, spine lettered in gilt. London: J. Murray, 1876. $5000.00

"Sixth Edition, with additions and corrections to 1872. (Eighteenth Thousand.)" "The printing of 1876 is the final text as Darwin left it…The issue was of 1,250 copies only. This number is as small as any, being equalled only by that of the first edition; and, whilst the latter has been carefully conserved in libraries, no attention seems to have been paid to this one. It does not seem to have been previously recognized as the first printing of the final text, and is remarkable hard to come by."–Freeman, p. 81.

A very good fresh copy.

❧ Freeman 401. For the first edition, see Horblit 23b; Dibner, *Heralds of Science,* 199; and *Printing & the Mind of Man* 344b.



Items 36, 37, & 38 (reduced)

36. DARWIN, Charles. *The Effects of Cross and Self Fertilisation in the Vegetable Kingdom*. Numerous tables in the text. 8vo, orig. green cloth, sides stamped in blind, spine lettered in gilt. London: J. Murray, 1876. $1500.00

First edition and a very fine, bright, and fresh copy. "This survey of the nature of the mechanisms favouring cross fertilisation and the advantages to be gained by it was considered by Darwin to 'form a complement to that on the "Fertilisation of Orchids"'."–Freeman, p. 152.

Nice copy with the three-line errata slip. Bookplate of Dr. Sydney Ross.

❧ Freeman 1249.

37. DARWIN, Charles. *The Different Forms of Flowers on Plants of the Same Species*. Illus. & tables in the text. 8vo, orig. green cloth, sides stamped in blind, spine lettered in gilt. London: J. Murray, 1877. $1650.00

First edition and a very fine and fresh copy of one of Darwin's major botanical studies. 1250 copies of this first edition were printed.

Bookplate of Dr. Sydney Ross.

❧ Freeman 1277.

38. DARWIN, Charles. *The Formation of Vegetable Mould, through the Action of Worms, with Observations on their Habits*. Illus. in the text. 8vo, orig. green cloth (title a little foxed), covers stamped in blind, spine lettered in gilt. London: J. Murray, 1881. $1450.00

First edition and a very fine and fresh copy. "This last book is outside the main stream of Darwin's work, and reverts to his earlier geological interests."–Freeman, p. 164.

❧ Freeman 1357.

39. DARWIN, Charles. *The Life and Letters of Charles Darwin, including an Autobiographical Chapter*. Edited by his Son, Francis Darwin. Frontis. in each vol., two plates, & illus. in the text. Three vols. 8vo, orig. pale green-grey cloth (hinges a bit shaky in Vols. I & III, upper joint of Vol. III with a short tear), spines lettered in gilt. London: J. Murray, 1887. $650.00

First edition of the "first and basic life of Darwin."–Freeman, p. 172. Very good set. Minor bubbling of cloth. Signature of "Edwd. Davidson, 21st December 1887, Weybridge" on title of each volume.

❧ Freeman 1452.

40. DAUBENY, Charles Giles Bridle. *Sketch of the Geology of North America, being the Substance of a Memoir read before the Ashmolean Society Nov. 26, 1838*. Folding engraved frontis. map of the eastern half of North America. xviii, 73 pp. 8vo, orig. printed wrappers. Oxford: the Ashmolean Society, 1839. $450.00

First edition and a very fine copy in original state. Daubeny (1795-1867), professor of chemistry, botany, and rural economy at Oxford, carried out important research in chemistry, geology, and botany; he wrote a masterly work on volcanoes (1826).

The present work is the outcome of his extensive travels in the eastern parts of the United States and Canada.

An excellent copy, preserved in a box.

❧ *D.S.B.,* III, pp. 585-86.

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

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

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

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

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

Item 41. *Davíla,* 1767 (much reduced)

regarding the market of the period.

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

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

Inscribed by Davy

42. DAVY, Humphry. *On the Safety Lamp for Coal Miners; with some Researches on Flame*. Folding engraved frontis. (a little foxed as usual). viii, 148 pp. 8vo, cont. blue boards (rebacked to style, covers a little soiled & rubbed), uncut. London: R. Hunter, 1818. $9500.00

First edition, presentation copy, of the first full account of the wire-gauge safety lamp, the single most important invention in the safety of mines. Our copy has been inscribed by Davy on the upper board "To the Editor of the Englishman from the Author." The *Englishman* was one of the major weekly newspapers of the time.

In 1815 Davy was asked to investigate the cause of coal mine explosions which were becoming more frequent as English coal mines increased in size and depth. The gas responsible "was often supposed to be hydrogen, but Davy, working with Faraday as his assistant, proved that it was methane. He found that a mixture of air and methane will explode only at a high temperature, and by 30 October [1815] had devised a lamp where the gases entered and left through narrow tubes to cool them down. He went on to enclose the flame in a cylinder of wire gauze in the definitive form of the Davy lamp, which would explode only if white-hot, and which also functioned as a detector of fire damp…This was one of the very first examples of technology as applied science…Davy was awarded the Royal Society's Rumford medal…and a baronetcy…the highest honour yet accorded to a man of science."–ODNB.

As the coal industry was of fundamental importance to Britain's prosperity during its greatest period of expansion, Davy's invention was crucial, enabling deeper and more dangerous mines to be worked, thus dramatically increasing production and, at the same time, saving the lives of thousands of miners.

Nice crisp copy, uncut in the original boards, and preserved in a box.

❧ Fullmer, p. 85. Hoover 255. Neville I, pp. 338–340. Partington IV, pp. 61–70.

ON THE

Safety Lamp

FOR

COAL MINERS;

WITH SOME

RESEARCHES ON FLAME.

BY SIR HUMPHRY DAVY.

London:

PRINTED FOR R. HUNTER,
(SUCCESSOR TO MR. JOHNSON,)
No. 72, ST. PAUL'S CHURCH-YARD.

1818.

Item 42. *Davy,* 1818 (reduced)

First Appearance of the Term "Geology"

43. DELUC, Jean André. *Lettres Physique et Morales, sur les Montagnes et sur l'Histoire de la Terre et de l'Homme*. xxviii, 226 pp. 8vo, cont. speckled calf (upper joint cracked but strong and lower joint with short cracks at head & tail, corners a bit worn), leather lettering piece on spine. The Hague: Detune, 1778. $2500.00

First edition, Dutch issue (there is also a Swiss issue published in the same year with a variant imprint). This work consists of a series of letters written by Deluc to Queen Charlotte of England describing his geological researches in Switzerland. On page viii of the Preface, Deluc introduces the term "géologie" for the first time as a more appropriate word than "cosmologie" for knowledge or understanding of the earth and its structure.

The text was later incorporated in Deluc's great geological work in six volumes which appeared in The Hague between 1778 and 1780.

"Deluc believed that the six days of the Creation were six epochs that preceded the present state of the globe, which began when cavities in the interior of the earth collapsed and lowered the sea level, thereby exposing the continents. There was thus a distinction between an older creative, or antediluvian, period and a newer, or diluvian, period."–*D.S.B.*, IV, p. 28.

Very good copy. Engraved armorial bookplate of the Earl of Guildford.

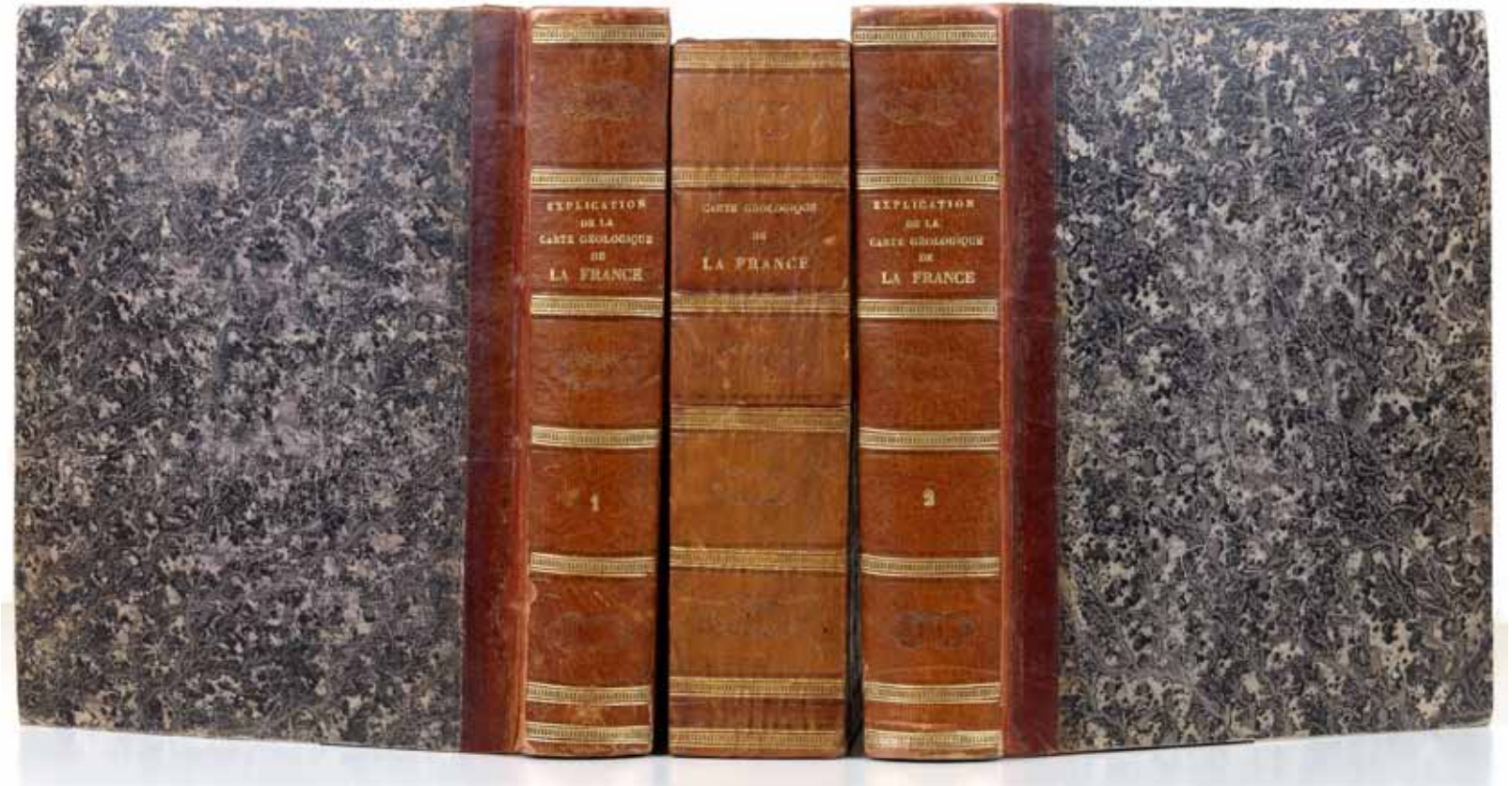
"This Great Work"–Geikie;
Presentation Copy

44. DUFRÉNOY, Ours Pierre Armand Petit & ÉLIE DE BEAUMONT, Jean Baptiste. *Explication de la Carte Géologique de la France*. Rédigée sous la Direction de M. Brochant de Villiers, Inspecteur Général des Mines. One large folding handcolored map of France & 248 figures in the text. 1 p.l., xxii, [2], 825 pp.; [iii]-xii, 813 pp. Two vols. of text. Large 4to, cont. fine sheep-backed marbled boards, flat spines stamped in gilt & in blind. Paris: Imprimerie Royale, 1841-48.

[**with**]:

—. *Carte Géologique de la France*. Fine colored geological map in six parts, each part measuring 73 x 110 cm., mounted on linen, folded, and preserved in cont. pull-off map case, uniform to the above bindings. [Paris: 1841]. $12,500.00

First edition, presentation copy, of the first modern geological map of France. The need for such a map was recognized as early as the mid-18th century but



Item 44. *Dufrénoy,* 1841-48 (greatly reduced)

Item 44. *Dufrénoy,* 1841-48 (greatly reduced)

the necessary research was not encouraged until after Greenough's six-part geological map of England was published in 1820. "Stimulated by the publication of Greenough's geological map of England, Brochant de Villiers was successful in gaining authorization for the preparation of a similar map of France. Dufrénoy and Élie de Beaumont were selected to carry out the necessary fieldwork and in 1822 were sent to England for two years to learn Greenough's procedures."–*D.S.B.,* IV, p. 218.

Their map of France, commenced in 1825, was completed in 1840. It consists of six sheets on the scale of about eight miles to one inch. "This great work, so rapidly carried out, remains a remarkable monument of the genius of the two geologists under whose supervision it was constructed."–Geikie, *The Founders of Geology,* p. 456. This map is now of very great rarity.

The first two volumes of the explanatory text were published by the two geologists in 1841 and 1848, respectively. "The 100-page introduction to the latter is still the best that can be placed at the beginning of modern treatises on physical geography."–*D.S.B.,* IV, p. 349. A further three volumes of commentary were published in 1873, 1878, and 1879; they are not present here for obvious reasons.

This is a fine presentation copy from the authors, inscribed on both half-titles of the text volumes to Prof. Angelo Sismonda (b. 1807), professor of mineralogy and director of the mineralogical museum at the University of Torino (see Poggendorff, II, 939-40).

Fine and very handsome set, uniformly bound.

"Truly Stunning"

45. EATON, Amos. *An Index to the Geology of the Northern State, with transverse Sections, extending from Susquehanna River to the Atlantic, crossing Catskill Mountains. To which is prefixed a Geological Grammar*. Two engraved double-page plates. xi, [1], [13]-286 pp. 8vo, cont. mottled sheep (minor rubbing), flat spine gilt, red leather lettering piece on spine. Troy: Wm. S. Parker, 1820. $750.00

"Second edition, wholly written over anew, and published under the Direction of the Troy Lyceum." Eaton (1776-1842), was an eminent American geologist, botanist, and educator. "Eaton's *Index* was an important early American geological treatise, and the foldout section of Massachusetts, with its massive granite base, is truly stunning."–Ashworth & Bradley, *Theories of the Earth 1644-1830* (Linda Hall Library: 1984), 50–(describing the first ed. of 1818).

Some foxing but a very nice copy.

❧ *D.S.B.,* IV, pp. 273-75.

One of the Most Famous & Attractive of All Geological Books

47. FAUJAS DE SAINT-FOND, Barthelemy. *Recherches sur les Volcans éteints du Vivarais et du Velay; avec un Discours sur les Volcans brûlans, des Mémoires analytiques sur les Schorls, la Zéolite, le Basalte, la Pouzzolane, les Laves & les différentes Substances qui s'y trouvent engagées, &c.* 20 engraved plates (including one double-page) & several engraved vignettes (including one on the title). 2 p.l., xviii, [2], 460 pp. Large folio, cont. mottled calf (extremities a little worn, occasional minor foxing), triple gilt fillet round sides, green morocco oval with gilt-tooled floral device inlaid in center of both covers, spine richly gilt, green morocco lettering piece on spine. Grenoble: Cuchet, 1778. $8500.00

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

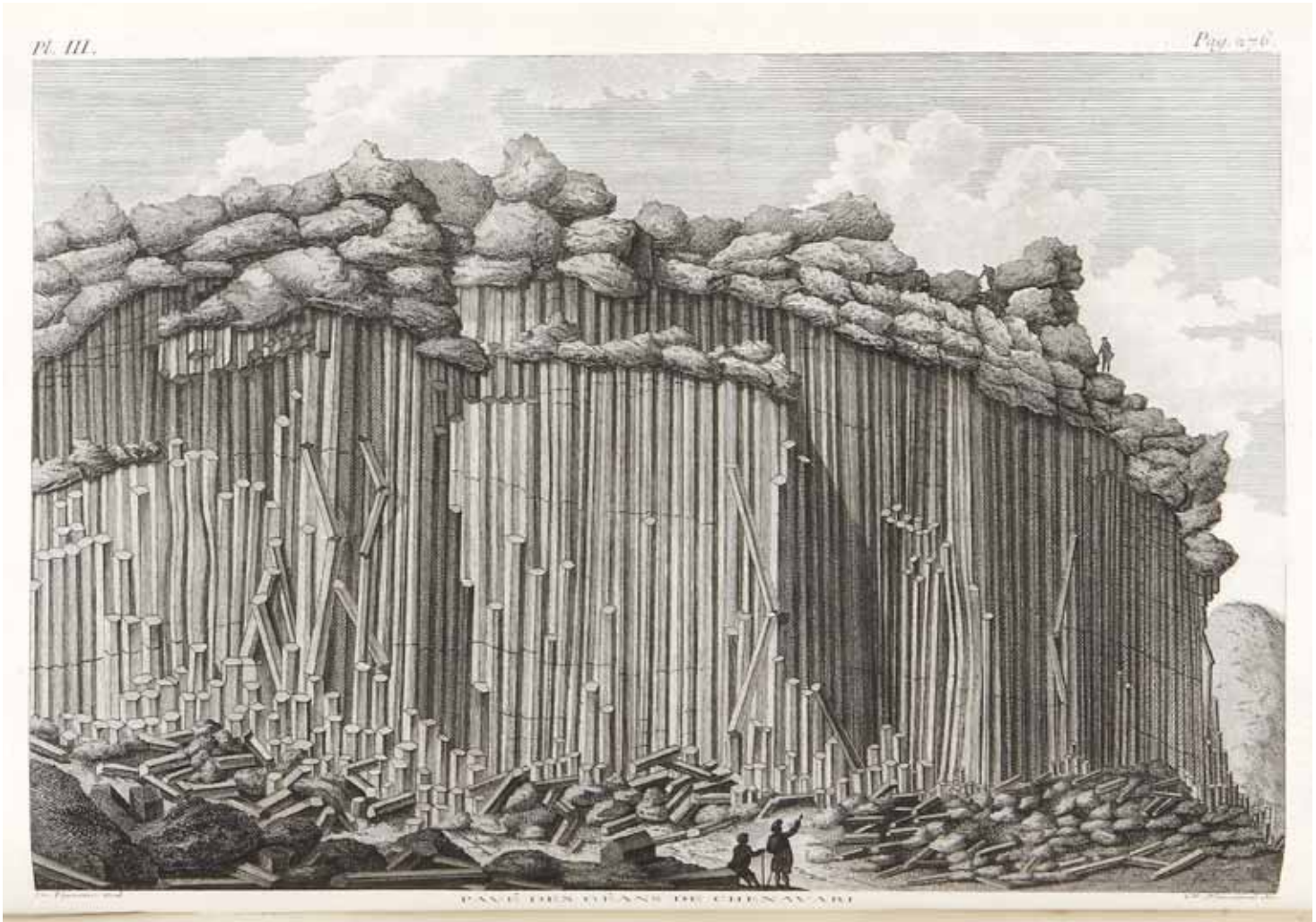
Faujas (1741-1819), professor of geology at the Muséum d'Histoire Naturelle, also travelled to England and Scotland where he made important geological observations.

A really nice and attractive copy of the large folio issue (the quarto issue published at the same time is more common). With the 18th-century engraved bookplate of Mr. de Soissan l'ainé of Avignon and, on title, the stamp "Antoine Polier. an:2:". This was probably Antoine Louis Henri Polier (1741-95), who served in India and formed a fine collection of Indian paintings and manuscripts. The former was sold after Polier's death to William Beckford. Without the final four pages containing the list of subscribers.

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

48. FAUJAS DE SAINT-FOND, Barthélemy. *Minéralogie des Volcans, ou Description de toutes les Substances produites ou rejetées par les Feux souterrains*. Three engraved plates (lightly foxed). xiv, [15]-18, 511 pp. 8vo, cont. mottled calf (one corner a little worn), spine nicely gilt, red morocco lettering piece on spine. Paris: Cuchet, 1784. $2500.00

First edition of an important work on the mineralogy of volcanoes and a book of some scarcity today. In this work, Faujas describes and classifies in detail the



Item 47. *Faujas de Saint-Fond,* 1778 (greatly reduced)

great variety of basalts. At the end there is a catalogue of the volcanic specimens gathered at Mount Etna by Dolomieu.

Very good copy.

❧ Hoover 292. Neville, I, p. 447–"An important study describing the types of minerals and chemicals produced by volcanoes. The author, who first recognized the volcanic origin of basalt, discusses the crystallography of the minerals therein, as well as the morphology of basaltic masses. Plates II and III illustrate columnar basalt buttes near Pradelle in the Massif Central. Various analytical chemical tests used by the author in his investigations of basalt, lavas, and other igneous rocks are described. The books is well documented by references to contemporary literature. Very scare."

Read by Werner with Incredulity

49. FICHTEL, Johann Ehrenreich von. *Nachricht von den Versteinerungen des Grossfürstenthums Siebenbürgen, mit einem Anhange und beygefügter Tabelle über die sämmtlichen Mineralien und Fossilien dieses Landes*…herausgegeben von der Gesellschaft Naturforschender Freunde zu Berlin. Two folding engraved maps (one finely handcolored & the other colored in outline), six engraved plates (one is on two sheets, three are double-page & four are folding), and three folding & finely handcolored profiles & plans. 1 p.l., 158 pp., one leaf of errata; 1 p.l., 134 pp., one leaf of errata. Two parts in one vol. Large 4to, 19th-cent. morocco-backed marbled boards, flat spine gilt. Nuremberg: Raspe, 1780.
$12,500.00

First edition and a very fine copy of this handsomely illustrated and notable geological work. "The most gifted of the early stratigraphers was Johann Ehrenreich von Fichtel (1732-95), a Hungarian by birth, whose researches in Transylvania were published in 1780 [in the present book]…The first volume of Fichtel's *Mineralogy of Transylvania* contains much valuable information about local occurrences of Tertiary fossils in the low range of hills in front of the Transylvanian Alps. In the second volume, Fichtel describes the massive accumulations of rock-salt in Transylvania, and gives an exhaustive technical account of the whole mining industry in Transylvania, the Carpathians, and Galicia. A topographical map shows the distribution of rock-salt in these areas…

"Local stratigraphical relations are now and then elucidated, and the origin of the different kinds of rock is discussed, Fichtel declaring himself to be a thorough Volcanist…

"It can be easily understood that Fichtel's work met with an incredulous reception by Werner and his adherents."–Zittel, pp. 88-89.

One of the remarkable handcolored plates in this book depicts in profile a

Sir John F. W. Herschel Bart
from
Wm. H. Fitton.

A REVIEW

OF

MR. LYELL'S

"ELEMENTS OF GEOLOGY;"

WITH

OBSERVATIONS

ON THE PROGRESS OF THE

HUTTONIAN THEORY

OF THE EARTH.

FROM THE EDINBURGH REVIEW,
No. 140. (*July* 1839), *Vol.* LXIX. *pp.* 406—466.

1839.

[*The numbers of the pages in MS. are those of the Review, Vol.* LXIX.]

Item 50. *Fitton,* 1839

Transylvanian salt mine showing the miners at work below and above ground. Very fine copy printed on thick paper. Bookplate of Wm. Andr. Ooster.

❧ Schuh, *Mineralogy & Crystallography: A Biobibliography, 1469 to 1920*, 1658–"Very scarce. Contains an interesting and important account of the fossiliferous Tertiary deposits of the low parts of Siebenbürgen (Transylvania), with a chapter at the end on the minerals and their localities in the same region."

Inscribed to Herschel

50. FITTON, William Henry. *A Review of Mr. Lyell's "Elements of Geology;" with Observations on the Progress of the Huttonian Theory of the Earth. From the Edinburgh Review, No. 140 (July 1839), Vol. LXIX. pp. 406-466*. Woodcuts in the text. 62 pp. 8vo, cont. half-sheep & cloth (rebacked & recased). N.p.: 1839. $2500.00

First separate edition of Fitton's important review, and a presentation copy, inscribed to "Sir. John F.W. Herschel Bart. from Wm. H. Fitton" on the title and containing a series of corrections, deletions, and annotations in the author's hand.

Fitton (1780-1861), one of the leading British geologists of the day, contributed a long series of reviews of geological and medical books for the *Edinburgh Review*; these reviews were admired for their elegance and acknowledged as having a considerable influence on his contemporaries. The present one is amongst his most important. Fitton was an intimate of Herschel and strongly supported him in opposition to the Duke of Sussex for the chair of the Royal Society.

With the Herschel Library stamp at Collingwood. Bookplate of Dr. Sydney Ross.

❧ ODNB. *D.S.B.*, V, pp. 13-15. Geikie, *The Founders of Geology*, pp. 239, 328, 331, 394, and 397.

"Among the Few Great Pioneers of Modern Geology"–Geikie

51. GUETTARD, Jean Étienne. *Mémoires sur la Minéralogie du Dauphiné*. 19 engraved plates (several slightly foxed on borders of images). 1 p.l., clxxxiii, [1], 298 pp.; 1 p.l., 299-852 pp. Two vols. Large 4to, attractive early 19th-cent. pink cloth-backed blue speckled boards, black leather lettering pieces on spines. Paris: de l'Imprimerie de Clousier, 1779. $9500.00

First edition, and a handsome set, of this notable geological and mineralogical work; it is the first comprehensive account of the geology, fossils, and minerals of the mountainous province Dauphiné in southeastern France. Guettard (1715-86), who served as curator of Réaumur's natural history collections, was elected

to the Académie Royale des Sciences as an *adjoint botaniste*. He is most famous for his discovery of the volcanic nature of the Auvergne and his attempt to construct a geological map of France in collaboration with Lavoisier.

Guettard travelled widely throughout the Dauphiné in 1775 preparing his thirteen memoirs for the present book. It is in this work that Guettard changed his opinion about the original of columnar basalt (he had previously maintained these formations were not volcanic).

The finely engraved plates depict fossil sponges (4 plates), fossil shells (4 plates), shark teeth (one plate), a nautilus (one plate), various rocks (two plates), a geological cross-section (one plate), a concretion (one plate), quartz crystal specimens (two plates and quite magnificent), various mineral specimens (two plates), and flowers (one plate). Additionally plate 20 from the second edition of 1782 is bound in.

Fine set and rare. Bookplates of E. Bucaille and Frederic Cheron.

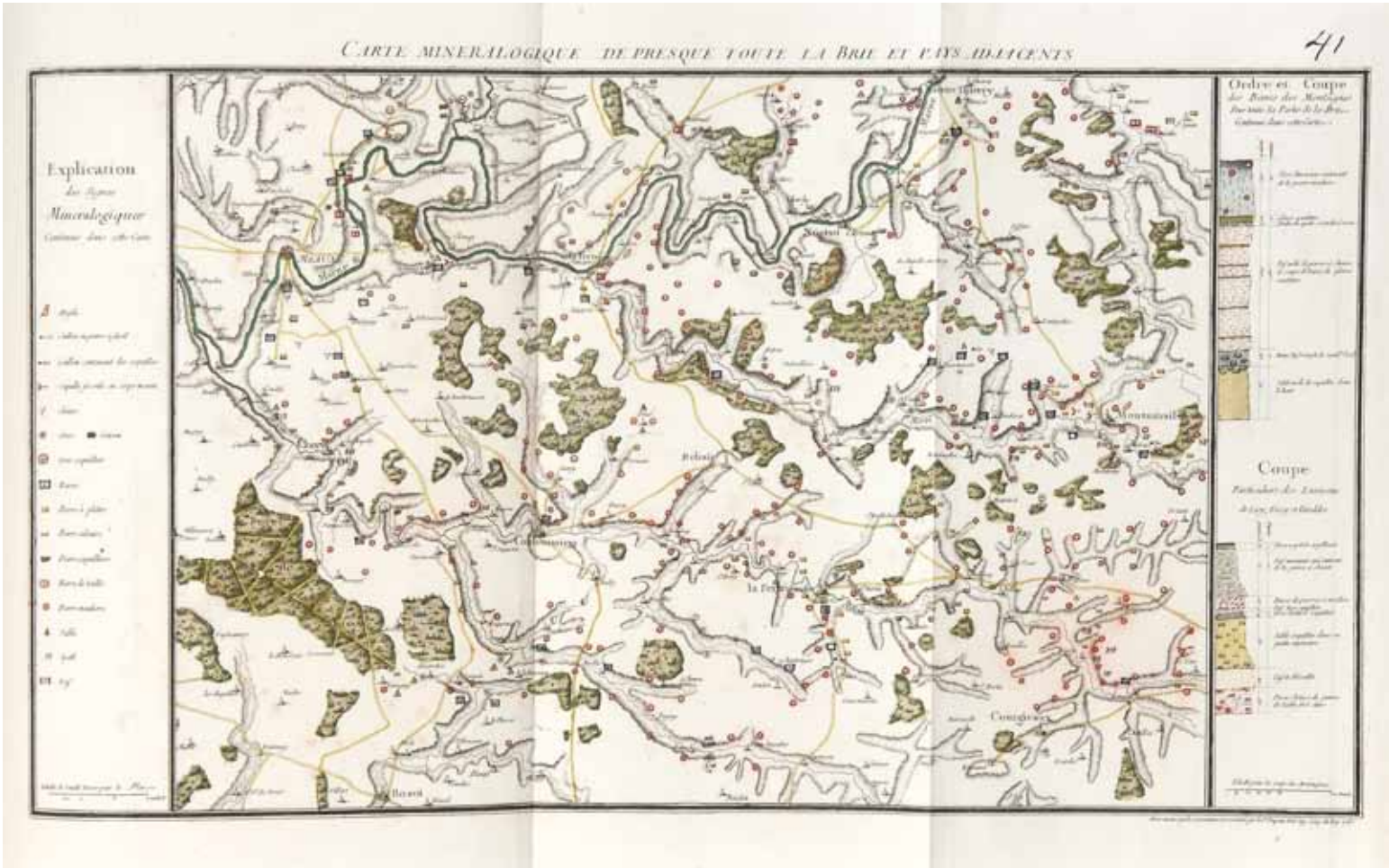
❧ Geikie, *The Founders of Geology,* chap. IV.

The Great Geological Atlas of Lavoisier & Guettard

52. GUETTARD, Jean Étienne, MONNET, Antoine Grimoald, & [LAVOISIER, Antoine Laurent]. *Atlas et Description minéralogique de la France, Entrepris par ordre du Roi…* 32 fine folding engraved plates (of which five are finely hand-colored). xii, 212 pp., one leaf of errata (recto) & approbation (verso). Folio, cont. mottled sheep (some rubbing to extremities), spine gilt, red & green morocco lettering pieces on spine. Paris: Didot l'ainé et al., 1780. $25,000.00

First edition, and a fine copy, of the great series of maps which constitute the first geological atlas, compiled by Guettard and his disciple Lavoisier (with the later assistance of Monnet). "These maps, so far as I know, were the first ever constructed to express the superficial distribution of minerals and rocks. The gifted Frenchman [Guettard] who produced them is thus the father of all the national Geological Surveys which have been instituted."–Geikie, *The Founders of Geology,* p. 115–(& see the entire chapter which is devoted to Guettard and his geological achievements).

In 1766 Henri Bertin, Minister and Secretary of State in charge of mining, commissioned a geological survey of France to be compiled by Guettard and his protégé, the young Antoine Laurent Lavoisier. Guettard and Lavoisier had begun collecting field notes for the project as early as 1763, and in 1767 they embarked on a geological tour of the east of France. When Lavoisier returned to Paris he assumed most of the responsibility for supervising the production of the geological maps. By 1770 he and Guettard had overseen the completion of sixteen plates, and by 1777 they had partially completed an almost equal number. According to Lavoisier's own statement, all plates dated 1766 and 1767



Item 52. *Guettard, Monnet, & Lavoisier,* 1780 (greatly reduced)

were prepared with his assistance.

The atlas was to have contained 230 maps in all, but this total was never reached. "Presently the retirement of Guettard and political intrigues intervened, and the project was handed over to Monnet, inspector general of mines, for completion. Monnet added 16 more plates and a long text, publishing the whole as a first part of the atlas. It was issued under the joint authorship of Guettard and Monnet. All of Lavoisier's contributions were ignored, except for the first sixteen plates; the wealth of information that had been gathered was used without his permission. The feature of showing levels of geological strata was due to Lavoisier's initiative, a point Monnet chose to withhold. The former, angered by this treatment, protested bitterly, but to no avail. Monnet became his obstinate enemy, continuing to attack the new chemistry even after Lavoisier's execution…

"No further instalments of the mineralogical atlas ever appeared."–Duveen & Klickstein, p. 238 (& see their *Supplement*, pp. 129-32, which contains additional information regarding the publication history).

Fine copy and now quite rare. The green morocco lettering piece on the spine is lettered "I. Partie." Bookplates of E. Bucaille and Frederic Cheron.

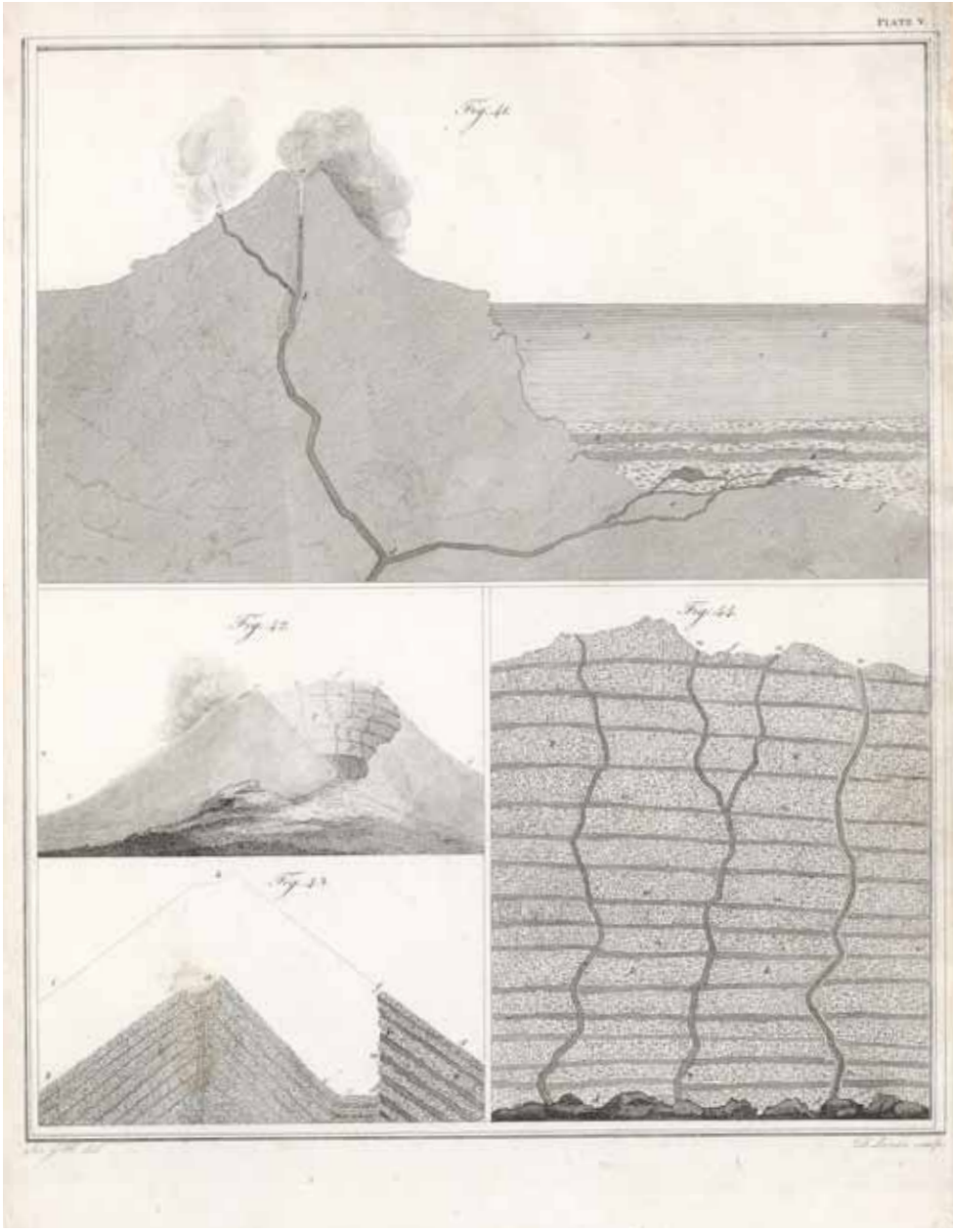
❧ *D.S.B.*, V, pp. 577-79. Schuh, *Mineralogy & Crystallography: A Biobibliography, 1469 to 1920*, 2025–"Rare."

"The Founder of Experimental Geology"

53. HALL, Sir James, Bart. *Account of a Series of Experiments, shewing the Effects of Compression in modifying the Action of Heat. Read in the Royal Society of Edinburgh, June 3. 1805*. Five engraved plates & tables in the text. 1 p.l., iii, 115 pp. Large 4to, modern calf-backed marbled boards (minor foxing, faintest dampstaining to outer margins in second half of book). [Edinburgh: 1805]. $3500.00

First separate printing, later published in the *Transactions* of the Royal Society of Edinburgh. "This important memoir, which made the author the founder of experimental geology, contains his classic experiments undertaken in support of the Huttonian Theory."–Sotheran, Vol. II, 8816.

"Hall followed experimental methods; he selected different varieties of ancient basalt and lavas from Vesuvius and Etna, reduced them to a molten state, and allowed them to cool. At first he arrived only at negative results, as vitreous masses were produced; but he then retarded the process of cooling, and actually succeeded in obtaining solid, crystalline rock-material. By regulating the temperature and the time allowed for the cooling and consolidation, Hall could produce rocks varying from finely to coarsely crystalline structure. And he therefore proved that under certain conditions crystalline rock could, as Hutton had said, be produced by the cooling of molten rock-magma…These results



Item 53. *Hall,* 1805 (reduced)

were afterwards confirmed by other experimentalists. Thus Werner's theory that crystalline rock represented in all cases a precipitate from water was shown to be inadequate, and it was incontestably proved that crystalline rock might originate from molten rock when slowly cooled under pressure."–Zittel, pp. 73-74.

Very good copy.

❧ Adams, *The Birth and Development of the Geological Sciences,* p. 239. *D.S.B.,* VI, pp. 53-56. Geikie, *The Founders of Geology,* pp. 317-25.

The Foundation of the Mathematical Theory of Crystal Structure

54. HAÜY, Rene-Just. *Essai d'une Théorie sur la Structure des Crystaux, appliquée a plusieurs Genres de Substances crystallisées…* Eight folding engraved plates. 3 p.l., 236 pp. 8vo, 19th-cent. pink half-calf (first few leaves a little foxed), spine gilt, black morocco lettering piece on spine. Paris: Gogué & Née, 1784. $7500.00

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

Very good copy. Half-title lacking. Signature of J. Robison, 1787, in upper corner of title. This was John Robison (1739–1805), natural philosopher, inventor, and collaborator with James Watt and Joseph Black, whom he succeeded as lecturer on chemistry at Glasgow.

❧ Dibner, *Heralds of Science,* 92. *En Français dans le Texte* 176. Horblit 47. Sparrow, *Milestones of Science,* 94.

"The First Determinative Gemology Worthy of the Name"–Sinkankas

55. HAÜY, René-Just. *Traité des Caractères Physiques des Pierres Précieuses, pour servir a leur détermination lorsqu'elles ont été taillées*. Three folding engraved plates. xvi, xxii, 253 pp. 8vo, later pink wrappers (minor foxing or browning). Paris: Courcier, 1817. $2500.00

First edition. The French petrographers were far more interested in the mineralogical composition and structure of rocks, without respect to their mode of occurrence, their age, or their origin. It was Haüy who laid the foundation of

the mathematical theory of crystal structure. In this work he applied it to the analysis and classification of precious stones.

"Very scarce. A landmark book in the science of gemology, described by Sinkankas (1994) as 'the first determinative gemology worthy of the name.' This book marks a transition from earlier descriptive lapadaries to works based on scientific studies. The volume describes the crystallography and physical properties of various gemstones, and characterizes how these qualities might be used in identifying a stone, whether rough or cut. To facilitate this an identification table is provided. The three plates show various crystal forms, a Nicholson's hydrometer (used for measuring specific gravity) and other laboratory apparatus for testing electrical properties."–Schuh, *Mineralogy & Crystallography: A Biobibliography, 1469 to 1920* (in progress), 2128.

In the Introduction, Haüy refers to Henry Philip Hope, the buyer of the blue diamond of supposed sinister influence known by his name.

Very good copy.

❧ *D.S.B.*, VI, pp. 178-83. Partington, IV, p. 203.

56. HITCHCOCK, Edward. *Outline of the Geology of the Globe, and of the United States in particular: with Two Geological Maps, and Sketches of Characteristic American Fossils*. Two folding lithographed maps (each hand-colored) & six lithographed plates of fossils. 136 pp. 8vo, cont. green sheep-backed cloth (lower joint split & cover shaky, head of spine chipped), spine gilt. Boston: Phillips, Sampson, 1853. $350.00

First edition. Hitchcock (1793-1864), was President of Amherst College and one of the leading American geologists of the 19th century. This is his general survey of the earth's geology with emphasis on the United States.

Good copy.

❧ *D.S.B.*, VI, pp. 437-38.

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

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

First edition, all published, of this important mineralogical and geological journal; this set comes from the library of the great geologist and mineralogist

X. THEORY *of the* EARTH; *or an* INVESTIGATION *of the Laws obſervable in the Compoſition, Diſſolution, and Reſtoration of Land upon the Globe. By* JAMES HUTTON, M. D. F. R. S. EDIN. *and Member of the Royal Academy of Agriculture at* PARIS.

[*Read March 7. and April 4.* 1785.]

PART. I.

Proſpect of the Subject to be treated of.

WHEN we trace the parts of which this terreſtrial ſyſtem is compoſed, and when we view the general connection of thoſe ſeveral parts, the whole preſents a machine of a peculiar conſtruction by which it is adapted to a certain end. We perceive a fabric, erected in wiſdom, to obtain a purpoſe worthy of the power that is apparent in the production of it.

WE know little of the earth's internal parts, or of the materials which compoſe it at any conſiderable depth below the ſurface. But upon the ſurface of this globe, the more inert matter is repleniſhed with plants, and with animal and intellectual beings.

WHERE ſo many living creatures are to ply their reſpective powers, in purſuing the end for which they were intended, we are not to look for nature in a quieſcent ſtate; matter itſelf muſt be in motion, and the ſcenes of life a continued or repeated ſeries of agitations and events.

THIS globe of the earth is a habitable world; and on its fitneſs for this purpoſe, our ſenſe of wiſdom in its formation

Item 58. *Hutton,* 1788 (much reduced)

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

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

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

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

"A Turning-Point in the History of Geology"–Geikie

58. HUTTON, James. "Theory of the Earth; or an Investigation of the Laws observable in the Composition, Dissolution, and Restoration of Land upon the Globe…Read March 7 and April 4 1785," pp. 209-304 & two engraved plates, with a printed leaf of "Explanation" in *Transactions of the Royal Society of Edinburgh,* Vol. I [complete]. Engraved vignette on title, four engraved plates (two folding). xii, 100, 336, 209 pp., 1 leaf of errata. Three parts in one vol. Large 4to, cont. polished calf (joints very carefully repaired, corners a bit worn), spine gilt, red & green morocco lettering pieces on spine. Edinburgh: J. Dickson, 1788. $8500.00

The first publication of the "full" text of Hutton's epoch-making essay of the theory of the earth, illustrated with two engravings of geological specimens. This is one of the greatest works in the history of geology. Hutton makes few references in the *Abstract* to the evidence on which he based his theory. It is here, in this journal appearance, in which he fully presents his ideas regarding fossils and geological time.

Also contained in this volume (on pp. 41-86 of the same part) is Hutton's "The Theory of Rain" which is another valuable contribution to science, as original in its own way as his geological work. In it Hutton gives the modern explanation of rain as caused by the condensation of water vapor in the air.

Nice copy. Bookplate of Sir John Deas Thomson.

❧ Adams, *The Birth and Development of the Geological Sciences,* pp. 238-45. Dibner, *Heralds of Science,* 93. *D.S.B.,* VI, pp. 577-89. Geikie, *Founders of Geology,* pp. 280-

316. Horblit 52a–(first book appearance of 1795). Linda Hall Library, *Theories of the Earth,* 38. *Printing & the Mind of Man* 247n. Sparrow, *Milestones of Science,* 107 & p. 24. Zittel, pp. 68-73.

The Final Complete Text

59. HUTTON, James. *Theory of the Earth, with Proofs and Illustrations*. Six folding engraved plates. viii, 620 pp.; viii, 567 pp. Two vols. 8vo, cont. speckled calf (well-rebacked, corners a bit worn), spines gilt, black morocco lettering pieces on spines. Edinburgh: Cadell, Jr., Davies, & Creech, 1795.

[**with**]:

—. *Theory of the Earth, with Proofs and Illustrations. In Four Parts…Vol. III.* Edited by Sir Archibald Geikie. xvi, 278, xiii, [1] pp. 8vo, orig. semi-stiff printed wrappers (wrappers a bit worn & soiled), uncut. London: Geological Society, 1899. $25,000.00

First edition, the final text complete with the uncommon third volume published more than one hundred years later. "In this edition the 1788 theory is restated with no essential change in the first chapter of Vol. I. The remainder of the two volumes deals principally with the supporting proofs and illustrations. Only two of the four parts promised on the title page were published in 1795. Hutton left an unfinished manuscript containing six chapters totaling 267 pages, evidently intended for inclusion in an additional volume of the *Theory*. These chapters, published as volume III in 1899, are of considerable interest, for they contain accounts of several of his later geological journeys. A study of the three volumes reveals the remarkable extent of Hutton's geological knowledge, the thoroughness of his investigations, and the acuteness of his observations."–*D.S.B.,* VI, p. 582.

Hutton's "fundamental conception — now accepted as a matter of course, but then entirely new — was the doctrine of uniformitarianism. The formation of the surface of the earth is one continuous process which can be studied entirely from terrestrial materials without cosmological or supernatural intervention . . .

"His central ideas of uniformitarianism and of the effect of small changes in nature leading eventually to gigantic transformations have had far-reaching consequences in their influence on Charles Lyell and Darwin."–*Printing & the Mind of Man* 247.

A very good complete set and now scarce on the market, preserved in a box.

❧ Dibner, *Heralds of Science,* 93n. Geikie, *The Founders of Geology,* pp. 280-316. Horblit 52a. Zittel, p. 71–"Hutton was thus the great founder of physical and dynamical geology; he for the first time established the essential correlation in the processes of denudation and deposition; he showed how, in proportion as

an old continent is worn away, the materials for a new continent are being provided, how the deposits rise anew from the bed of the ocean, and another land replaces the old in the eternal economy of nature."

His Most Important Book

60. HUXLEY, Thomas Henry. *Evidence as to Man's Place in Nature*. Wood-engraved frontis. & numerous illus. in the text. 4 p.l. (incl. half-title & frontis.), 159 pp. 8vo, orig. dark green cloth (slightest defect to upper joint at head). London: Williams & Norgate, 1863. $1650.00

First edition, first issue, with the 8-page catalogue of publisher's ads at the end dated February 1863 and this title listed first in the printed ads on the front pastedown (a later issue has an August catalogue, and this title listed second on the pastedown).

This is Huxley's most important book, containing the first synthesis of the anatomical and embryological evidence of human evolution. Huxley showed that there is less anatomical difference between man and the great apes than between the higher and lower members of the same order of primates. Like most of Huxley's books, this is exceptionally well written.

A fine copy from the library of Robert B. Honeyman (his sale Sotheby's London, 5-6 November 1979, lot 1726). Preserved in green morocco-backed slipcase.

❧ Garrison-Morton 165–"He also provided the first thorough and detailed comparative description of the Neanderthal remains." Sparrow, *Milestones of Science,* 108.

62. KIRCHER, Athanasius. *Iter Extaticum Coeleste…hac secundâ editione Praelusionibus & Scholiis illustratum…a P. Gaspare Schotto…Accessit…Iter Exstaticum Terrestre, & Synopsis Mundi Subterranei*. Added engraved title (tiny hole in image), finely engraved arms on verso of printed title, & 12 engraved plates. 12 p.l. (incl. added title), 689, [18] pp. Thick 4to, cont. sheep-backed speckled boards (minor foxing), spine richly gilt. Würzburg: Heirs of J.A. & W.J. Endter, 1660. $6500.00

Second edition, enlarged and edited by the author's friend and disciple Gaspar Schott, combining Kircher's two imaginary voyages to the heavens (1st ed.: *Itinerarium exstaticum*, 1656) and the earth (1st ed.: *Iter extaticum II,* 1657).

Fine copy. Engraved armorial bookplate of "Bibliotheca Raschkiana."

❧ Merrill, *Athanasius Kircher,* 12.

Item 62. *Kircher,* 1660 (reduced)

"The First Systematic Treatise on Mineralogy in English"

64. KIRWAN, Richard. *Elements of Mineralogy*. Six folding printed tables included in the pagination. xxxi, 510 pp.; xvi, [1], 529 pp. Two vols. 8vo, cont. tree calf, spines gilt, red & green morocco lettering pieces on spines. London: P. Elmsly, 1794-96. $3250.00

Second edition, "with considerable improvements and additions" of "the first systematic treatise on mineralogy in English that is based on the chemical compositions of minerals…combined with the Wernerian method of using external features & properties of minerals as a means of identification."–Sinkankas, p. 551.

"A greatly enlarged and completely rewritten edition, expanded in all parts, and with the addition of many more analyses, property determinations, and new species, etc. First mention of the Leske collection of minerals, numbering some 7331 specimens, which Kirwan notes 'hitherto its treasures have been unveiled only to my eyes'."–Sinkankas 3431.

A very fine and fresh set, from the library of J.A. Freilich with his bookplate (his sale, Sotheby's NY, 10-11 January 2001, lot 313).

❧ *D.S.B.*, VII, pp. 387-90. Partington, III, p. 662.

Hutton Attacked

65. KIRWAN, Richard. *Geological Essays*. xvi, 502 pp., one leaf of ads. 8vo, attractive antique green half-calf & marbled boards, spine gilt, green leather lettering piece on spine. London: T. Bensley for D. Bremner, 1799. $2500.00

First edition of this notable criticism of James Hutton's *Theory of the Earth* (1795), the classic work which is the foundation of all modern geological studies. It was, in fact, an earlier attack by Kirwan in 1793 in the *Transactions* of the Royal Irish Academy on Hutton's original paper which led Hutton to expand his geomorphological theory in his 1795 book. Some of the topics discussed in this book include "Of Volcanic Mountains," "Of the Internal Arrangement in Mountains," and "Of the Primeval State of the Globe."

Kirwan (1733?-1812), the notable Irish chemist and mineralogist, sought in his geological writings to reconcile his observations with the history of the earth as related in Genesis.

Nice copy of a scarce and influential book in the history of geology.

❧ Ashworth & Bradley, *Theories of the Earth 1644-1830* (Linda Hall Library: 1984), 40. *D.S.B.*, VII, pp. 387-90.

Item 64. *Kirwan,* 1794-96 (reduced)

The Honeyman Copy

66. LAMARCK, Jean-Baptiste. *Hydrogéologie, ou, Recherches sur l'influence qu'ont les eaux sur la surface du globe terrestre sur les causes de l'existence du bassin des mers, de son déplacement et de son transport successif sur les différens points de la surface de ce globe; enfin sur les changemens que les corps vivans exercent sur la nature et l'état de cette surface*. 268 pp. 8vo, early 19th-cent. blue wrappers (title somewhat soiled in outer portion, spine a little worn), uncut. Paris: chez l'Auteur, An X [1802]. $4500.00

First edition of the author's chief geological work. Lamarck's views on geology were an important part of his total conception of nature, which in turn led to his theory of evolution. For Lamarck, "the main geological force was water acting according to uniformitarian principles over millions of years…Lamarck's uniformitarianism and great geological time scale have led some to say that he was his own Lyell."–*D.S.B.,* VII, p. 589.

Prof. Carozzi, in his "Lamarck's Theory of the Earth: 'Hydrogéologie'," *Isis*, Vol. 55 (1964), pp. 293-307, describes this book as a "bibliographical rarity which has been, and still is, virtually unknown either to geologists or historians of science."

In Lamarck's preface (p. 8), he used for the first time the word "biology," a term coined by him to designate the sciences of life. The volume concludes with two further essays by Lamarck, one on the use of fire in chemical analysis and the other on sound.

Very good copy, entirely uncut, from the library of Robert B. Honeyman (sale Sotheby's London, 12-13 May 1980, lot 1897), preserved in a characteristic red morocco-back slipcase.

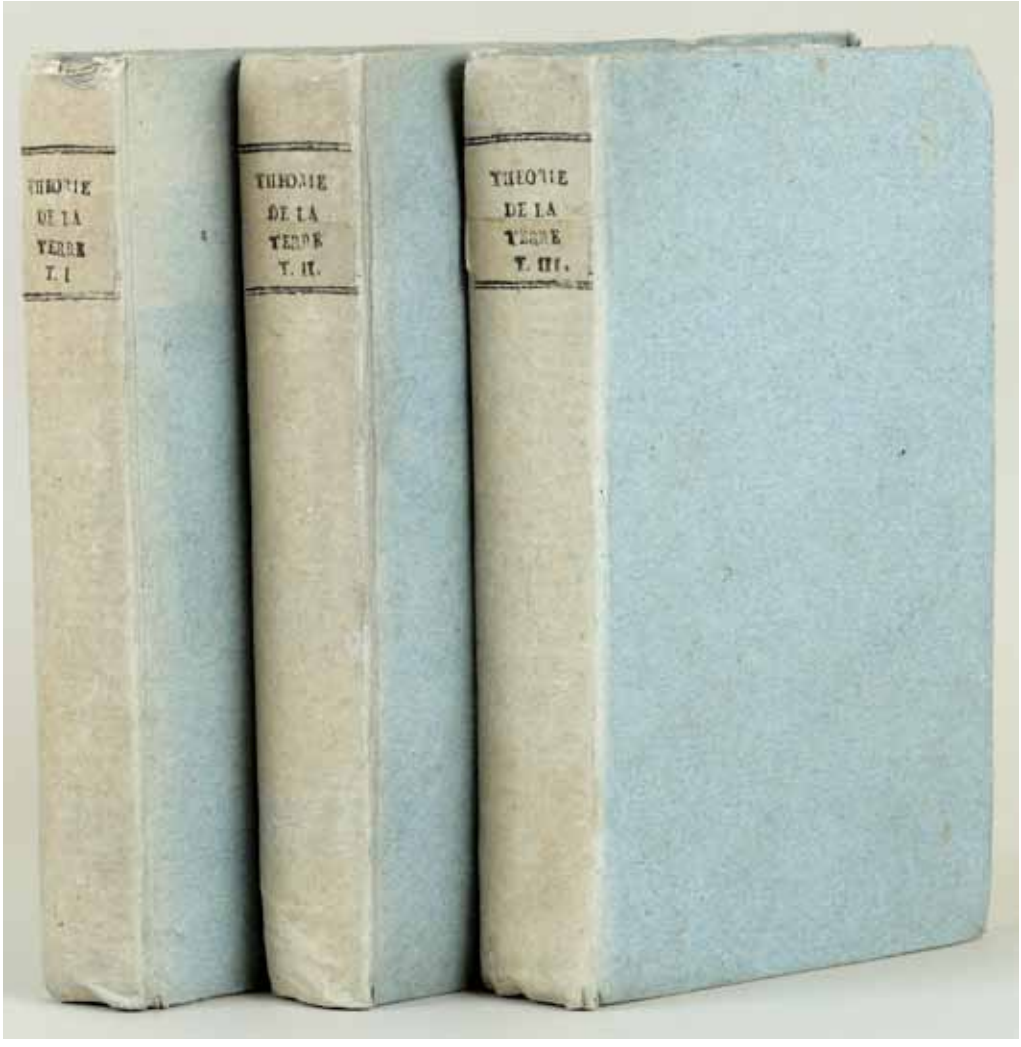
"A Classic in the Literature of Evolutionary Theory"

67. LAMARCK, Jean-Baptiste. *Philosophie Zoologique…* 2 p.l., xxv, [1], 428 pp.; 2 p.l., 475 pp. Two vols. 8vo, cont. yellow marbled boards (occasional minor foxing), red leather lettering pieces on spines (one slightly flaked). Paris: Dentu & l'Auteur, 1809. $15,000.00

First edition of the rarest and most famous book of Lamarck, which contains the best-known and most extensive presentation of his theory of evolution.

Fine and pretty set. Twenty leaves in final volume with a (not very serious) stain in lower margins.

❧ *En Français dans le Texte* 205. Evans, *First Editions of Epochal Achievements in the History of Science* (1934), 103–"The classical account of Lamarck's theory of evolution." Garrison-Morton 216. *Printing & the Mind of Man* 262–"a classic in the literature of evolutionary theory." Sparrow, *Milestones of Science,* 121.



Item 68. *La Métherie,* 1795 (reduced)

Baron von Moll's Set

68. LA MÉTHERIE, Jean Claude de. *Théorie de la Terre*. Seven folding engraved plates. xvi, 422 pp.; viii, 456 pp.; viii, 471 pp. Three vols. 8vo, orig. blue-grey boards, uncut. Paris: Maradan, 1795. $1650.00

First edition of the author's chief work, which enjoyed considerable popularity among his contemporaries; it was founded for the most part on Werner's teachings. "Taking a broad cosmogonical view of creation, Lamétherie regarded the major features of the earth as the result of the combined action of crystallization, moving water, and shifts in the planetary-motion characteristics of the earth."–*D.S.B.*, VII, p. 604. This work was translated into German and enlarged by C.G. Eschenbach and Johann Reinhold Forster (Leipzig: 1797-98).

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

Fine set in remarkable original state with half-titles. With the bookplate in each volume of Baron von Moll.

❧ Zittel, pp. 77-78.

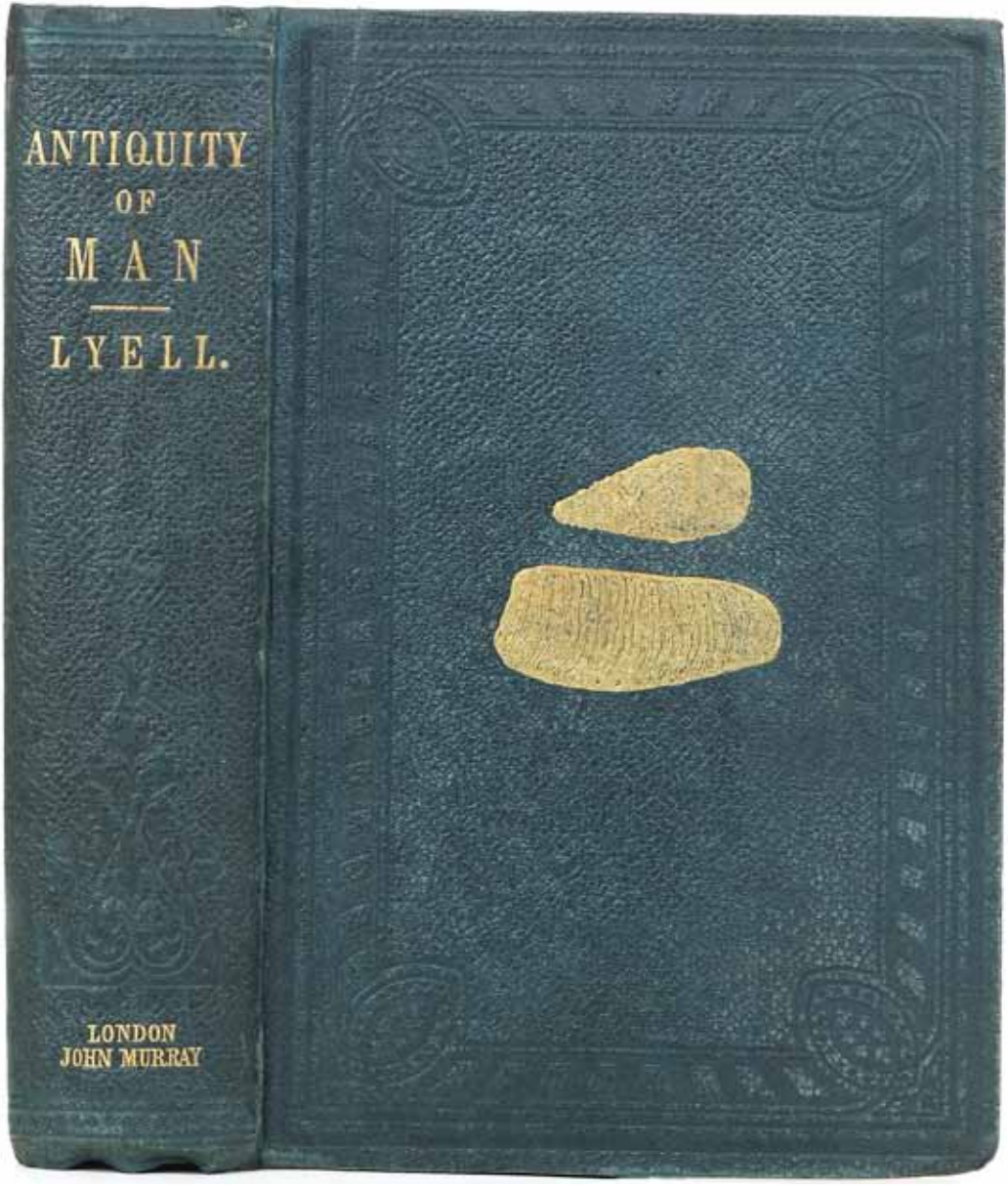
The Most Important Geological Book of the 19th Century;
Ian Fleming's Set

69. LYELL, Charles. *Principles of Geology, being an Attempt to explain the Former Changes of the Earth's Surface, by Reference to Causes now in Operation*. Three frontispieces (2 colored), six plates (1 colored), & 2 folding maps (1 colored). Three vols. 8vo, Vols. I & III: cont. half calf & marbled boards (upper joint of Vol. I with a short crack, upper joint of Vol. III cracking & shaky, rubbed); Vol II: rebound in antique half-calf & marbled boards vaguely matching the other two, spines gilt. London: J. Murray, 1830-32-33. $9500.00

First edition of the most important geological book of the 19th century; this is the first presentation of the Uniformitarian theory of geologic change, which ushered in a new era in geology and dispensed for all time the notion of supernatural intervention. Darwin had access to the first two volumes of Lyell's *Principles* during the *Beagle* expedition. The book's influence on the biologist's thinking was incalculable.

"The appearance of Lyell's *Principles* was epoch-making. Since Werner, no geologist had in such a high degree influenced and re-modelled the views of geological science."–Zittel, p. 196–(& see pp. 189-97).

A very good set which comes from the library of Ian Fleming, the author of several well-known novels. Our copy is housed in one of Fleming's characteristic



Item 72. *Lyell,* 1863 (reduced)

boxes with his arms in gilt on the upper cover. It was Fleming who conceived the idea of collecting milestones of progress in the nineteenth century and asked Percy Muir, the distinguished bookseller, to assist him. This concept of collecting "important" books, regardless of subject, marks the beginning of a style of collecting which has been canonized, for better or worse, by *Printing and the Mind of Man*. See Muir's *Minding My Own Business* (1956) for an account of Ian Fleming and his "taste and technique" of book collecting. As usual, without the two half-titles and the final leaf of ads in Vol. III. As always, there is some foxing on the uncolored plates and maps.

❧ Dibner, *Heralds of Science,* 96. *D.S.B.,* VIII, pp. 563-76. Evans, *Exhibition of First Editions of Epochal Achievements in the History of Science* (1934), 68. Horblit 70. Sparrow, *Milestones of Science,* 140.

"A Model of Simple, Lucid Exposition"

70. LYELL, Charles. *Elements of Geology*. Hand-colored frontis. map & numerous text illus. xix, [1], 543, [1] pp. 8vo, orig. grey boards (joints repaired), printed paper label on spine (chipped), uncut. London: J. Murray, 1838. $950.00

First edition. "In July 1838 Lyell published his *Elements of Geology* in one volume. Although the *Elements* was intended to be a brief descriptive work and not theoretical, in writing it Lyell took for granted the theoretical viewpoint he had already established in the *Principles*. Thus Lyell's *Elements* was the first modern textbook of geology written on the assumption that geological phenomena could be explained completely in terms of natural and knowledgeable causes…The *Elements* is a model of simple, lucid exposition."–*D.S.B., VIII,* p. 570.

Very good copy.

71. LYELL, Charles. *Lyell's Lectures on Geology. Eight Lectures on Geology, Delivered at the Broadway Tabernacle in the City of New-York*. Woodcut illus. in the text. 56 pp. 8vo, orig. printed wrappers (foxed throughout due to the quality of the paper). New York: Greeley & McElrath, 1842. $750.00

First edition of these important lectures, delivered during Lyell's first tour of the United States. The lectures were enormously popular (the audience averaged 3000 persons) and were influential in disseminating Lyell's theories amongst the leading geologists of North America.

Very good copy in original state, preserved in a box. Scarce.

❧ *D.S.B.,* VIII, pp. 563-76.

Darwin Receives Powerful Support

72. LYELL, Charles. *The Geological Evidences of the Antiquity of Man with Remarks on Theories of the Origin of Species by Variation*. Two plates (one serving as a frontis.) & text illus. xii, 520 pp., 32 pp. of publisher's ads at end. 8vo, orig. blind-stamped pebbled green cloth, gilt on upper cover & spine. London: J. Murray, 1863. $2500.00

First edition and a very nice fresh copy. In the present work "Lyell, in the manner of a barrister, presented to the reader a broad array of evidence which indicated that man had evolved gradually from lower animals over an immense period of time, that species had been modified one into another, and that the modification had probably been produced by natural selection…Lyell thus gave Darwin powerful support in the controversy following the publication of the *Origin of Species*."–*D.S.B.,* VIII, p. 574.

Fine copy.

"This Fundamental Work"

73. MAILLET, Benoît de. *Telliamed, ou Entretiens d'un Philosophe indien avec un Missionnaire françois sur la Diminution de la Mer, la Formation de la Terre, l'Origine de l'Homme, &c*. Mis en ordre sur les Mémoires de feu M. de Maillet, par J.A. G[uer]. 6 p.l., cxix, [9], 208 pp.; 1 p.l., 231, [2] pp., one leaf of errata. Two vols. in one. 8vo, cont. polished calf (small defect at head of lower joint), triple gilt fillet round sides, spine richly gilt, red morocco lettering piece on spine. Amsterdam: L'Honoré & Fils, 1748. $1950.00

First edition. Maillet (1656-1738), French diplomat, wrote most of this work while serving as general consul at Cairo. "This fundamental work, in essence an ultraneptunian theory of th earth, was based largely on his geological field observations made during extensive travels throughout Egypt and other Mediterranean countries…Maillet's ideas unquestionably influenced many leading naturalists for almost a century, notably Buffon and Cuvier."–*D.S.B.,* IX, pp. 26–(& see the entire article for a detailed account of this book's importance).

For another interesting discussion of the importance of this book, see Eiseley's *Darwin's Century*.

Fine fresh copy.

❧ Ashworth & Bradley, *Theories of the Earth 1644-1830* (Linda Hall Library: 1984), 24–"He thought that life arose in primitive forms in shallow seas, gradually becoming more complex as the waters retreated. Moreover, Millet believed that the regression of the sea was a cyclical process, and that the earth, once a sun, would eventually dry out, rekindle, and become a sun again. Maillet's estimate of a time span for this cycle was a heady five billion years."

Note: Title-page illustrated on next page

TELLIAMED

OU

ENTRETIENS

D'UN PHILOSOPHE INDIEN

AVEC UN MISSIONNAIRE FRANÇOIS

SUR la Diminution de la Mer, la Formation de la Terre, l'Origine de l'Homme, &c.

Mis en ordre sur les Mémoires de feu M. de MAILLET.

Par J. A. G***

TOME PREMIER.

A AMSTERDAM.

Chez L'honoré & Fils, Libraires.

M. DCC. XLVIII.

Item 73. *Maillet,* 1748 (reduced)

74. MAILLET, Benoît de. *Telliamed: or, Discourses between an Indian Philosopher and a French Missionary, on the Diminution of the Sea, the Formation of the Earth, the Origin of Men and Animals, And other Curious Subjects, relating to Natural History and Philosophy*. Being a translation from the French Original of Mr. Maillet, Author of the Description of Egypt. lii, 284 pp. 8vo, cont. mottled sheep (joints a little cracked but strong, spine a bit chipped at head), single gilt fillet round sides, spine gilt, red morocco lettering piece on spine. London: T. Osborne, 1750. $1350.00

First edition in English. Very good copy.

❧ Ashworth & Bradley, *Theories of the Earth 1644-1830* (Linda Hall Library: 1984), 93.

A Founder of Seismology

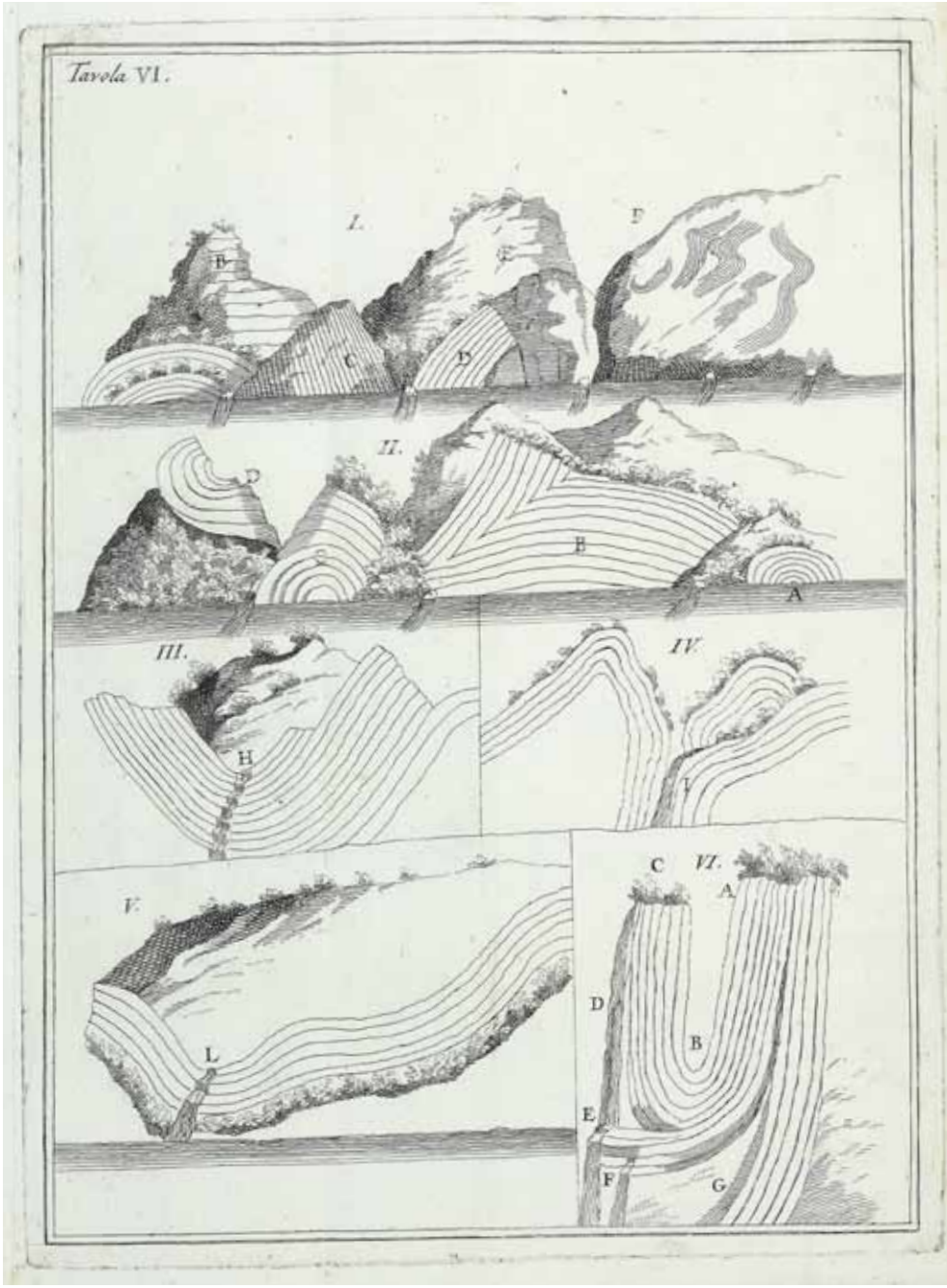
75. MICHELL, John. "LV. Conjectures concerning the Cause, and Observations upon the Phaenomena of Earthquakes; particularly of that great Earthquake of the First of November, 1755, which proved so fatal to the City of Lisbon, and whose Effects were felt as far as Africa, and more or less throughout almost all Europe" in the *Philosophical Transactions*, Vol. LI, Part II. For the Year 1760, pp. 566-634. One folding engraved plate. 4to, antique calf, spine gilt, red & green morocco lettering pieces on spine. London: L. Davis & C. Reymers, 1761. $2000.00

First appearance of the first modern work on seismology. Michell (1724-93), was a man of wonderful versatility who made important contributions to geology and astronomy. He held the Woodwardian chair of geology at Cambridge for several years before accepting the rectorship of a church near Leeds.

The enormous earthquake which destroyed Lisbon on 1 November 1755 stimulated the study of the causes of earthquakes. Michell was the first to free himself from the shackles of ancient views and traditions. He noted "the frequency of earthquakes in the neighbourhood of active volcanoes, and to their usual occurrence as accompaniments of volcanic eruptions…he made the great onward step in showing that successive waves would be generated in that crust, and would travel outwards, in constantly diminishing amplitude until they finally died away. It was the first time that this conception of earthquake motion had been laid before the world…we may yet rank him as the great pioneer of the modern science of Seismology."–Geikie, *The Founders of Geology*, pp. 274-77.

Fine copy of the complete Part II of the *Phil. Trans.* for 1760.

❧ Adams, *The Birth and Development of the Geological Sciences*, pp. 414-20. *D.S.B.*, IX, pp. 370-71.



Item 76. *Moro,* 1740 (reduced)

"The Cornerstone of Historical Geology"–Ashworth

76. MORO, Antonio Lazzaro. *De' Crostacei e degli altri Marini Corpi che si truovano su' Monti. Libri Due*. Engraved vignette on title, engraved head-piece & initial, & eight folding engraved plates (two frayed at fore-edge slightly affecting images). 7 p.l., 452 pp. Large 4to, cont. vellum over boards. Venice: S. Monti, 1740. $2250.00

First edition of the author's best-known and most controversial work. Moro (1687-1764), "was interested in how fossil-bearing rock came to be made into mountains, and he stressed the importance of fire and heat…Moro believed that most mountains and islands were raised by volcanoes, and he even thought that many stratified rocks had igneous origins. His most original insight consisted of a realization that there are two kinds of mountains, Primitive and Secondary, of different age and composition. This distinction, suitably elaborated, later became the cornerstone of historical geology."–Ashworth & Bradley, *Theories of the Earth 1644-1830* (Linda Hall Library: 1984), 20.

Very good copy.

❧ *D.S.B.*, IX, pp. 531-34. Zittel, p. 32.

"His Great Work" & "This Splendid Monograph"
Earl Cawdor's Copy

77. MURCHISON, Sir Roderick Impey. *The Silurian System, founded on Geological Researches in the Counties of Salop, Hereford, Radnor, Montgomery, Caermarthen, Brecon, Pembroke, Monmouth, Gloucester, Worcester, and Stafford; with Descriptions of the Coal-Fields and Overlying Formations*. **Text vols.**: 56 lithographed plates (two are maps; 11 are folding & 12 are colored) & numerous text illus. xxxii, 576 pp.; 1 p.l., [577]-768 pp. Two text vols. in one thick vol. **Atlas:** one very large folding handcolored map, dissected into 20 sections, mounted on the orig. linen backing & folded. Two vols. Large 4to, cont. crushed russia (minor rubbing to extremities, one or two minor defects to bindings, upper joint of Vol. I a little cracked), triple gilt fillet round sides, arms in gilt of John Frederick, 1st Earl Cawdor (1790-1860), in center of all four covers, spines gilt, red & green leather lettering pieces on spines. London: J. Murray, 1839. $12,500.00

First edition and an extremely handsome copy of this magnificent work. "The publication of this splendid monograph forms a notable epoch in the history of modern geology, and well entitles its author to be enrolled among the founders of the science. For the first time, the succession of fossiliferous formations below the Old Red Sandstone was shown in detail. Their fossils were enumerated, described and figured. It was now possible to carry the vision across a vast series

of ages, of which hitherto no definite knowledge existed, to mark the succession of their organisms, and thus to trace backward, far farther than had ever before been possible, the history of organised existence on this globe…The Silurian system was found to be developed in all parts of the world and Murchison's work furnished the key to its interpretation."–Geikie, pp. 420-21.

Our copy is very unusual as the extremely large map (it covers the entirety of a large American double bed) is usually divided into three plates of eight sections each. In our copy, the map has been divided into twenty sections and are mounted on one very large linen sheet, allowing the student to view the "Silurian System" in its entirety. This is the far superior presentation of this magnificent map.

A fine and handsome set. Some foxing to the plates as always. Nice sets of this work are now rare on the market.

❧ Dibner, *Heralds of Science, 97. D.S.B.,* IX, pp. 582-85. Zittel, p. 434–"In the year 1839 Murchison published his great work *The Silurian system,* wherein the results of his researches extending over six years were admirably elucidated…The recognition of the Silurian and Cambrian systems was one of the most important advances that have been made in stratigraphy."

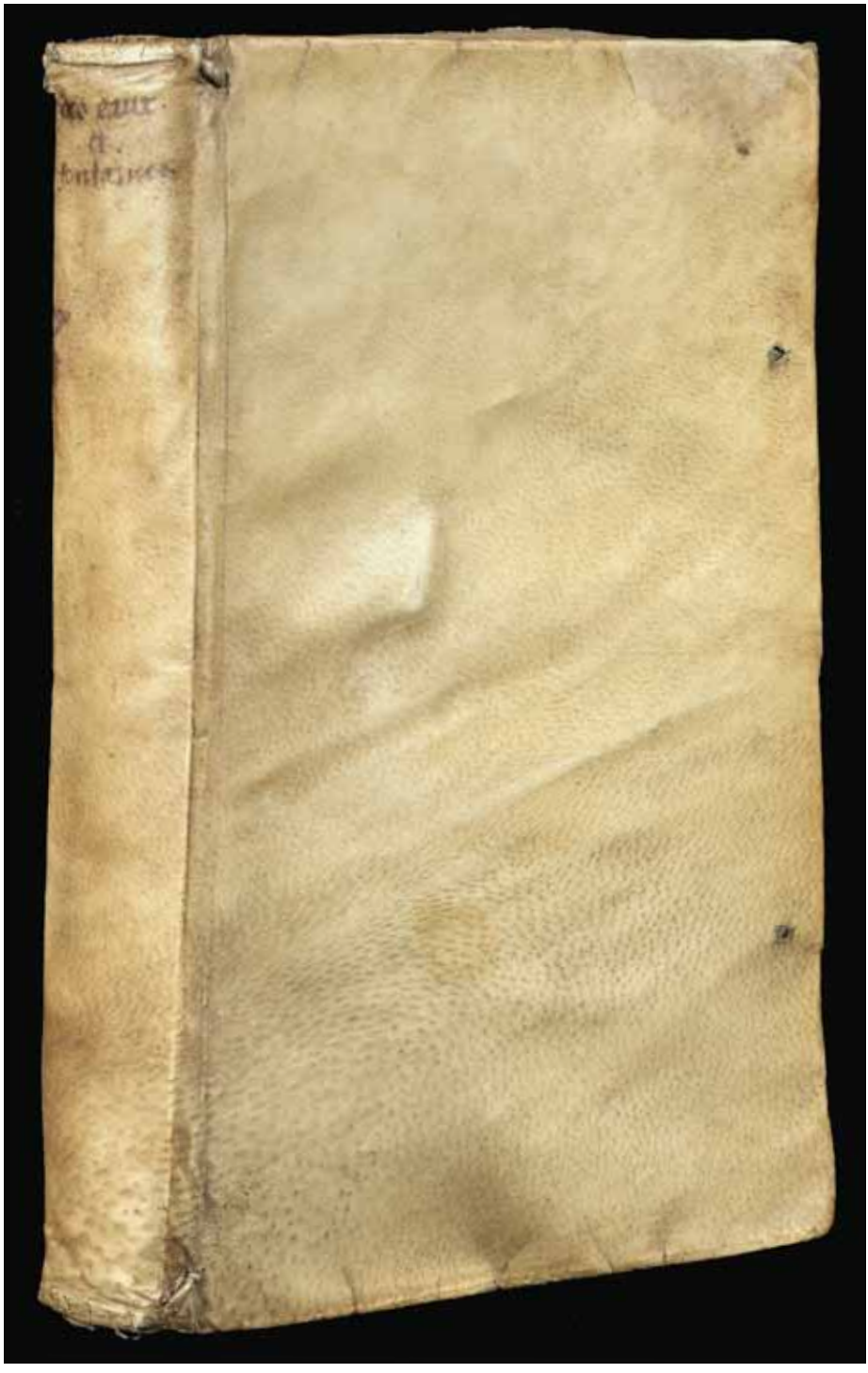
A Pioneer Work in Many Fields

78. PALISSY, Bernard. *Discours Admirables, de la Nature des Eaux et Fonteines, tant naturelles qu'artificielles, des metaux, des sels & salines, des pierres, des terres, du feu & des emaux. Avec plusieurs autres excellens secrets des choses naturelles…Le Tout dressé par Dialogues, lesquels sont introduits la theorique & la practique*. 8 p.l., 361, [23] pp. Small 8vo, cont. flexible vellum, ties gone. Paris: Martin le Jeune, 1580. $75,000.00

First edition, and a splendid pure copy in its first binding, of a rare and important book in the history of chemistry, hydrology, geology, agriculture, etc., etc. Palissy (ca. 1509-89), who is best known for his discovery of the secret of enamelling pottery, was far in advance of his time in scientific ideas.

The "*Discours admirables,* probably incorporates Palissy's Paris lectures. It…deals with an impressive array of subjects: agriculture, alchemy, botany, ceramics, embalming, engineering, geology, hydrology, medicine, metallurgy, meteorology, mineralogy, paleontology, philosophy, physics, toxicology, and zoology. The book is divided into several chapters, the first and longest of which is concerned with water. The others take up metals and their nature and generation; drugs; ice; different types of salts and their nature, effects, and methods of generation; characteristics of common and precious stones; clay and marl; and the potter's art…

"Palissy's views on hydrology and paleontology, as expressed in the *Discours,* are of particular interest. He was one of the few men of his century to have a correct notion of the origins of rivers and streams, and he stated it forcefully,



Item 78. *Palissy,* 1580

denying categorically that rivers can have any source other than rainfall…

"Palissy discussed fossils extensively…[He] held other advanced views. From experimentation he concluded that all minerals with geometric crystal forms must have crystallized in water; his classification of salts was nearly correct; and he suggested the concept of superposition for the development of sedimentary rocks…

"Palissy was probably one of the first men in France to teach natural sciences from facts, specimens and demonstrations rather than hypotheses."–*D.S.B.,* X, pp. 280-81.

In the eighth section, Palissy investigated the hardness and properties of gems and precious stones.

The *Discours* was written in the form of a dialogue between "Theory" and "Practice" and it is always "Practice" that instructs "Theory."

A fine copy in its first binding, preserved in a box. Contemporary signature on title of "G. Passart" (maybe) and with a number of knowledgeable contemporary notes in many margins. This book is extremely rare; Ferguson acquired his copy, now in the University of Glasgow, after years of searching and has written on the flyleaf: "At last, after long, long waiting and watching." It is one of the very few books in Denis Duveen's collection of which he reproduced the title-page in his *Bibliotheca Alchemica et Chemica.*

❧ Adams, *The Birth and Development of the Geological Sciences,* pp. 90, 261, & 446-48. Brunet, IV, 319-20 & Suppl., II, 133–"une pièce aussi intéressante que rare." Duveen, p. 446–"A book of great importance in the history of chemistry and science generally." Geikie, *The Founders of Geology,* pp. 104 & 118. Hoover 621. Partington, II, pp. 69-77. Zittel, pp. 18 & 132.

"The First General Hypothesis of the Formation of Mountains"

79. PALLAS, Peter Simon. *Observations sur la Formation des Montagnes, et les Changemens arrivés a notre Globe, particuliérement à l'Égard de l'Empire Russe;* lues à l'Assemblée publique de l'Académie Impériale des Sciences de Russie du 23 Juin, 1777… 1 p.l., 49 pp. Large 4to, orig. blue boards. St. Petersburg: de l'Imprimerie de l'Académie Impériale des Sciences, [1777]. $5000.00

First separate edition and very rare, of this offprint with new pagination from the *Acta Academiae Scientiarum Imperialis Petropolitanae.* In this work Pallas "formulated the first general hypothesis of the formation of mountains. In his opinion, granite constituted the skeleton of the earth and its nucleus…The raising of the mountains and the receding of the seas occurred, in Pallas's opinion, as a result of volcanic processes…Pallas's ideas on the structure and origin of mountains played an important role in the further development of theoretical geology."–*D.S.B.,* X, p. 284.

Pallas recognized the prolonged geological history of the earth and the

importance of volcanoes; his work was influential in the development of evolutionary ideas, as was acknowledged by Charles Darwin.

Pallas (1741-1811), was invited by Empress Catherine II in 1767 to fill the chair of natural history at the St. Petersburg Academy of Science and was for forty years thereafter associated with the development of Russian science. He made the first extensive geological survey of the Russian empire.

Very fine copy in original state, preserved in a box. Stamp of August Ferdinand, Graf von Veltheim (1741-1801), the geologist and mineralogist, on verso of title.

❧ Ashworth & Bradley, *Theories of the Earth 1644-1830* (Linda Hall Library: 1984), 32–(journal appearance).

80. PEITHNER, Johann Thaddäus Anton, Ritter von Lichtenfels. *Versuch über die natürliche and politische Geschichte der böhmischen and mährischen Bergwerke*. Finely engraved title-page, one folding engraved map, & numerous large & fine engraved head- & tail-pieces. xx, 464, [34] pp. Folio, cont. marbled sheep (lower cover a little abraded), spine richly & brightly gilt, orange morocco lettering piece on spine. Vienna: M. A. Schmidt, 1780. $4500.00

First edition, and a really fine copy, of this beautifully decorated and attractive book. This work contains a detailed account and history, district by district, of the mines of Bohemia, an area of great mineral wealth including coal, lignite, iron, and the raw materials for porcelain. Peithner provides much information on the earlier and contemporary mineralogical and geological histories of the area. Also included is a chapter on the rivers and streams contributing to the Moldau, Elbe, and Eger rivers, with mineralogical remarks. There is a long section of the mining laws and regulations which apply to the region.

Peithner (1727-92), was professor of mining at Prague and later became professor of mining law at Chemnitz and privy councillor at Vienna.

This copy has none of the foxing or browning which usually is present. The fine head- and tail-pieces are signed by Jacob Adam and J.E. Mansfeld.

❧ Hoover 629. Poggendorff, II, 388-89.

A Classic of English Mining

81. PETTUS, Sir John. *Fodinae Regales. Or the History, Laws and Places of the Chief Mines and Mineral Works in England, Wales, and the English Pale in Ireland. As also of the Mint and Mony. With a Clavis Explaining some difficult Words relating to Mines, &c.* Finely engraved frontis. port., two engraved plates, & two engravings in the text. Title within ruled borders. 7 p.l., 108, [7] pp. Small folio, cont. blind-ruled calf (neat repairs to ends

of spine, faint dampstaining towards end), spine ruled in gilt, red morocco label on spine. London: Printed by H.L. & R.B. for T. Basset, 1670. $3750.00

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

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

❧ Duveen, p. 468. Hoover 634.

"This Great Classic"

82. PLAYFAIR, John. *Illustrations of the Huttonian Theory of the Earth*. xx, 528 pp. 8vo, attractive antique half-calf & marbled boards, flat spine gilt, red morocco lettering piece on spine. Edinburgh: Cadell & Davies and Creech, 1802. $7500.00

First edition of "one of the most conspicuous landmarks in the progress of British geology…Playfair's fame as a scientist, however, rests almost entirely on his work in geology…in presenting Hutton's momentous theory in a clear and palatable form (which Hutton himself had failed to do)."–*D.S.B.*, XI, p. 34.

Regarding the present work, Geikie wrote: "Of this great classic it is impossible to speak too highly. After the lapse of a century it may be read with as much profit and pleasure as when it first appeared. For precision of statement and felicity of language it has no superior in English scientific literature…This consummate masterpiece. How different would geological literature be to-day if men had tried to think and write like Playfair!"–*The Founders of Geology*, p. 298.

Fine copy. Name clipped from top blank portion of title.

❧ Evans, *Exhibition of First Editions of Epochal Achievements in the History of Science* (1934), 66. Horblit 52b.

83. POGUE, Joseph E. "The Turquois. A Study of its History, Mineralogy, Geology, Ethnology, Archaeology, Mythology, Folklore, and Technology" in *Memoirs* of the National Academy of Sciences, Vol. XII, Third Memoir. Colored frontis. & 22 plates (one in color). 162 pp. Large 4to, modern cloth. Washington, D.C.: 1915. $250.00

First edition of this classic work. Fine copy.

Cornish Mining and Steam Engines

84. PRYCE, William. *Mineralogia Cornubiensis; a Treatise on Minerals, Mines, and Mining: containing the Theory and Natural History of Strata, Fissures, and Lodes, with the Methods of Discovering and Working of Tin, Copper, and Lead Mines, and of Cleansing and Metalizing their Products; shewing each particular Process for Dressing, Assaying, and Smelting of Ores. To which is added, an Explanation of the Terms and Idioms of Miners*. Finely engraved frontis. port. of the author, seven engraved plates (3 folding), & two folding printed tables. 18 p.l., xiv pp., 1 leaf, 331 pp. Folio, 19th-cent. half-calf & cloth sides (portrait slightly browned, foxing to the first leaf of text, short wormtrack in upper margin of first six leaves & endpaper). London: Printed & Sold for the Author, 1778. $3000.00

First edition of this classic work on assaying and mining. "This extensive work on mining and mineralogy related to Cornwall describes the structure of the area, the relationships between the kinds of ore-bearing lodes, practical mining, dressing of ores and assaying. The first part deals with the formation of metals and minerals stressing the effects and role of water. The Appendix contains an evaluation of Watt's steam engine. The dictionary of terms and idioms of the miners gives the origins of some of the words."–Cole 1092.

The Newcomen "steam fire engine" is described in considerable detail, and illustrated on a handsome folding plate. Even more interesting, at such an early date, is the 7-page appendix devoted to Watt's single-acting pumping engine fitted with his separate condenser, the greatest single improvement ever made to the atmospheric engine. Watt's engine, patented on 9th January 1769, revolutionized the atmospheric engine, reducing its enormous consumption of coal, and hence its running costs, by seventy-five per cent. The business partnership of Boulton and Watt did not begin until 1775, three years before the publication of *Mineralogia,* and Pryce's highly detailed account of Watt's single-acting engine, written and given to him by Boulton himself, must be one of the earliest to appear in print.

A very good and large copy. Armorial bookplate of Desmond Geoghegan.

Duveen, p. 488. Hoover 666.

85. RAY, John. *Miscellaneous Discourses concerning the Dissolution and Changes of the World. Wherein the Primitive Chaos and Creation, the General Deluge, Fountains, Formed Stones, Sea-Shells found in the Earth, Subterraneous Trees, Mountains, Earthquakes, Vulcanoes, the Universal Conflagration and Future State, are largely Discussed and Examined*. Title within ruled border. 14 p.l., 259, [1] pp. 8vo, cont. calf (rebacked, imprimatur leaf detached).

London: S. Smith, 1692. $1750.00

First edition. This work reveals "Ray's considerable knowledge of paleontology and geology. On the much-debated issue of 'formed stone,' he supported the view that they were generally organic remains, one of the results of divine intervention at the Deluge…Consideration of the Deluge and Creation, in an attempt to arrive at scientific theories reconcilable with the Scriptures, was the dominant feature of the *Discourses.*"–*D.S.B.*, Vol. XI, p. 317.

Very good copy. Small stamp of W. Barker, 1779, on title. From the Honeyman library (sold Sotheby's London, 10-11 November 1980, lot 2583).

❧ Hoover 675.

The Theory of the Earth

86. ROBINSON, Thomas. *An Essay towards a Natural History of Westmorland and Cumberland. Wherein an Account is given of their several Mineral and Surface Productions, with some Directions how to discover Minerals by the External and Adjacent Strata and Upper Covers, &c. To which is Annexed, A Vindication of the Philosophical and Theological Paraphrase of the Mosaick System of the Creation, &c.* 8 p.l., 95 pp.; 1 p.l., 118 pp., one leaf of ads. Two parts in one vol. 8vo, cont. panelled calf (rebacked). London: W. Freeman, 1709. $1350.00

First edition. Robinson (d. 1719), natural philosopher, took his degree at Christ's College, Cambridge in 1668 and was soon appointed rector of Ousby, Cumberland. He established a major mining enterprise in 1693 when he re-opened the Newlands mines near Keswick with the intention of mining copper and silver. By 1703, the enterprise failed and because of considerable debts, Robinson had to take refuge in London.

The present work is divided into two parts. The first describes the geology and mineralogy of Westmorland and Cumberland. Part II present the author's theory of the earth. Robinson admired the theories of Burnet and Woodward and agreed that God worked through secondary causes in creating the earth.

Very good copy with the signature dated 1775 and engraved armorial bookplate of Thomas Dampier (1749-1812), bishop of Ely and prominent book collector. Errata slip mounted on p. 118.

❧ Ashworth & Bradley, *Theories of the Earth 1644-1830* (Linda Hall Library: 1984), 97. ODNB.

NICOLAI STENONIS

DE SOLIDO

INTRA SOLIDVM NATVRALITER CONTENTO

DISSERTATIONIS PRODROMVS.

A D

SERENISSIMVM

FERDINANDVM II.

MAGNVM ETRVRIÆ DVCEM.

FLORENTIÆ

Ex Typographia ſub ſigno STELLÆ MDCLXIX.
SVPERIORVM PERMISSV.

Item 87. *Steno,* 1669 (reduced)

A Pioneer Work in Modern Geology

87. STENO, Nicolaus. *De Solido intra Solidum Naturaliter contento Dissertationis Prodromus*. Engraved arms of the Grand Duke of Tuscany on title, a large folding engraved plate, & a folding sheet with descriptive letterpress. Title in red & black. 1 p.l., 78 pp., 1 leaf. 4to, modern panelled calf. Florence: ex Typographia sub signo Stellae, 1669. $35,000.00

First edition of a fundamental work for the modern sciences of geology, crystallography, and paleontology. In this book, Steno "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…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."–*Printing & the Mind of Man* 151.

"This work also contains the first formulated crystallography and, of the constancy of interfacial angles of crystals of quartz, a study basic to mineralogy."–Dibner, *Heralds of Science,* 90.

A very nice copy.

❧ Horblit 96. Sparrow, *Milestones of Science,* 185.

"This Masterpiece"

88. SUESS, Eduard. *Das Antlitz der Erde*. Plates & maps (some folding & in color) & many illus. in the text. Three vols. in 4. Large 4to, cont. green half-morocco & patterned boards (Vols. I & II) & green morocco-backed boards (Vol. III bound in two vols.; joints partly cracked & defective), spines gilt. Prague: F. Tempsky; Leipzig: G. Freytag, 1885-88-1901-09. $1250.00

First edition. This monumental treatise has been called "easily the greatest single work in the evolution of the earth's surface features."–Evans, *Exhibition of First Editions of Epochal Achievements in the History of Science* (1934), 73. Suess (1831-1914), the Austrian geologist, devoted much of his life to this, his masterpiece. A large number of the ideas and principles presented in this work

have entered so profoundly into the thinking of geologists that many are unaware of their origin and consider them archetypes. Sarton, in his *Six Wings,* described this work as "one of the most remarkable achievements of the beginning of the twentieth century."

Very good set. Rare on the market. Contemporary signature of C.R. Hoffmann in each volume.

❧ Dibner, *Heralds of Science,* 99. *D.S.B.,* XIII, pp. 143-49–"this masterpiece."

The First Rational Classification of Minerals

89. WALLERIUS, Johan Gottschalk. *Mineralogia, eller Mineralriket…* One folding engraved plate. Title printed in red & black. 19 p.l. (the last a blank), 479 pp. 8vo, orig. blue semi-stiff boards (spine well-rebacked to match), uncut. Stockholm: L. Salvius, 1747. $3500.00

First edition of the author's "first great work, which was received as an outstanding handbook of contemporary knowledge; never before had such a wealth of minerals been presented so systematically. Wallerius' clear and precise descriptions, which gave more weight to essential chemical properties than to exterior appearance, opened a new epoch in mineralogy."–*D.S.B.,* XIV, p. 144.

Wallerius (1709-85), predecessor of Tobern Bergman in the chair of chemistry at Upsala, applied chemistry with great success to agriculture and made numerous investigations into the composition of mineral, vegetable, and animal substances.

A very good uncut copy preserved in a box.

❧ Partington, II, pp. 169-72. Schuh, *Mineralogy & Crystallography: A Biobibliography, 1469 to 1920*, 4877–"Very scarce. A book that established a firm foundation on which the science of mineralogy could grow."

90. WALLERIUS, Johan Gottschalk. *Mineralogie, ou Description Générale des Substances du Regne Mineral*. Four folding engraved plates. xlvii, [1], 589, [2] pp., 2 leaves of Approbation; 1 p.l., 284, 256 pp. Two vols. 8vo, cont. mottled calf (two corners & ends of spine a little worn), spines gilt, red morocco lettering pieces on spines. Paris: Durand & Pissot, 1753. $1350.00

First edition in French (1st ed.: 1747). This French edition was translated by Holbach from the German edition of 1750. In his Preface, Holbach writes that the German translation is preferable to the Swedish original.

Very good set.

❧ Hoover 862. Partington, III, pp. 169-72. Sinkankas 6986.

Continental Drift

91. WEGENER, Alfred Lothar. *Die Entstehung der Kontinente und Ozeane*. Illus. in the text. iv, [1], 94 pp. 8vo, orig. printed semi-stiff wrappers, uncut. Braunschweig: F. Vieweg & Son, 1915. $6500.00

First edition of the work which first fully enunciates the theory of continental drift. Wegener (1880-1930), was lecturer and professor of meteorology, first at Marburg and later at Graz. "Wegener's fame today rests on his work as an originator of the idea of continent drift. He stated that he first toyed with the idea in 1910, on noting the degree of apparent correspondence between the shapes of the coasts of the Atlantic on its west and east sides, particularly those of South America and Africa. At first Wegener regarded the idea of drifting continents as improbable, but his interest was rekindled in 1911, when he accidentally learned that evidence of paleontological similarities on both sides of the Atlantic were being used to support the theory that a 'land bridge' had once connected Brazil with Africa…

"During a long sick leave from war service (he was wounded twice), Wegener wrote an extended account of his continental drift theory, which appeared [in the present work]. This book was his main work on the subject and incorporated the investigations for which he is now noted."–*D.S.B.*, XIV, p. 215–(& see the rest of the article for a full account of the theory and its history).

Fine copy in original state. Rare.

92. WEGENER, Alfred Lothar. *The Origin of Continents and Oceans*. Translated from the Third German Edition by J.G.A. Skerl. With an Introduction by John W. Evans. One plate & illus. in the text. xx, 212 pp. 8vo, orig. cloth, upper cover & spine lettered in gilt (spine a little faded). New York: E.P. Dutton, [1924]. $850.00

First edition in English, American issue. Very good copy. With the ownership inscription on title and pencil underlinings throughout of William Morton Wheeler (1865-1937), the noted American entomologist.

First Modern Textbook of Descriptive Mineralogy

93. WERNER, Abraham Gottlob. *Von den äusserlichen Kennzeichen der Fossilien*. Eight folding printed tables. 302 pp., 1 leaf. 8vo, early 19th-cent. paper boards (extremities a little worn, some foxing to first few leaves), red leather lettering piece on spine. Leipzig: S.L. Crusius, 1774.

[**bound with**]:

ENGELHARDT, Moritz von. *Geognostische Untersuchungs-Methode. Ein*

Von den

äußerlichen

Kennzeichen der Foßilien,

abgefaßt

von

Abraham Gottlob Werner,
der Bergwerks-Wiſſenſchaften und Rechte Be-
flißenen, auch der Leipziger öconomiſchen Geſell-
ſchaft Ehren-Mitglied.

Leipzig,
bey Siegfried Lebrecht Cruſius,
1774.

Item 93. *Werner,* 1774

Versuch. x, 11-162 pp., 1 leaf. 8vo. Riga & Dorpat: J.F. Meinshausen, 1817. $7500.00

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

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

II. First edition and very rare. Engelhardt (1779-1842), was professor of mineralogy at the University of Dorpat; he made many geological expeditions through Germany, France, Switzerland, Italy, and Russia. This is his notable work on methods of geological investigations.

Very good copies.

❧ I. Dibner, *Heralds of Science,* 91. Evans, *First Editions of Epochal Achievements in the History of Science* (1934), 64. Sparrow, *Milestones of Science,* p. 30. Zittel, pp. 56-61. II. Poggendorff, I, 669.

One of the Rarest and Most Important Books in the History of Geology

94. WERNER, Abraham Gottlob. *Kurze Klassifikation und Beschreibung der verschiedenen Gebirgsarten*. 28 pp. Large 4to, cont. paste-paper boards. Dresden: Walther, 1787. $8500.00

First separate edition, originally appearing in the 1786 volume of the *Abhandlungen der Böhmischen Gesellschaft der Wissenschaften*; this is one of the rarest and most important books in the history of geology.

"Short though it is, the 'Kurze Klassifikation' is important to the history of geology for a number of reasons. Although it contains no discussion of Werner's theories, it exemplifies them; and it is the only printed presentation of those theories to come from Werner's own hand. The principle of geologic succession is implicit in it…The 'Kurze Klassifikation' was the first work to separate rock classification from the classification of minerals, and thus it did much to establish petrography as an independent branch of the geological sciences. It gave clear definitions of rocks, many of which had not previously been generally agreed upon. And it inspired the research of many geologists, including many who did

not accept Werner's theories, well into the nineteenth century. But the 'Kurze Klassifikation' is also important in another way. In a note on the section dealing with volcanic rocks, Werner asserted for the first time that all basalt is of aqueous origin, thus precipitating the great basalt controversy."–*D.S.B.,* XIV, p. 261.

Very fine copy.

The Theory of the Origin of Ore Deposits

95. WERNER, Abraham Gottlob. *Neue Theorie von der Entstehung der Gänge, mit Anwendung auf den Bergbau besonders den freibergischen*. xxxx, 256 pp. 8vo, cont. marbled boards, flat spine gilt, orange leather lettering piece on spine. Freiberg: Gerlach, 1791. $2500.00

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

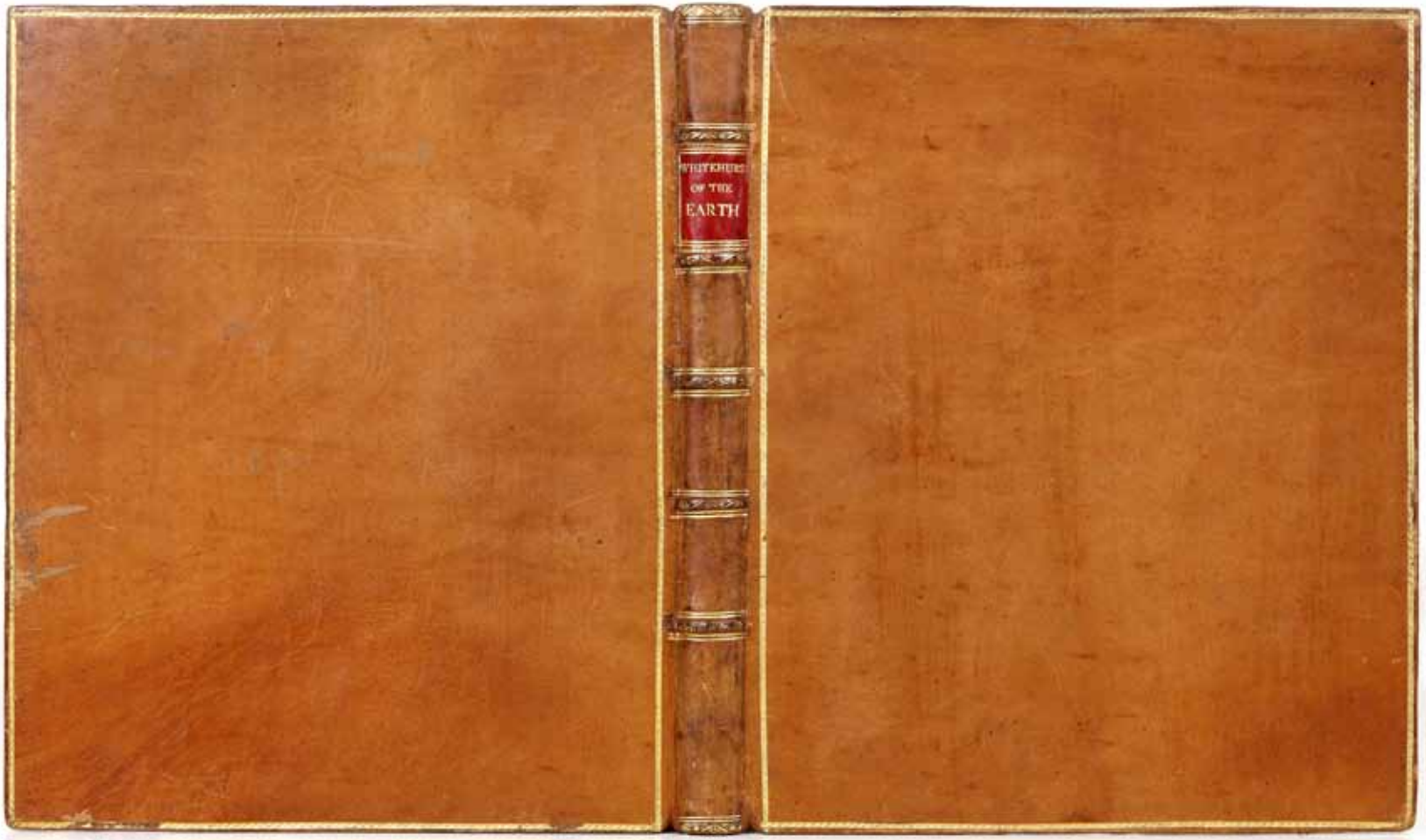
A very nice copy. Stamp of C.F. Stumm on endpaper.

❧ Hoover 878.

A Fine Copy

96. WHITEHURST, John. *An Inquiry into the Original State and Formation of the Earth; deduced from Facts and the Laws of Nature. To which is added An Appendix, containing some General Observations on the Strata in Derbyshire*. Seven folding engraved plates on four sheets. 8 p.l., ii, [2], 199 pp. Large 4to, cont. sheep (a little foxing), sides ruled in gilt, spine gilt, red leather lettering piece on spine. London: Printed for the Author, 1778. $2500.00

First edition. "In pure science [Whitehurst] is important chiefly as a geological pioneer who did work in Derbyshire that was published in a well-known book…in 1778. He established for the first time the succession of the Carboniferous strata: limestone, Millstone grit (named by him), and coal measures. Whitehurst formulated the general proposition of a worldwide orderly superposition of strata, each with its characteristic lithology and fossils. Although the proposition was somewhat vaguely imagined, he here hit on the most significant of all geological generalizations…He was among the first to



Item 96. *Whitehurst,* 1788 (much reduced)

recognize the true nature and origin of this great class of rocks, the basalts, and thus to establish the fact of volcanism in past geological times."–*D.S.B.*, XIV, pp. 311-12.

Fine crisp copy with the small oval stamp on verso of title of R. Graf von Veltheim. Half-title present.

❧ Ashworth & Bradley, *Theories of the Earth 1644-1830* (Linda Hall Library: 1984), 36–"the descriptions are illustrated by some of the finest geological sections of the period."

Stratigraphy

97. WOODWARD, John. *An Essay toward a Natural History of the Earth: and Terrestrial Bodies, Especially Minerals: as also of the Sea, Rivers, and Springs. With an Account of the Universal Deluge: and of the Effects that it had upon the Earth*. Title within ruled border. 8 p.l., 277, [2] pp. 8vo, cont. vellum over boards. London: R. Wilkin, 1695. $2950.00

First edition and a lovely copy of this celebrated contribution to the advancement of geological knowledge; it was widely read both in Great Britain and, in translation, in other European countries. Woodward (1665-1728), believed that "the earth formerly had been submerged beneath a universal deluge…These waters had dissolved, or disintegrated and held in suspension, all the stony and mineral matter forming the outer crust of the earth…From the confused mass that had formed, the matter in suspension, both organic and inorganic, subsided in an order determined, so far as was possible, by the specific gravity of the individual components. Thus a stratigraphic succession was formed."–*D.S.B.*, XIV, p. 501.

This work was criticized by Dr. John Arbuthnot, John Ray, and others. The *Essay* contributed toward establishing that strata throughout the world are, generally speaking, similar in character, a conclusion necessary before an acceptable theory of the origin of the rocks of the crust of the earth could be formulated.

Fine crisp copy with imprimatur leaf.

❧ Ashworth & Bradley, *Theories of the Earth 1644-1830* (Linda Hall Library: 1984), 9. "Hoover 896.

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