CATALOGUE 223

Jonathan A. Hill Bookseller

NEW YORK CITY

net, in quo terram cum orbe lunari tanquam epicyclo contineri
5 · 6 diximus. Quinto loco Venus nono menſe reducitur. Sextum
6 · 7 denicꝫ locum Mercurius tenet, octuaginta dierum ſpacio circũ
7 · 8 currens. In medio uero omnium reſidet Sol. Quis enim in hoc

pulcherimo templo lampadem hanc in alio uel meliori loco po neret, quàm unde totum ſimul poſsit illuminare? Siquidem non inepte quidam lucernam mundi, alij mentem, alij rectorem uocant. Trimegiſtus uiſibilem Deum, Sophoclis Electra intuentẽ omnia. Ita profecto tanquam in ſolio re gali Sol reſidens circum agentem gubernat Aſtrorum familiam. Tellus quoq; minime fraudatur lunari miniſterio, ſed ut Ariſtoteles de animalibus ait, maximã Luna cũ terra cognationẽ habet. Concipit interea à Sole terra, & impregnatur annuo partu. Inuenimus igitur ſub

hac

Jonathan A. Hill
Bookseller

Catalogue 223:

Science, Medicine &

Natural History

New York City

2018

Jonathan A. Hill, Bookseller

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Selective subject index at end.

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Jonathan A. Hill · Bookseller

Catalogue 223

ECLUSES
BETONNAGES

BETONNAGE DES BAJOYERS A LA TETE AVAL
(Chantier rive d'aval)

ECLUSES
AVANT LA MISE EN EAU

GRAND SAS AVEC PORTE AVAL
(Vue prise d'amont)

One of Aigner's Rarest Books

1. AIGNER, Chrystian Piotr.

Beschreibung eines neuen holzersparenden und in allem Betracht vortheilhaft befundenen Ziegelbrennofens nebst Rissen. Herausgegeben von dem berühmten Warschauer Architekten Eigner. Aus dem Russischen übersetzt. Two folding engraved plates. 30 pp. Small 8vo, attractive antique calf-backed marbled boards, spine gilt, red morocco lettering piece on spine. Riga & Mitau: W.C.A. Müller, 1796. $1950.00

"Zweite Auflage"; we cannot locate an earlier printing in any language. This is a rare work by Aigner (1756-1841), one of the leading architects and theorists of Polish Neo-Classicism, who designed many important churches and palaces in Warsaw, Krakow, and other cities in Poland.

This book, written during a building "boom" in Poland, is concerned with Aigner's design of a large oven which could fire 100,000 bricks or tiles. The two engraved plates depict various aspects of the oven.

Fine copy. We locate no copy in North America.

The Grand Canal of Alsace

2. (GRAND CANAL d'ALSACE).

Photographic album, stamped on upper cover "Kembs," containing 40 fine black & white photographs, each measuring 163 x 218 mm. & each mounted on thick board, all with printed explanatory descriptions above & below. Oblong small folio (250 x 335 mm.), orig. half-cloth & marbled boards, sewn. Photographs dated between April 1929 and October 1933. $6000.00

The construction of the "Grand Canal d'Alsace," which channeled the hitherto unnavigable Upper Rhine River, was one of the most important civil engineering projects in France of the last century. About 50 kilometers long and running between Kembs (just below Basel) and Vogelgrun, it permits the navigation of ships and barges between Basel (a city which had long dreamed of access to the sea) and Strasbourg. The lateral canal diverted much of the water from the original bed of the fast-flowing Rhine; a dam and an important hydroelectric plant were built at Kembs (depicted in a number of the photographs) and several other cities along the canal, providing electricity to one of the most industrialized regions of France.

The construction of the first portion of the canal and the Kembs dam, locks, and hydroelectric power plant took place between 1928 and 1932. The photographs, here in rich and dark images, depict the various stages of construction: digging the canal; creating and grading the embankments; a cement factory; building the locks, including the concrete foundations and walls (one of the photographs depicts a man in the completed but as yet empty lock, dwarfed by the immensity of the walls); the locks functioning with barges passing through; the many stages of the construction of the canal and power plant; the construction of the dam; the first water to enter the canal; the turbines within the power plant; and finally, an aerial view of the entire enormous project.

In fine condition, and an important record of this enormous civil engineering project.

Five Uncommon Works by Angeli

3. ANGELI, Stefano degli.

Considerationi sopra la Forza di alcune Ragioni Fisicomattematiche, addote dal M.R.P. Gio. Battista Riccioli . . . nel suo Almagesto Nuovo & Astronomia Riformata contro il Sistema Copernicano. Espresse in Due Dialoghi . . . Woodcut diagrams in the text. 4 p.l. (final leaf a blank), 134 pp. Small 4to, cont. vellum over boards. Venice: B. Bruni, 1667.

[bound with]:

—. *Seconde Considerationi sopra la Forza dell'Argomento Fisicomattematico . . . contra il Moto Diurno della Terra . . .* Woodcut diagrams in the text. 4 p.l., 111 pp. Small 4to. Padua: M. Bolzetta de Cadorini, 1668.

[bound with]:

—. *Terze considerationi sopra Una Lettera del . . . Gio: Alfonso Borelli . . . scritta da Questi in replica di alcune Dottrine incidentemente tocche . . .* Woodcut diagrams in the text. 4 p.l., 46 pp. Small 4to. Venice: Heirs of Leni, 1668.

[bound with]:

—. *Quarte Considerationi sopra la Confermatione d'Una sentenza del Sig. Gio. Alfonso Borelli . . . prodotta da Diego Zerilli contro le Terze Considerationi.* Woodcut diagrams in the text. 4 p.l., 87 pp. Small 4to. Padua: M. Cadorin detto Bozetta, 1669.

[bound with]:

—. *Della Gravità dell' Aria e Fluidi, esercitata Principalmente nelli loro homogenei. Dialogi Primo, e Secondo Fisico-Matematici.* Woodcut diagrams in the text. 2 p.l., 79 pp. Small 4to (a few leaves browned). Padua: M. Cadorin, 1671. $12,500.00

CONSIDERATIONI
SOPRA LA FORZA
DI ALCVNE RAGIONI
FISICOMATTEMATICHE,
ADDOTTE DAL M. R. P.
GIO. BATTISTA RICCIOLI
Della Compagnia di Giesù nel suo Almagesto Nuouo, & Astronomia Riformata contro il Sistema Copernicano.
ESPRESSE IN DVE DIALOGHI DA F.
STEFANO DE GLI ANGELI
VENETIANO,
Mattematico nello Studio di Padoua.

VENETIA, M. DC. LXVII.

Appresso Bortolo Bruni
CON LICENZA DE' SVPERIORI.

An attractive collection of five of Angeli's scientific writings, all first editions, and including his most important writings on fluids. Angeli (1623-97), studied mathematics under Cavalieri at Bologna and edited his teacher's *Exercitationes Geometricae Sex* (1647). In 1663, Angeli was offered the prestigious professorship of mathematics at the University of Padua, a post that had been held by Galileo, and which Angeli filled until his death.

I-IV. These four works, a complete set, written in the style "of dialogues that reflect Galileo's style, form a lively but cautious polemic on the problems of the Ptolemaic and Copernican cosmological systems. G.B. Riccioli, in his *Almagestum novum,* had formulated some arguments against the Copernican system. Angeli asserted that 'the earth is motionless, but Riccioli's reasons do not prove the point,' and he devoted the first of these studies (1667) to demonstrating that Riccioli's anti-Copernican arguments were without foundation. Angeli replied to Riccioli's arguments with another work in 1668. G.A. Borelli, who later participated in the polemic, rejected Riccioli's arguments, and pointed out that if Angeli's views were correct, falling bodies should follow a vertical trajectory in the hypothesis of the earth's motion as well."–*D.S.B.,* I, pp. 164-65.

V. Angeli's *Della gravità dell'aria e fluidi* "is largely experimental in character. In it he examines the fluid statics, based on Archimedes's principle and on Torricelli's experiments. It also contains theories of capillary attraction."–*ibid.,* p. 165. In Angeli's works on physics, there are many references to Galileo's mechanics, as well as his acceptance of the experimental method.

Fine copies. Bookplate of Cassamini-Mussi.

☾ Carli & Favaro 301, 309, 310, 321, & 331. Riccardi, I, 11-15. I. Maffioli, *Out of Galileo. The Science of Waters 1628-1718,* pp. 102, 103-04, & 115n.

"An Important Book"–Needham

4. ARANZI, Giulio Cesare.

De Humano Foetu Libellus. Woodcut printer's device on title. 4 p.l. (last leaf a blank), 79 pp. Small 8vo, somewhat later vellum over boards. Bologna: J. Rubrius, 1564. $35,000.00

First edition of an extremely rare book in which Aranzi (1530-89), professor of anatomy at Bologna, describes his discovery of "the *ductus*

IVLII CAES. ARANTII

PHILOSOPHI, AC MEDICI

BONONIENSIS

Medicinæ, ac Anatomes

publici professoris

DE HVMANO FOETV

LIBELLVS.

SACRIS MEDICORVM, AC PHIlosophorum, Collegiis Bonon.

BONONIAE,
Ex officina Ioannis Rubrii ad insigne
Mercurii. MDLXIIII.

venosus of the fetus that runs to the umbilical cord."–Castiglioni, *A History of Medicine,* p. 428. He was the first to state the maternal and foetal circulations were separate, and found the highly oxygenated blood supply was connected from the placenta through the *ductus venosus* to the foetal circulation.

"His *De Humano Foetu* was an important book . . . he was the first to maintain that the maternal and foetal circulations are separate, but he naturally did not, and could not, speak of circulations, since he lived before Harvey. Nor could he have proved his point satisfactorily with the means then at his command, and, as we shall see, it was to take another century before the proof was given. Apart from this valuable contribution to embryology, Arantius gave some admirable anatomical descriptions of the foetal membranes."–Garrison, *A History of Embryology,* p. 105.

Aranzi studied medicine under his famous uncle, Bartolomeo Maggi (1477-1552), lecturer in surgery at the University of Bologna. He was also one of the best students of Vesalius (who is mentioned on page 46). Aranzi was, along with Aldrovandi and Fabricius ab Aquapendente, one of the three greatest Italian embryologists of the period. "The excellent scientific and practical preparation Aranzio had received from his uncle immediately brought him fame. He discovered the *pedes hippocamp*; the cerebellum cistern; and the fourth ventricle, the arterial duct between the aorta and the pulmonary duct . . .

"In 1564 Aranzio published *De humano foetu opusculum,* and fifteen years later his *Observationes anatomicae* appeared. In these he presented the new direction of anatomy, based not merely on simple description of the organs of the body but also on experimental investigations of their functions."–*D.S.B.,* I, p. 204.

Very good copy preserved in a morocco box. 13 leaves a little wormed in lower outer margin. Some contemporary annotations. This is a rare book; for example, there was no copy in the Norman collection.

☾ Dobson, *Anatomical Eponyms,* p. 14. Garrison-Morton 464–"Aranzi believed the maternal and foetal circulations to be separate. He described the ductus arteriosus and ductus venosus of the foetus, and the corpora Arantii in the heart valves. Incidentally, he was the first to record a pelvic deformity."


ARISTARCHI
DE MAGNITVDINIBVS,
ET DISTANTIIS SOLIS,
ET LVNAE, LIBER
CVM PAPPI ALEXANDRINI
explicationibus quibuſdam.
A FEDERICO COMMANDINO
Vrbinate in latinum conuerſus, ac
commentarijs illuſtratus.
Cum Priuilegio Pont. Max. In annos X.
PISAVRI, Apud Camillum Franciſchinum.
M D L X X I I.

The Heliocentric System First Stated

5. ARISTARCHUS of Samos.

De Magnitudinibus, et Distantiis Solis, et Lunae, Liber cum Pappi Alexandrini explicationibus quibusdam. A Federico Commandino Urbinate in Latinum conversus, ac Commentariis illustratus. Woodcut printer's device on title, a fine woodcut initial, & numerous woodcut diagrams (many full-page) in the text. 4 p.l. (the last a blank), 38 leaves. Small 4to, early vellum over boards (some light foxing), handwritten paper label on spine, traces of green silk ties. Pesaro: C. Francischini, 1572. $37,500.00

First edition of Commandino's translation of the first treatise to put forward the heliocentric hypothesis.

Aristarchus (ca. 310-230 B.C.), "taught the daily rotation of the earth about its axis. He was the first to put forward the heliocentric hypothesis. In order to reconcile the apparent immobility of the fixed stars with the revolution of the earth around the sun, he assumed that the sphere of the fixed stars was incomparably greater than that containing the earth's orbit. That is, the universe conceived by him was incomparably greater than that conceived by his predecessors. In his only extant treatise 'On the sizes and distances of the sun and moon' he gave a scientific method to make these measurements. His results were grossly inaccurate, but the method was sound . . .

"This treatise is of great mathematical interest because of its containing the calculation of ratios which are in fact trigonometrical ratios."–Sarton, I, pp. 156-57.

"Aristarchus is celebrated as being the first man to have propounded a heliocentric theory, eighteen centuries before Copernicus . . . It is interesting to note in passing that Copernicus' disappointment at being anticipated by Aristarchus has recently come to light. Copernicus deliberately suppressed a statement acknowledging his awareness of Aristarchus' theory . . . *On Sizes and Distances* marks the first attempt to determine astronomical distances and dimensions by mathematical deductions based upon a set of assumptions."–*D.S.B.*, I, pp. 246-48.

Nice unsophisticated copy. Old stamp on title.

☾ Sparrow, *Milestones of Science,* pp. 2-3 & plate 7.

6. BAADER, Joseph von.

Neue Vorschläge und Erfindungen zur Verbesserung der Wasserkünste beym Bergbau und Salinenwesen. 16 fine folding engraved plates (a little waterstained in lower corners). xii, 98 pp. Large 4to, cont. calf (some rubbing & a bit of worming), spine gilt. Bayreuth: Heirs of J.A. Lübeck, 1800.

$4500.00

First edition and quite rare. Baader (1763-1835), a prominent mining expert and Chief of the Bavarian Mining Council, resided in England and Scotland from 1786 to 1794, where he studied the most recent technological developments, both in mining and metallurgy. While in Edinburgh,

he designed a new blasting machine for iron mines which had considerable success and became known as the *Baadersches Geblaese*. His greatest contribution to science was, however, his devotion, through propaganda and the power of his position, to the building of railways in Bavaria.

The present work is the sequel to Baader's famous *Vollständige Theorie der Saug- und Hebepumpen* (1797), in which Baader described his theory of suction and design of water lifting pumps. These two books attracted the attention of the Elector Max IV Joseph of Bavaria, who commissioned Baader in 1802 to design and build several new pumping stations to irrigate the gardens of Nymphenburg Palace and supply its fountains. These pumping stations are the oldest still-operational water pumps in Europe and are considered milestones of engineering.

Napoleon was so impressed by these pumps that he called Baader to Paris in 1805 to help with the technical improvement of the machine of Marly and improve the water supply of Versailles. However, Baader's proposals were not realized.

This work was written while Baader was director of mining and machinery in Bavaria. It is concerned with various kinds of pumps used in mines, to flood brine pools, and to transport brine solutions.

The finely engraved plates depict various parts of the pumps, mostly in cross-section views.

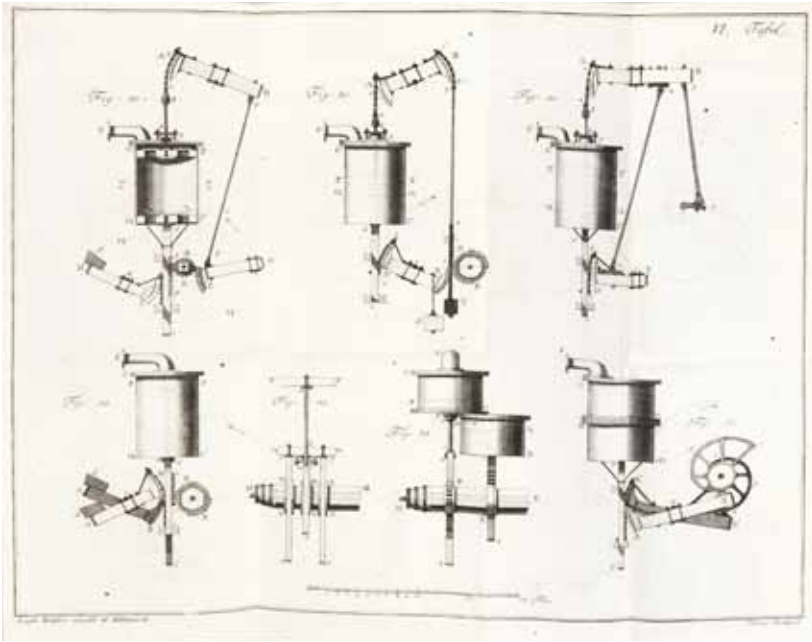
A little spotted and some dustiness but a very good copy.

☾ *A.D.B.*, I, pp. 725-26. Poggendorff, I, 80-81.

7. BAADER, Joseph von.

Beschreibung und Theorie des englischen Cylinder-Gebläses nebst einigen Vorschlägen zur Verbesserung dieser Maschine. Seven fine folding engraved plates. xiv, [2], 115, [1] pp. Large 4to, cont. marbled half-sheep & marbled boards (minor foxing), flat spine gilt. Munich: J. Lindauer, 1805. $3250.00

First edition and quite rare. Baader, while in Edinburgh, designed an improved hydraulic powered blowing engine for blast furnaces that allowed higher temperatures, based on the fan originally developed by John Wilkinson (1728-1808). This became known as the *Baadersches Geblaese*. The present work is concerned with Baader's final work on the fan and the improvements he has made to it.



Fine copy with a small ownership inscription on title inoffensively blacked-out. WorldCat locates no copy in North America.

☾ *A.D.B.*, I, pp. 725-26. Poggendorff, I, 80-81.

8. BARTSCH, Jacob.

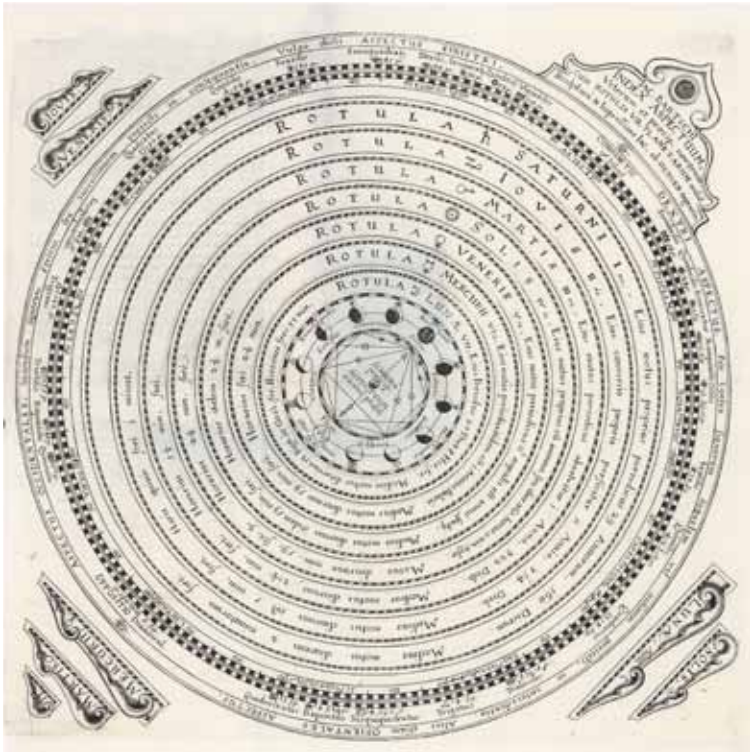
Usus Astronomicus Indicis Aspectuum veterum et praecip. novorum, compendiose sine Calculo simul omnium inveniendorum. Two folding engraved plates. Title within ornamental type border. 27 pp. Small 4to, attractive antique calf (small stain in outer blank margin), spine gilt, red morocco lettering piece on spine. Nuremberg: P. Fürsten, 1661. $5500.00

Second edition (1st ed.: 1624). Bartsch (1600-33), was Kepler's son-in-law and helped him compile his table of logarithms, assisted him on the *Tabulae Rudolphinae*, and, after Kepler's death, took over the printing of the *Somnium* but died before publication was completed. Bartsch studied astronomy at the University of Leipzig and medicine at the universities of Strasbourg and Padua.

This is a work of practical astronomy and is most remarkable for its

large (330 x 320 mm.) engraved plate depicting a horizontal planetarium (its workings are described in the text). In three of the outer corners there are engraved seven moving pointers intended to be cut up and mounted. In the introduction Bartsch praised the Strasbourg instrument maker Johann Friedrich Schmiedt for his knowledge and skills. He then describes the instrument based on aspects newly introduced by Kepler. In astrology, an aspect is an angle the planets make to each other in the horoscope, also to the ascendant, mid-heaven, descendant and other points of astrological interest. Aspects are measured by the angular distance in degrees and minutes of ecliptic longitude between two points, as viewed from Earth. According to astrological tradition, they indicate the timing of transitions and developmental changes in the lives of people and affairs relative to the earth.

The instrument show seven concentric orbits of the planets in the Ptolemaic system and a hand or movable ruler.



Fine copy. The 1624 edition is very rare. The Czech National Library has a copy with an engraved frontispiece. This seems to be the only recorded copy with a frontispiece.

☾ Lalande, p. 249. Zinner, *Instrumente*, p. 245.

"The First Comprehensive Illustrated English Book on Waterworks & Hydraulic Machinery"

9. [BATE, John].

The Mysteryes of Nature, and Art: Conteined in foure severall Tretises, the first of Water Workes The second of Fyer workes, The third of Drawing, Colouring, Painting, and Engraving, The fourth of divers Experiments, as wel serviceable as delightful: partly collected, and partly of the Authors Peculiar Practice, and Invention by J.B. Fine added engraved title (a little cropped at foot),

woodcut plate between pp. 14 & 15 in the first part (T4), & numerous woodcuts in the text (two slightly cropped). 5 p.l. (incl. added engraved title), 112, [16], 121-142, [3], 150-192 pp. Small 4to, cont. calf (a little rubbed), red morocco lettering piece on spine. London: R. Mab, 1634.
$16,500.00

THE
THIRD BOOKE
Of Drawing, Limming, Colouring, Painting, and Graving.

By *I. B.*

LONDON.
Printed by THOMAS HARPER, for RALPH MAB,
1634.

First edition and quite uncommon on the market; this is "the first comprehensive illustrated English book on waterworks and hydraulic machinery. It also includes sections on drawing, painting, recipes, and folk remedies, as well as one on fireworks and incendiary devices largely derivative of earlier English and continental works on the subject . . .

"Bate's influence extended to the young Isaac Newton, who owned a copy of *Mysteries*, copied extracts from Bate's section on drawing, and was probably inspired by his section on waterworks."–ODNB. As a schoolboy, Newton neglected his school work in favor of building mechanical works, including a windmill, a water clock (clepsydras), a cart run by a crank, and an airborne lantern. Many of his contrivances, including those just mentioned, as well as a process for making various colored inks, were found in Bate's *Mysteryes* (see Westfall's biography of Newton *Never at Rest*, p. 61). It was a book which fully engaged the youthful Newton's natural precocious interests. Indeed, his fascination with color and the mixing of colors stemmed from Bate's book.

"All editions, more particularly the first and third, are moderately rare, and are not readily procurable in really nice state [this was written in 1898] . . . The first book contains a good many ingenious devices worked by water power. In particular, there is a weather glass, a water clock, force pumps, and other contrivances. The second book deals with pyrotechny . . . The third book is occupied with drawing and painting, and an account is given both of mediums and of colours . . . the last book, called 'Extravagants,' is merely a collection of miscellaneous secrets relating chiefly to the metals, and there are a few medical receipts at the end. On the whole the book justifies the demand for it that still exists."–Ferguson, *Bibliographical Notes on Histories of Inventions & Books of Secrets,* Supplement Four, pp. 11-12.

The attractive engraved title depicts eight experiments or effects described in the book. There are about 80 woodcuts in the text, many full-page.

A very nice copy of a fascinating book.

☾ STC 1577.

10. BENZENBERG, Johann Friedrich.

Briefe geschrieben auf einer Reise durch die Schweiz im Jahr 1810. Four engraved plates (one folding). 4 p.l., 296 pp., 3 leaves of ads for the author's other works; 2 p.l., 514, [8] pp. Two vols. Small 8vo, cont. orange-brown speckled boards (spines a little rubbed), orange leather lettering pieces on spines. Düsseldorf: J.H.C. Schreiner, 1811-12. $1750.00

First edition of a scarce and appealing work. 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 was the first to demonstrate that the earth revolves, a problem which had perplexed scientists since Copernicus (see *D.S.B.*, I, pp. 615-16).

This is an account, recorded in a series of long letters, of a scientific journey through the main cities and industrial sites of Switzerland as well as to many of the most notable features of geology and natural history. He records his visits to many leading scientists of Switzerland and his examination of observatories and instruments. There are sections on his corroboration of Chladni's theory of the cosmic origin of meteorites, Gauss's examination of Benzenberg's demonstration that the earth revolves, and his own important experiments with barometers.

Fine set. The plates depict scientific instruments and an observatory.

An Early School Calculator

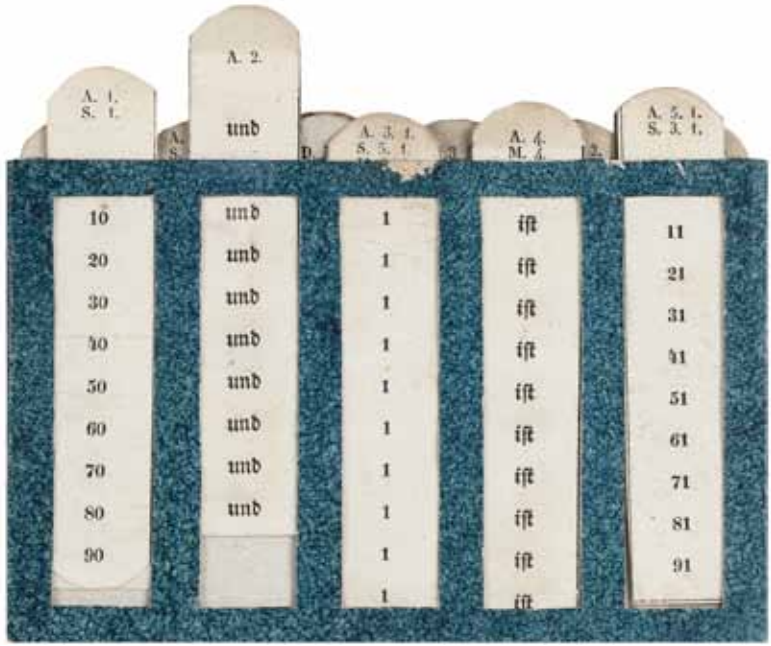
11. BLEICH, Peter.

Anweisung zum Gebrauche der allgemeinen Rechentafel, wodurch die vier Rechnungsarten auf vierfache Weise fest und sicher erlernet werden. 32 pp. Small 8vo, orig. printed wrappers, uncut. Vienna: Mayer, 1838.

[issued with]:

A calculator consisting of 34 tables printed on thick paper strips & kept in a "calculating" box of blue paste-paper measuring 119 x 184 mm., with five cut-out panels for the calculations, preserved in the orig. marbled paper slipcase. $4500.00

First edition and very rare; not listed by WorldCat. This is an early school calculator and a modernization of Napier's "bones" and multiplication tables. The calculator offers instruction in addition, subtraction,



multiplication, and division. The 34 printed tables, in the form of strips of thick paper, move up and down, according to the values being calculated and the operation.

"Napier's bones" is a manually-operated calculating device created by John Napier of Merchiston for calculation of products and quotients of numbers. Napier first published his invention in 1617 in his *Rabdologia*. Using the multiplication tables embedded in the rods, multiplication could be reduced to addition operations and division to subtractions. Napier's bones (or rods) were made of ivory, wood, metal, or heavy cardboard.

During the 18th and 19th centuries, Napier's bones underwent a transformation to make them easier to read. A number of mathematicians developed variations of Napier's original invention. Bleich (1798-1871), was for many years a teacher in Vienna. In the 1820s, Bleich's first educational publications were published. For example, the book *Tagesordnung eines Kindes* (*The Day of a Child*) appeared in several editions and tens of thousands of copies were sold. From 1831 until his death he lectured and taught at the Zollersche main school of Vienna, where he twice served as interim director and which he portrayed in the historical essay "Die Michael von Zoller and Franz Aloys Bernard'sche Hauptschule" published in 1851. His most noted publication was the educational booklet "Nur Ruhe!" (*Silence*), published in 1846 in which he

gives 300 suggestions and hints to help keep children calm in the classroom without resorting to corporal punishment.

In fine condition and a wonderful survival, the book and calculator preserved in its original slipcase. It is actually quite fun to make calculations using the strips.

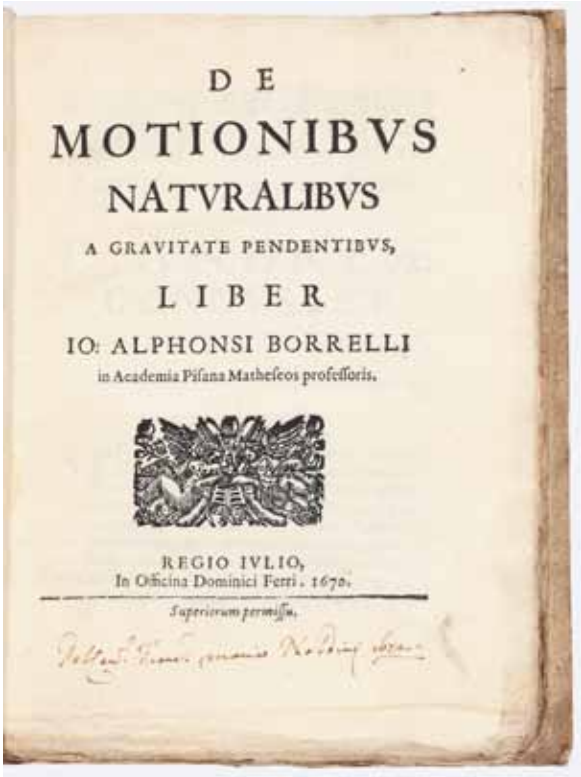
☾ Louise Bleich, *Biografie des Lehrers und Schriftstellers Peter Bleich* (Wien: 1871). Not in the Tomash catalogue.

A Fine Uncut Copy

12. BORELLI, Giovanni Alfonso.

De Motionibus Naturalibus a Gravitate Pendentibus . . . Numerous woodcut diagrams in the text. 4 p.l., 566, [5] pp. Thickish 4to, cont. semi-stiff boards (a little soiled), uncut. Reggio di Calabria: D. Ferri, 1670.

$14,500.00


DE
MOTIONIBVS
NATVRALIBVS
A GRAVITATE PENDENTIBVS,
LIBER
IO: ALPHONSI BORRELLI
in Academia Pisana Matheseos professoris.
REGIO IVLIO,
In Officina Dominici Ferri. 1670.
Superiorum permissu.

First edition and scarce. "Borelli's second book on mechanics is important as the first treatise on capillarity. It contains the important investigations from which the author formulated the law that the height of the ascent of liquids in capillary tubes is inversely proportional to their diameters. His investigations also led him to the conclusion that the phenomenon of capillarity is independent of the pressure of air."–Roberts & Trent, *Bibliotheca Mechanica,* p. 42.

Borelli saw this book not only as a work exploring aspects of mechanics but also as a necessary introduction to what he would later consider to be his most important work, the *De Motu Animalium.*

A fine copy in original state.

☾ *D.S.B.,* II, p. 311–In this book "he argues against positive levity, discusses the Torricellian experiment, takes up siphons, pumps, and the nature of fluidity, tries to understand the expansion of water while freezing, and deals with fermentation and other chemical processes." Riccardi, I, 159.

13. [BOSCOVICH, Ruggero Giuseppe].

Dissertatio de Telluris Figura habita in Seminario Romano So. Jesu. . . . One folding engraved plate. xxiii pp. Large 4to, attractive modern decorated paper over semi-stiff boards. Rome: A. de Rubeis, [1739]. $5000.00

First edition of one of Boscovich's first publications. "Early in his career his interest was drawn to the problem of the size and shape of the earth, an issue intensively discussed in the first half of the eighteenth century, since its resolution was thought to be crucial in an eventual choice between a Cartesian cosmology of vortices, which predicted an earth slightly elongated at the poles, and a Newtonian one of inertial motion under attractive forces, in which case the globe should be slightly flattened."–*D.S.B.,* II, p. 329.

In this work, "contemporary reviewers read a plea for removing the works of Copernicus from the Index."–Hill, "Roger Boscovich. A Biographical Essay" in Whyte, ed., *Roger Joseph Boscovich* (1961), p. 32.

Fine copy.

☾ Riccardi, I, 173. Whyte, *R.J. Boscovich,* p. 214 in the bibliography.

DISSERTATIO
DE TELLURIS FIGURA

HABITA

IN SEMINARIO ROMANO SOC. JESU

A

JOSEPHO PASSI
LUDOVICO MALFATTI
DOMINICO DE ANGELIS

ACADEMICIS REDIVIVIS

SEMINARII ROMANI CONVICTORIBUS.

Die Augusti Anno MDCCXXXIX.
Dato omnibus opponendi loco.

ROMÆ, Typis Antonii de Rubeis in via Seminarii Romani.
SUPERIORUM PERMISSU.

DE MOTU
CORPORUM PROJECTORUM

IN SPATIO NON RESISTENTE

DISSERTATIO

HABITA

IN SEMINARIO ROMANO SOC. JESU

A MARCHIONE

JACOBO ZAMBECCARI

SEMINARII ROMANI CONVICTORE.
ACADEMIÆ REDIVIVORUM CANDIDATO.

Die Augusti Anno MDCCXL.
Dato omnibus opponendi loco.

ROMÆ, Typis Antonii de Rubeis in via Seminarii Romani.
SUPERIORUM PERMISSU.

A. M. D. G.

DE

MOTU CORPORIS

ATTRACTI IN CENTRUM IMMOBILE VIRIBUS

Decrescentibus in ratione distantiarum reciproca duplicata in spatiis non resistentibus.

DISSERTATIO

Habita in Collegio Romano

A PATRIBUS SOCIETATIS JESU

Anno 1743. Mense Septembri die

ROMÆ, MDCCXLIII.

Typis Komarek, in Via Cursûs. *Superiorum facultate.*

A. M. D. G.

NOVA METHODUS

ADHIBENDI PHASIUM OBSERVATIONES IN ECLIPSIBUS LUNARIBUS

Ad exercendam Geometriam, & promovendam Astronomiam.

DISSERTATIO

HABITA IN COLLEGIO ROMANO

A PATRIBUS SOCIETATIS JESU

Anno 1744. Mense Septembri Die 1.

ROMÆ, MDCCXLIV.

Typis Komarek in Via Cursus. *Superiorum Facultate.*

14. [BOSCOVICH, Ruggero Giuseppe].

De Motu Corporum Projectorum in Spatio non resistenete. Dissertatio habita in Seminario Romano. One folding engraved plate. xxii pp. Large 4to, attractive modern speckled wrappers. Rome: A. de Rubeis, 1740. $5500.00

First edition, and quite rare, of one of Boscovich's earliest and most important works in mechanics and physics, written while teaching logic and mathematics at the Collegium Romanum. In the present work, Boscovich discusses a problem of classical mechanics: the motion of a material point. This theme was later developed in his major work in the field of natural philosophy, *Philosophiae naturalis theoria* (1758). "In mechanics (as in optics) . . . his allegiance to Newton was qualified."–*D.S.B.,* II, p. 330.

Fine copy. It might be noted that Mr. Honeyman, who really tried to collect all of Boscovich, did not own this title.

☾ Riccardi, I, 173. Whyte, *R.J. Boscovich,* pp. 34-35 & p. 214 in the bibliography.

Euler Corrected

15. [BOSCOVICH, Ruggero Giuseppe].

De Motu Corporis attracti in Centrum Immobile Viribus decrescentibus in ratione distantiarum reciproca duplicata in spatiis non resistentibus. Dissertatio. Jesuit woodcut vignette on title & one folding engraved plate. xxx pp., one leaf. Large 4to, attractive modern patterned paper over semi-stiff boards. Rome: "Typis Komarek," 1743. $4750.00

First edition of one of the author's most important works in structural analysis and mechanics, in which "he corrects an error made by Euler."–Whyte, *R.J. Boscovich,* p. 35 & p. 215 in the bibliography.

Fine copy. Mr. Honeyman did not own a copy of this work.

☾ *D.S.B.,* II, p. 331–selecting this as one of his most significant works. Kurrer, *The History of the Theory of Structures,* pp. 718-19. Riccardi, I, 174.

The Beginning of his Most Prolific Period of Mature Scholarship

16. [BOSCOVICH, Ruggero Giuseppe].

Nova Methodus adhibendi Phasium Observationes in Eclipsibus lunaribus ad exercendam Geometriam, & promovendam Astronomiam. Dissertatio . . . One folding engraved plate (short tear with no loss of image). xxxii pp. Large

4to, attractive modern decorated paper over semi-stiff boards. Rome: "Typis Komarek," 1744. $5000.00

First edition and rare; this work on lunar eclipses marks the beginning of Boscovich's most prolific period of mature scholarship. In the years 1742-44, Boscovich "turned his attention in astronomy to a comprehensive survey of the theoretical foundations and instrumental practice and resources of practical, observational astronomy, and in the years 1742 through 1744 he published a series of works that deal with these matters in a spirit of *severioris critices leges.*" –*D.S.B.*, II, p. 328.

Fine copy.

☾ Riccardi, I, 174. Whyte, *R.J. Boscovich,* p. 215 in the bibliography.

"Goes Far Beyond the Essai"

17. BOUGUER, Pierre.

Traité d'Optique sur la Gradation de la Lumiere: Ouvrage posthume . . . publié par M. l'Abbé de la Caille . . . Seven folding engraved plates. xviii, [2], 368 pp. Large 4to, cont. polished mottled calf (upper joint with a very slight & short crack at head), spine gilt, red morocco lettering piece on spine. Paris: H.L. Guerin & L.F. Delatour, 1760. $4500.00

First edition of this uncommon work on the measurement of light by Bouguer (1698-1758), the father of photometry. "Just before he died, Bouguer completed a much larger book on photometry, the *Traité d'optique sur la gradation de la lumiere*, published posthumously (1760) by his friend the Abbé Nicolas Louis de la Caille. The *Traité* goes far beyond the *Essai*, describing a number of ingenious kinds of photometers, including a method of goniophotometry, and even attempting an elaborate theory of the reflection of light from rough surfaces, although this was not successful. The third and last part of the book, however, gives a valid elementary theory of the horizontal visual range through an obscuring atmosphere, arriving at a law, usually credited to H. Koschmieder, considered to belong to the twentieth century. It is fair to consider Pierre Bouguer not only the inventor of the photometer but also the founder of an important branch of atmospheric optics. The eighteenth century is not an outstanding epoch in the history of optics, but Bouguer's contribution to that science is notable by any standard." –*D.S.B.*, II, pp. 343-44.

Fine and attractive copy.

18. BOURRIT, Marc Théodore.

Description des Alpes Pennines et Rhetiennes . . . Eight engraved plates & one folding engraved map. xix, 247 pp.; 2 p.l., 285 pp. Two vols. 8vo, cont. mottled calf (extremities a bit rubbed), flat spines gilt. Geneva: J.P. Bonnant, 1781 [an early owner has added two I's the Roman numeral date making it "1783"]. $2500.00

First edition and rather scarce. Bourrit (1735-1815), the son of a watchmaker in Geneva, was one of the first to systematically explore and record the Alps and their geological features. In the years 1784-85 he was the first to attempt the ascent of Mont Blanc (not conquered until 1786). In 1787 he reopened the route over the Col de Géant (11,060 ft.), which had fallen into oblivion.

While mostly concerned with the natural wonders and complex geology of the mountain chains, Bourrit does provide accounts of the natural history cabinets in Switzerland, the leading intellectuals of Geneva including Saussure and Deluc and their collections, accounts of various towns and villages, customs, etc.

The plates depict the glacier of Chermotane (two different views), Valais and the Rhone, the lake at Kandel, the Rhone glacier which is the source of the Rhone, the famous "Pont du Diable," the glacier at Grindelwald, and a view of Mount Blanc.

Fine and pretty set.

Infrastructure

19. [BOVET, —].

Notice sur les Solennités célébrées à Strasbourg, pour le Département du Bas-Rhin, le Jour du Couronnement de Napoléon Premier, Empereur des Français.

Four hand-colored folding engraved maps & one fine engraving. 11 pp. 4to, cont. crushed green morocco, sides bordered in gilt, spine gilt. [Strasbourg: F.G. Levrault, 1804]. $4500.00

First edition of this rare and handsomely illustrated work. In order to celebrate Napoleon's coronation in 1804, the city of Strasbourg initiated a series of a civil engineering and public works projects. The explanatory text details the planned bridge over the Rhine connecting Strasbourg with Kehl, an *orangerie* dedicated to Empress Josephine, a canal to protect against flooding and to circumvent a turbulent part of the Rhine, a performance hall, and the extension of a central boulevard. The measurements and purpose of each structure are also noted.

The maps are all finely engraved and hand-colored with grey borders. The first map depicts the portion of the river adjacent to Strasbourg and a cross-section of the new bridge to be constructed (with high- and low-water marks shown). The second presents the ornate landscaping which will surround the *orangerie*, as well as a smaller floorplan. The third shows the location of the new canal. The projected performance hall and prolonged boulevard are shown on the fourth and final map. The final engraving offers a ground-level view of the performance hall.

Fine and attractive copy. WorldCat locates no copy in the U.S.

The Prince d'Essling's Set; Extraordinarily Complete

20. BUFFON, George Louis Leclerc, Comte de, and others.

Histoire Naturelle, Générale et Particuliére, avec la Description du Cabinet du Roy. Engraved vignette on most titles, engraved headpieces, engraved portraits, engraved plates & maps, and printed tables (see below for details). 44 volumes bound in 45. Large 4to, green morocco gilt, signed by Thouvenin, covers within two frames of triple gilt filets, arms of the ornithologist François Victor Masséna, Duc de Rivoli, Prince d'Essling, in gilt on all covers, gilt floral devices in each corner, spines gilt, a.e.g. Paris: Imprimerie Royale, 1749-1804. $195,000.00

First edition, the luxurious first printing, and the most remarkable set to appear in many decades, of this monumental work, of "the most celebrated treatise on animals ever produced."–Dibner, *Heralds of Science,* 193. This set was assembled for the amateur ornithologist and book collector François Victor Masséna, Duke de Rivoli and Prince d'Essling (1799-1863), son of one of Napoleon's greatest generals. A man of con-

siderable wealth, François Victor formed important collections of books and bird specimens (more than 12,500), the latter is now in the Philadelphia Academy of Natural Sciences.

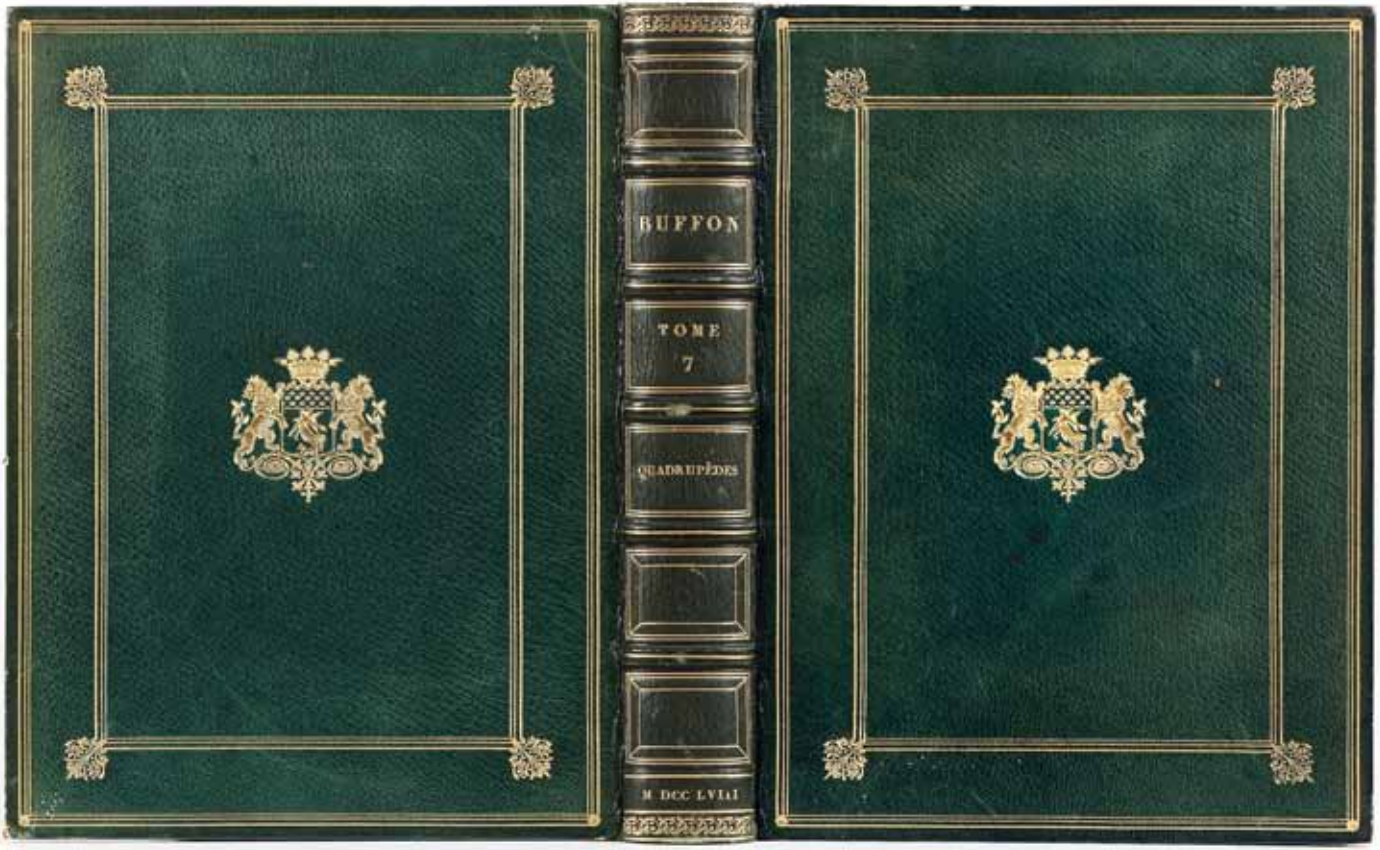
Introduction: This set is absolutely remarkable: along with having all the required portraits, plates, maps, and printed tables as set forth by Heilbrun (who provides the best but still slightly faulty collation, see below), this set has been further illustrated with more than 1300 variant plates (proofs "avant lettres"), proofs with subtle variations or reversed, portraits in different states (one printed on silk), additional full-page plates of almost all of the numerous engraved head-pieces, additional plates prepared for but not used in the published work, and the maps in several states. Some of the plates are even present in three or four states.

A reliable count of illustrations in this work is: 1262 engraved plates, one engraved portrait, 12 maps, and four folding tables. Our set contains 2607 plates, portraits, and maps, along with the required tables (both Heilbrun and Nissen have different totals). Many of the additional engraved plates are superior — printed more richly and on thicker paper — and reflect the engraver's art at the highest level.

This set provides valuable information regarding the publishing history of the work. Clearly, as a publication of the government, a large stock of copies in quires along with quantities of plates remained with the printers and was available for a long time afterwards. Prince d'Essling was a well-known book collector at the highest level of sophistication (see his two sales catalogues of 1839 and 1845) and he assembled this set from the surviving stock of copies and plates, enriching his set with the additional variant plates. This set remained in the family until last year.

Our set is very large (262 x 193 mm.), with very generous margins and with some lower edges untrimmed. In smaller copies, many of the plates are folding; in our set only the double-page plates are folding. The set has been bound by Thouvenin and is signed by him at the foot of Vol. I of the first series, Vol. I of the *Supplément*, and Vol. I of Lacepède's own additional supplementary eight volumes which completed the work.

The Work: This enormous survey of natural history, including man and the mineral world, took 55 years to complete and is very much a work of the Enlightenment, much like the *Encyclopédie* in scope and collaboration. "With the help of his assistant, Louis Daubenton, as anatomist, and of later other collaborators (notably the Comte de Lacépède),


BUFFON
TOME
7
QUADRUPÈDES
M DCC LVIII

HISTOIRE
NATURELLE,
GENERALE ET PARTICULIERE,

AVEC LA DESCRIPTION

DU CABINET DU ROY.

Tome Premier.

A PARIS,
DE L'IMPRIMERIE ROYALE.
M. DCCXLIX.

but always under [Buffon's] supervision and control, this vast enterprise eventually covered not only the entire animal creation, but many other ramifications . . . He opens his great work with an essay called *Théorie de la Terre,* in which for the first time he outlines a satisfactory account of the history of our globe and of its development as a fitting home for living things . . . This rejection of a rigid system of classification, to which most biologists of his time adhered, and Buffon's belief in the mutability of species, implied clearly some preparation for the thought of Darwin."–*Printing & the Mind of Man* 198.

"Buffon's work is of exceptional importance because of its diversity, richness, originality, and influence. Buffon was among the first to create an autonomous science, free of any theological influence. He emphasized the importance of natural history and the great length of geological time. He envisioned the nature of science and understood the roles of paleontology, zoological geography, and animal psychology. He realized both the necessity of transformism and its difficulties . . . He did establish the intellectual framework within which most naturalists up to Darwin work."–*D.S.B.*, II, p. 581.

A complete set comprises:

–*Histoire naturelle générale et particulière,* 1749-1767, 15 volumes.

–*Histoire naturelle des Oiseaux,* 1770-1783, in 9 volumes.

–*Histoire naturelle des Minéraux,* 1783-1788, in 5 volumes (but here bound in 6 volumes with the plates bound separately).

–*Supplément,* 1774-1789, in 7 volumes.

and eight volumes of Lacépède's continuation and supplement:

–*Histoire naturelle des Quadrupèdes ovipares et des Serpents,* 1788-1789, in 2 volumes.

–*Histoire naturelle des Poissons,* 1798-1803, in 5 volumes.

–*Histoire naturelle des Cétacés,* 1804, in 1 volume.

NOTES ON THIS COPY: As mentioned above, this set was assembled for Prince d'Essling from the surviving stock of text and plates, enriched with additional portraits, plates, and maps, totaling 2607 (a detailed list can be supplied). Over 1000 of the original number of plates are the work of Jacques de Sève, father and son (Nissen provides a full list of artists) and the images range from exact anatomical drawings of skeletons and dissections to settings of animals in their natural habitats.

This is a copy of the rare first printing, with all the errata leaves cited by Heilbrun: "Brunet faisait déjà remarquer, il y a plus de cent ans, qu'il était très difficile de se procurer des exemplaires de l'Histoire naturelle, dont tous les volumes soient de bon tirage. Il recommandait de rechercher les volumes contenant les errata . . . des exemplaires exceptionnels ont été tirés . . . papier satiné, épreuves avant la lettre, figures doubles . . . bien peu de ces exemplaires de luxe sont venus jusqu'à nous . . ." –Georges Heilbrun, *Buffon,* p.23.

Our copy is one of these "exemplaires exceptionnels":

1. Almost all of the charming engraved headpieces are also present as separately printed plates.

2. Most of the plates are present in two states, with letters and before letters but many are present in three or four states, exhibiting very subtle differences.

3. A number of additional plates prepared by Sève but not used in the published work are present. This is important documentary information.

4. The splendid portrait of Buffon after Drouais, normally bound in the first volume of the Supplement, has been bound in the first volume published in 1749 but in three states: with letters, "avant lettres," and reversed. Another fine engraved portrait of Buffon by Pujos in 1776 is also present.

5. The portrait of Buffon which is present in the first volume in the Lacépède is also present in Vol. II but in four states: regular plate paper, Hollande, China paper, and finally on silk!

Our copy is complete with pagination collations as in Heilbrun (with a few exceptions as noted in the Haskell Norman catalogue) and plates (again, with a few exceptions as noted by Norman). Our set has a few trivial pagination differences from the Norman set (which was incomplete).

BINDING: There were three Thouvenins active as luxury binders: Joseph l'âiné (1791-1834), who most probably executed these bindings for d'Essling. Joseph had a brother named "Joseph jeune" who died in 1844. Finally, there was another brother François but little is known of him and no authenticated specimens of his work are known. He died in 1832.

A fine set. Several of the volumes have a few unimportant scuff marks.

☾ *En Français dans le Texte* 152. Heilbrun, *Buffon*, pp. 233-37. Nissen, *ZBI*, 672–(his plate count has errors). Norman 369–(which supplements and improves Heilbrun). If my counting is correct, Nissen gives 1260 plates and 4 maps for a complete set (but he does not mention the correct number of maps bound in the separate volume 30); Heilbrun indicates 1290 plates (but after having added his plates and maps I can only come up with 1252 plates plus 13 maps, two allegorical plates, and one portrait, in all 1268 plates).


BUFFON
TOME 1
TOME 2
TOME 3
TOME 4
TOME 5
TOME 6
TOME 7
TOME 8
TOME 9
TOME 10
TOME 11
TOME 12
TOME 13
TOME 14
TOME 15
TOME 16
TOME 17
TOME 18
TOME 19
TOME 20
TOME 21
TOME 22


BUFFON
TOME 33
TOME 34
TOME 35
TOME 36
TOME 37
TOME 38
TOME 39
TOME 40
TOME 1
TOME 2
TOME 3
TOME 4
TOME 5
TOME 6
TOME 7
LA CEPÈDE
TOME 1
TOME 2
TOME 3
LA CEPÈDE
TOME 4
TOME 5
TOME 6
TOME 7
TOME 8

RODERICI à CASTRO LUSITANI, PHILOSOPHIÆ AC MEDICINÆ DOCTORIS per Europam notissimi,

De universa mulierum

MEDICINA NOVO ET ANTEHAC A NEMINE TENTATO ORDINE OPUS ABSOLUTISSIMUM.

Et Studiosis omnibus utile, Medicis verò pernecessarium.

Pars prima Theorica.

QUATUOR COMPREHENSA LIBRIS, IN QUIbus cuncta, quæ ad mulieris naturam, anatomen, semen, menstruum, conceptum, uteri gestationem, fœtus formationem, & hominis ortum attinent, abundantissimè explicantur.

CUM TRIPLICI INDICE,

Primo, Capitum totius Operis.
Secundo, Dubiorum, & Problematum, quæ pleraq; pulcherrima, utilissima ac jucundissima passim inserta sunt.
Tertio, Eorum quæ toto opere scitu digniora habentur.

Cum Gratia & Privilegio Sr. Cæsareæ Majestatis

HAMBURGI,
In Officina FROBENIANA,
Excudebatur typis PHILIPPI de OHR,
cIↃ. IↃC. III.

Presentation Copy from the Author to his Friend, Johann Albrecht II, Duke of Mecklenburg

21. CASTRO, Rodrigo de.

De Universa Mulierum Medicina . . . Pars prima Theorica [-Pars secunda, sive Praxis] in quibus cuncta, quae ad mulieris naturam, anatomen, semen, menstruum, conceptum, uteri gestationem, foetus formationem, & hominis ortum attinent, abundantissimé explicantur . . . Finely engraved coat-of-arms on titles. 6 p.l., 135, [21] pp.; 4 p.l., 333, [23] pp. Two vols. in one. Folio, cont. vellum over boards. Hamburg: P. de Ohr for Froben, 1603-03. $6000.00

First edition, presentation copy from the author, of this important gynecological encyclopedia which enjoyed great success as a comprehensive reference work on the treatment of women's diseases. Castro (1546-1627), a Portuguese Jew and a member of a prominent family of physicians and scholars, studied medicine at Evora and Salamanca. In 1594, he settled in Hamburg where he established a successful practice and became physician to the king of Denmark, the landgrave of Hesse, and the count of Holstein.

"His text is devoted essentially to medical therapy in gynaecology. He included in his text, diseases common to all women and those common to widows and virgins . . . In discussing a disease, à Castro followed a logical plan: the nature of the disease, nomenclature, differential diagnosis, aetiology, history, symptomatology, prognosis and treatment . . . His fund of knowledge on the history of diseases is reflected in his *Scholia.*" – Ricci, *The Development of Gynaecological Surgery and Instruments,* p. 114– with a detailed discussion of Castro's treatment of gynecological surgery.

This work also includes a section of Caesarian section. "In 1603 Castro was the first to take up the question of whether to operate on a dying woman or not. His answer is equivocal but he states that survival of the child necessitates that the operation must take place immediately after the mother is either dead or moribund." – Trolle, *The History of Caesarean Section.*

This a fine crisp copy with a presentation inscription on the title from the author to his friend Johann Albrecht II, Duke of Mecklenburg, dated 29 June 1619. According to his son Benedict, Castro was a friend of the Duke and highly regarded by him. Handsome armorial bookplate of Christian Ernst Graf zu Stolberg-Wernigerode (1691-1771) and the stamp

of the Fürstlich-Stolberg-Wernigerödische Bibliothek on title. This is the first issue with the title of the second volume dated 1603.

☾ *Jewish Encyclopedia* online.

22. CAUCHY, Augustin Louis, Baron.

Résumés analytiques. 166 pp., one blank leaf. Large 4to, orig. printed front & back wrappers for all five *livraisons* bound-in cont. half-calf & marbled boards (well-rebacked, corners a little worn), flat spine gilt, green morocco lettering piece on spine. Torino: de l'Imprimerie Royale, 1833. $2950.00

First edition and a remarkable survival which provides important evidence regarding the publication history of this work on algebraic analysis. This is the private journal kept by Cauchy which he published during his brief time as a professor at the University of Torino, while in exile following the July Revolution of 1830.

Fine copy. The upper wrapper of the first part is a little rubbed.

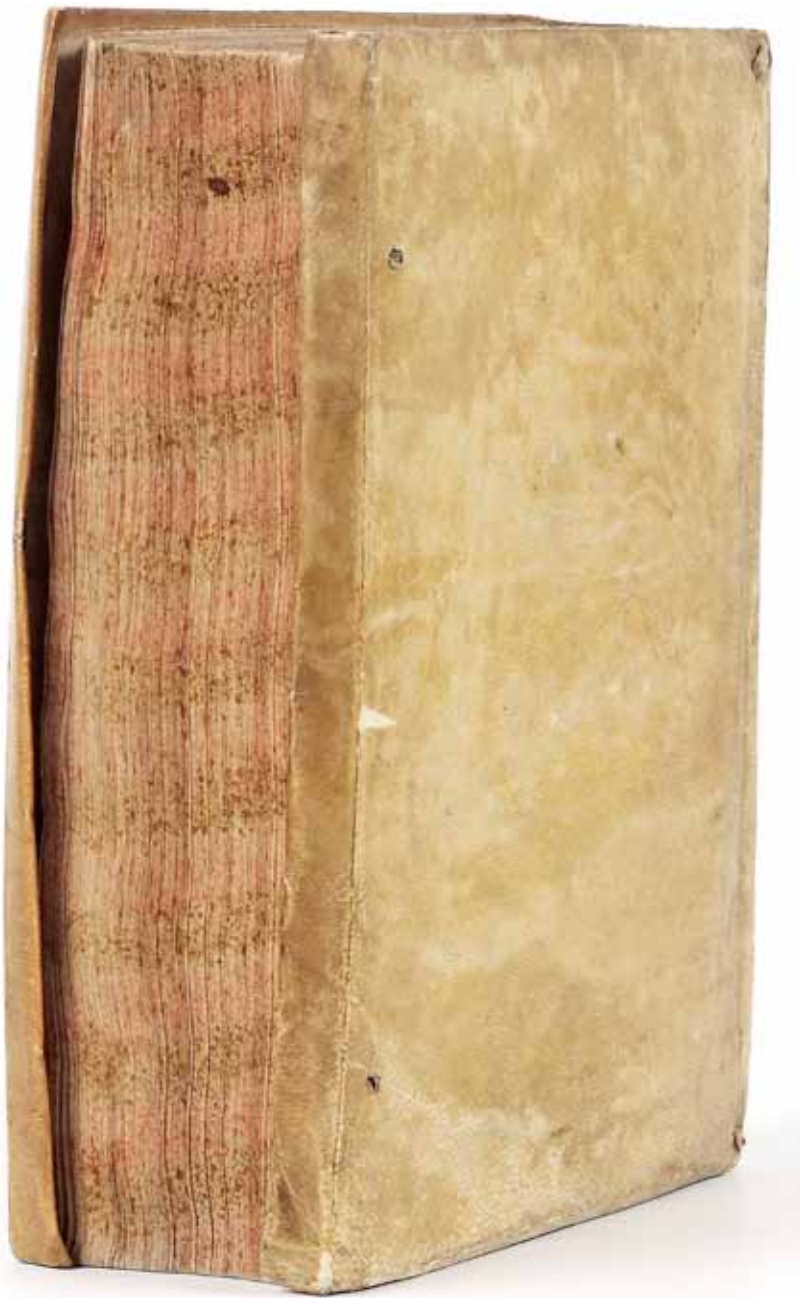
The Foundational Work of Scientific Botany

23. CESALPINO, Andreas.

De Plantis Libri XVI. 20 p.l., 621, [10] pp. Thick 4to, cont. vellum (name erased from blank portion of title), yapp edges, ties gone. Florence: G. Marescotti, 1583. $35,000.00

First edition of a rare book; this is the foundational work of scientific botany. The ideas of Cesalpino (1519-1603), "governed the development of botany in the 17th century and . . . extended into the 18th. He was perhaps the first great theorist in botany. His method was Aristotelian and deductive; but he based his principles on accurate observation . . . He was the first to describe in accurate detail the parts of flowers, seeds, and fruits, and based his analytic classification on those parts. He was perhaps the first to wrestle in print with the concept of species; and his solution, like those of many modern botanists, was based on the capacity of a group to reproduce its kind."–Rickett, "Botany from 840 to 1700 A.D." in *Hunt Catalogue,* Vol. I, pp. xxvii-xxviii.

"The fullest statement of contemporary botanical theory and the most powerful contribution to its further development were given by Andreas Cesalpino in his *De Plantis libri XVI* . . . The whole work is of the greatest



scientific and historical significance and deserves close attention. Written in clear but condensed philosophical style, its importance has not always been fully appreciated, in spite of the very high tribute paid to Cesalpino by Ray and Linnaeus."–Morton, *History of Botanical Science,* pp. 128-29.

A fine and crisp copy.

☾ Dibner, *Heralds of Science,* 20. *Printing & the Mind of Man* 97. Sparrow, *Milestones of Science,* 34.

"Le Plus Considérable de Tous les Livres de Gnomonique" – Lalande

24. CLAVIUS, Christoph.

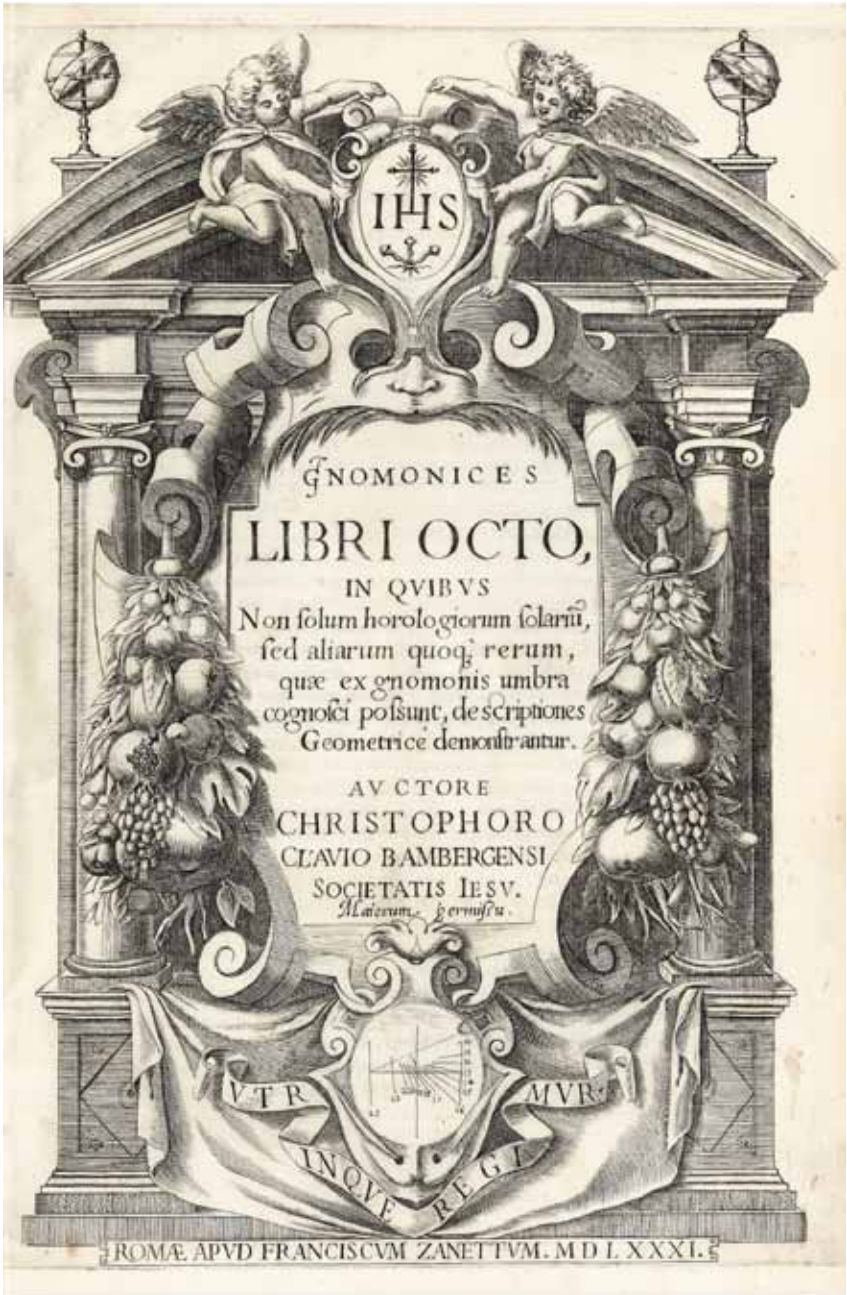
Gnomonices Libri Octo, in quibus non solum Horologiorum solarium, sed aliarum quoquam rerum, quae ex Gnomonis umbra cognosci possunt, descriptiones Geometricè demonstrantur. Finely engraved title-page, numerous handsome woodcuts & diagrams in the text, & woodcut printer's device on final leaf. 8 p.l. (incl. engraved title), 654 pp., one leaf of colophon. Small folio, cont. finely blindstamped panelled pigskin over boards (old ownership inscription scratched out at an early date from blank margin at foot of second leaf). Rome: F. Zanetti, 1581. $4500.00

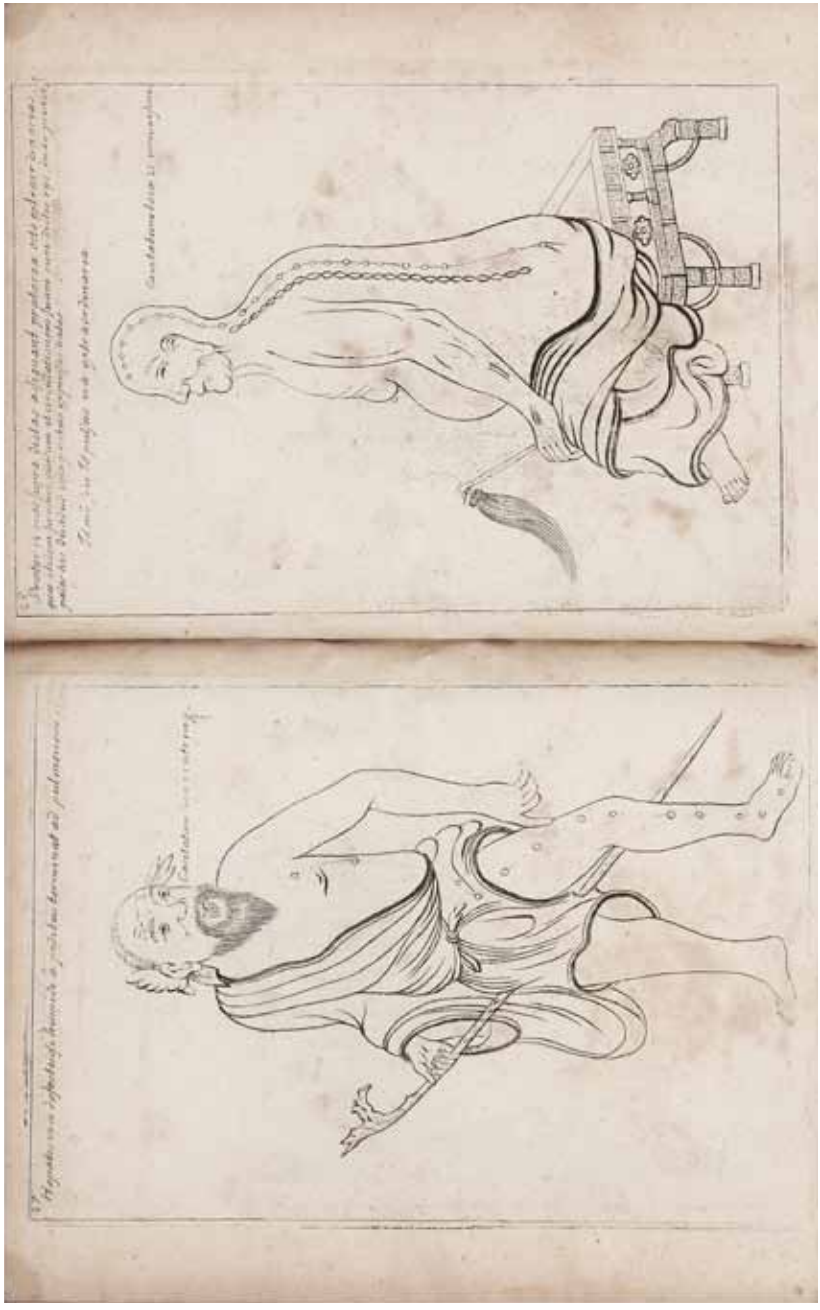
First edition and an absolutely lovely copy of the best and most influential book on the theory and construction of sundials; Lalande describes it as "le plus considérable de tous les livres de gnomonique" (p. 112). This handsomely illustrated book describes and illustrates both fixed and portable dials. Amongst the numerous fine woodcut diagrams, there are illustrations of the construction details and finished instruments.

Clavius (1537-1612), mathematician, astronomer, and reformer of the calendar, taught dialling and other scientific subjects at the Collegio Romano in Rome for nearly 47 years.

Fine copy.

☾ *D.S.B.,* III, pp. 311-12. Zinner, *Astronomische Instrumente des 11. bis 18. Jahrhunderts,* pp. 280-81.


IHS
GNOMONICES
LIBRI OCTO,
IN QVIBVS
Non ſolum horologiorum ſolarium,
ſed aliarum quoq; rerum,
quæ ex gnomonis umbra
cognoſci poſſunt, deſcriptiones
Geometricè demonſtrantur.
AVCTORE
CHRISTOPHORO
CLAVIO BAMBERGENSI
SOCIETATIS IESV.
VTR MVR
INQVE REGI
ROMÆ APVD FRANCISCVM ZANETTVM. M D L XXXI.



First Illustrated European Book on Chinese Medicine; Containing First Acupuncture Charts Published in the West

25. CLEYER, Andreas, ed.

Specimen Medicinae Sinicae . . . Engraved vignette on title, 30 engraved plates (some browned), & numerous woodcut illus. in the text. Title printed in red & black. 2 p.l., 48, 99, [9], 54 pp., one blank leaf, 16 pp. Small 4to, fine antique mottled calf (some browning as is usual with this book), spine richly gilt. Frankfurt: J. Zubrodt, 1682. $22,500.00

First edition of the first illustrated book on Chinese medicine published in the West, and the second European book on Chinese medicine, preceded only by an anonymous 12mo tract (1671) which contained only the briefest summary of Chinese medical principles with no illustrations. Cleyer's work was the first European book on Chinese medicine to attract significant attention, and the first book to acquaint Europeans with Chinese medical charts. Cleyer's text included a thorough discussion of Chinese theories of the pulse in health, together with theories of acupuncture. The book also contains the first acupuncture charts published in the West.

"The book has four main sections: 1. four books by Wang Chu-Ho on the pulse (approximately 200 B.C.); 2. a treatise on the aspects of the tongue in different diseases; 3. an exposition of different drugs prepared by the missionaries, as directed by Chinese authors; and 4. a richly illustrated collection of woodcuts depicting the Chinese doctrine of the pulse and the diagnostic mapping of the tongue, as well as 30 copperplates of Chinese anatomical charts."–Sim, *The Heritage of Anesthesia,* p. 296.

Very good copy.

☾ Garrison-Morton 6492.

"A Landmark in Human Thought"

26. COPERNICUS, Nicolaus.

De Revolutionibus Orbium Coelestium, Libri VI . . . 147 woodcut diagrams in the text. 6 p.l., 196 leaves. Small folio (272 x 190 mm.), cont. Parisian binding of light brown calf (very skillful restorations to the binding), panelled in blind with gilt fleurons in the corners, gilt floral tool in the center of each cover of a hand holding flowers, small gilt stars in the six compartments of spine. Nuremberg: J. Petreius, 1543. $2,000,000.00

First edition, and a very fine and crisp copy, of "the earliest of the three books of science that most clarified the relationship of man and his universe (along with Newton's *Principia* and Darwin's *Origin of Species*)."–Dibner, *Heralds of Science,* 3. This work is the foundation of the heliocentric theory of the planetary system and the most important scientific text of the 16th century.

This is the seventh or eighth copy I have handled over the past 39 years. How does it compare to the others? Quite nicely. First of all, this is one of the largest copies extant; simply, this copy is really big. Also, I have had only one other copy in a 16th-century binding (Census I.245). Our binding, while carefully and skillfully repaired, is a very beautiful contemporary Parisian example; the tool of a hand holding flowers in the center of each cover is very similar to the one used on many of Marcus Fugger's plain calf bindings. It is a lovely tool in general use by the Paris binders of the period 1550-1560. The endpapers have been renewed but they are not offensive. There is a small early erasure of an ownership inscription on the title just slightly touching the "D." in the date. The first six leaves have some light dampstaining but it is pale.

Provenance: At the foot of the title-page, another early signature has been thoroughly lined through. 17th- or 18th-century ownership inscription on title: "Collegii Parisiensis Societat jesu." Bookplate of Gustavus Wynne Cook (1867-1940, amateur astronomer, collector, and benefactor of the Franklin Institute). Franklin Institute Library bookplate. Sold Sotheby Parke-Bernet, New York, 2 November 1977, lot 85, to the British Railway Pension Fund (a famously selective buyer). Purchased by Pierre Berès at Sotheby's London, 21 October 1980 and sold to a prominent Spanish private collector.

A very large, fresh, and crisp copy (the leaves "crackle" when you turn them). Preserved in a morocco-backed box. Collation as in Horblit; some copies — about 20 per cent according to Prof. Gingerich — contain an errata leaf printed separately and later.

☾ Evans, *Epochal Achievements in the History of Science,* 15. Gingerich, *An Annotated Census of Copernicus' De Revolutionibus,* Madrid 7. Gingerich, *Rara Astronomica,* 16. Horblit 18b. *Printing & the Mind of Man* 70–"a landmark in human thought. It challenged the authority of antiquity and set the course for the modern world by its effective destruction of the anthropocentric view of the universe." Sparrow, *Milestones of Science,* 40. Zinner 1819 & p. 42.

The Kinetics of Billiards

27. CORIOLIS, Gaspard Gustave de.

Théorie mathématique des Effets du Jeu de Billard. 12 folding engraved plates. vii, [1], 174 pp. 8vo, attractive antique half-calf & marbled boards, flat spine gilt. Paris: Carilian-Goeury, 1835. $2750.00

First edition of the first mathematical analysis of the complex kinetics of billiards; it is the classic treatment of the mechanics of impact of spherical objects. The plates depict a series of complex shots.

Coriolis (1792-1843), physicist and director of studies at the École Polytechnique at Paris, devoted his energies to the applications of the laws of mechanics and was responsible for the terms "work" and "kinetic energy." He is best remembered today for the "Coriolis effect" relating to the motion of the oceans' currents.

Fine and pretty copy.

☾ *D.S.B.*, III, pp. 416-19.

The First Book from the Press of Didot l'aîné

28. DUTENS, Louis.

Des Pierres précieuses et des Pierres fines, avec les moyens de les connoitre & de les évaluer. 2 p.l., xii, 124, [4] pp. 12mo, cont. blond calf (two corners a tiny bit worn), triple gilt fillet round sides, spine finely gilt with chevrons "à la grotesque," red morocco lettering piece on spine. Paris: F.A. Didot & De Bure, 1776. $4750.00

First edition of this introduction to precious stones written for collectors and jewelers; according to the author this is the first complete treatise on precious stones. Dutens describes the chief varieties including diamonds, rubies, sapphires, emeralds, etc. He has also provided an interesting table at the end of current prices of diamonds of increasing carats. In the Preface, Dutens reviews the writings on precious stones of earlier authors including Pliny, Theophrastus, Boyle, and Romé de l'Isle.

This work is a notable work in typography as well: it is the first book printed by François Ambroise Didot, l'aîné (1730-1804), who promoted technical innovation in printing and papermaking and introduced the new form of typographical measurement, the "point Didot."

We quote from the 1783 catalogue of Mérard de Saint-Just: "Ce petit

Traité est le premier Ouvrage sorti des presses de M. Didot l'aîné, où l'on ait aperçu cette supériorité de talents qui l'a mis tout de suite au-dessus de tous ses confrères de France, d'Italie, d'Allemagne et de Hollande, et qui l'associe dès lors à la gloire de Baskerville, et surtout à celle d'Ibarra."– from André Jammes' wonderful *Les Didots* catalogue, no. 73.

Dutens (1730-1812), diplomat and man of letters, edited the works of Leibniz (1768), was a fellow of the Royal Society, and was historiographer to the King of England.

An uncommonly fine copy.

☾ Sinkankas 1819–"Dutens' work did provide useful accurate information and received acclaim and wide distribution."

"The Euclid of the Sixteenth Century"

29. EUCLID.

Euclidis Elementorum Libri XV. Accessit XVI. de Solidorum Regularium comparatione. Omnes perspicuis Demonstrationibus, accuratisque Scholiis illustrati. Auctore Christophoro Clavio . . . Titles within architectural woodcut borders & numerous woodcuts in the text. 20 p.l., 331, [1] leaves, one

blank leaf; 300 leaves. Two vols. in one. Thick 8vo, cont. blind-stamped pigskin over wooden boards, upper cover dated in blind "1580," remains of catches. Rome: V. Accolti, 1574. $9500.00

First edition of Clavius's main work, his rare and influential edition of Euclid; ours is a fine and handsome copy in a contemporary south German or Swiss blind-stamped and panelled pigskin binding over wooden boards. Clavius (1538-1612), was called by his contemporaries "the Euclid of the sixteenth century."

"In 1574 a new departure in the matter of format was taken. A Latin edition in two octavo volumes with rather diminutive diagrams was printed at Rome by Vincenzo Accolti. The [editor] was Christophorus Clavius (Schlüssel) of Bamberg, of the Society of Jesus, a mathematician who gave the Gregorian Calendar of New Style its present form and made all the calculations necessary for its verification. It contains the fifteen books with very full scholia, and the addition of a sixteenth, *De solidorum regularium comparatione*. It was reprinted at Rome in 1589 in the same form, and in folio at Cologne in 1591."–Thomas-Stanford, p. 11.

[Clavius's] "*Elements*, which is not a translation, contains a vast quantity of notes collected from previous commentators and editors, as well as some good criticisms and elucidations of his own. Among other things, Clavius made a new attempt at proving 'the postulate of the parallels.' . . . In a scholion, to the twelfth proposition of the ninth book of Euclid, Clavius objects to Cardanus' claim to originality in employing a method that derives a proposition by assuming the contradictory of the proposition to be proved. According to Clavius, Cardanus was anticipated in this method by Euclid and by Theodosius of Bithynia in the twelfth proposition of the first book of his *Sphaericorum*."–*D.S.B.*, III, p. 311.

Minor browning and discoloration to the binding but a fine and large copy; just the way it should appear.

Thomas-Stanford 19.

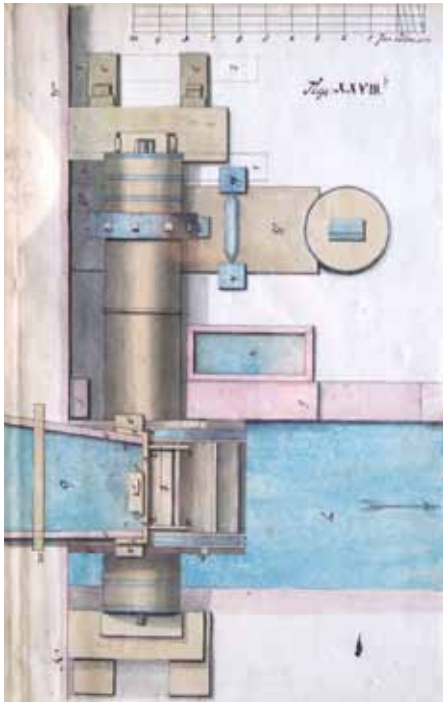
A "Technological Journey" to Russia

30. EVERSMANN, Friedrich August Alexander.

Autograph manuscript on paper entitled "Reise vom Niederrhein nach Siberien 1. Band" and "Reise vom Rhein zum Tobol 2. Theil" ("Journey from the Lower Rhine Region to Siberia" and "Journey from the Rhine to Tobol"). Written in German, black & brown ink on different papers,

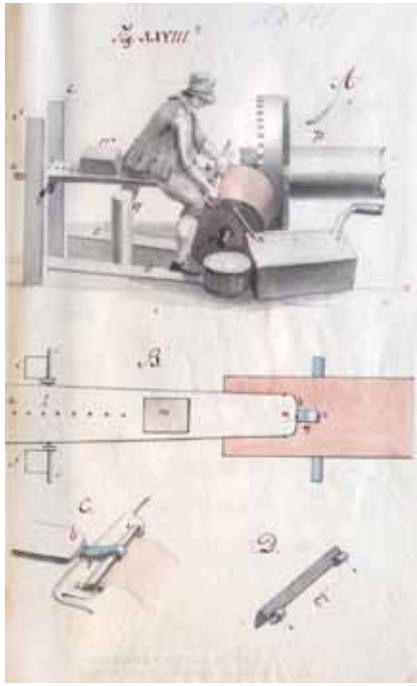
with additional notes and emendations by Eversmann. Two vols. of text in large 4to (350 x 240 mm.) & one volume of illustrations in oblong folio (320 x 520) with approximately 150 fine hand-colored drawings. [Zlatoust, Russia and other places: ca. 1811-13].

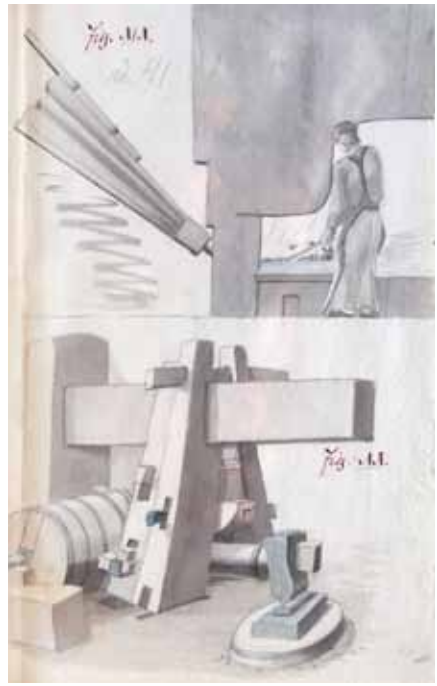
$75,000.00



A remarkable discovery: the unpublished manuscript by Friedrich August Alexander Eversmann (1759-1837), the famous Prussian technologist, describing his journey from Germany to Russia in 1810 during which he studied the nascent industries (mining and iron, steel, copper, glass production, metal working, textiles, chemicals, paper, etc.) of both countries. Eversmann describes this journal as a "technological journey" and provides extensive details and accounts of the mining and iron industries at the beginning of the Industrial Revolution. The manuscript was obviously intended to be published, which was never realized. Eversmann has added a few notes and additions to the manuscript at a slightly later date. Essentially unstudied, the manuscript has remained in private ownership, with access restricted to a few academics. The greater part of the manuscript has been recently transcribed (the transcription accompanies the manuscript). In fine condition.

THE AUTHOR: Eversmann was an important Prussian government adviser, technologist, and specialist in mining and metallurgy. As an economist, he was active in the promotion of mining and trade, especially in Westphalia and Silesia. He was the protégé of the influential Prussian minister and economist Friedrich Anton von Heynitz (1725-1802), the great reformer of Prussian industry and mining and the founder of the

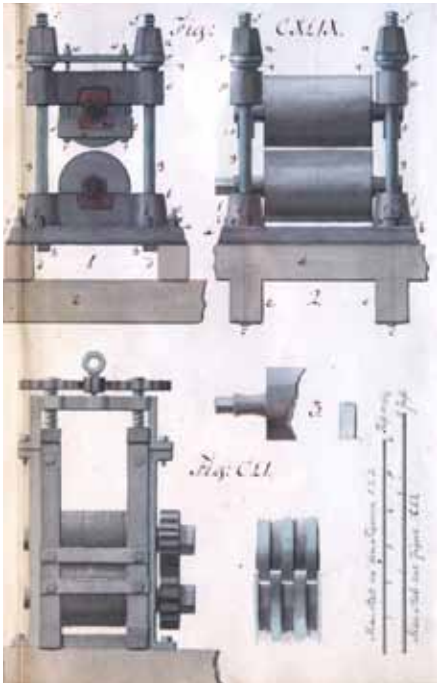


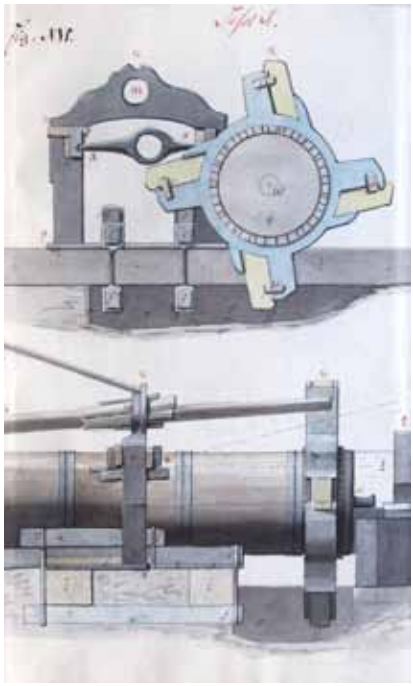


oldest university of mining and metallurgy, the Bergakademie at Freiberg. Eversmann accompanied von Heynitz on his inspection trips to manufacturers, factories, and mining works in various regions of Prussia and gained first-hand knowledge of technical and mechanical problems. He also developed his ability to draw and learned how to capture the results of his observations in sketches and drawings (Breil, 13). In 1781, Eversmann was appointed Bergkommissar.

At the recommendation of von Heynitz, Eversmann traveled in 1783-84 through the industrial areas of Britain (London, Cornwall, Anglesea, Dublin, Donaghadee, Liverpool, York, Northumberland, Edinburgh, Glasgow, Newcastle, Durham, Birmingham, Derby) to study the mining industry, iron and steel factories, and, especially, the newly invented steam engine and its uses in mining. Eversmann was later accused by Matthew Boulton of industrial spying (for which he was certainly guilty!).

Following his return, he was sent to Silesia to improve the iron industry there following the English models. In 1786 Eversmann was responsible for obtaining a steam engine from England built by Homfrey for



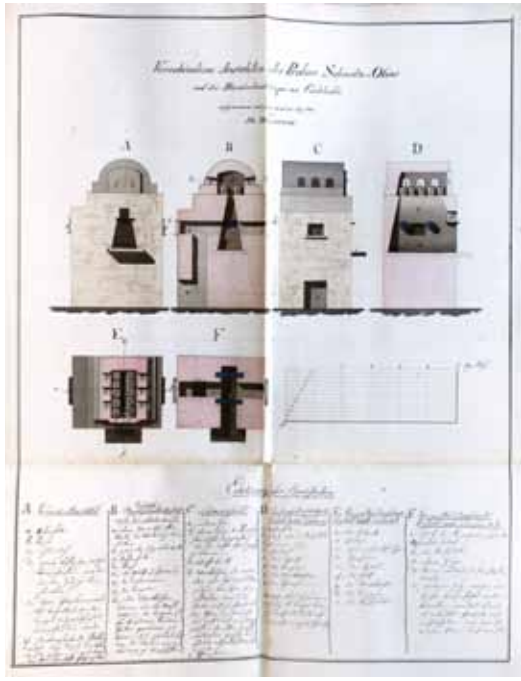


the coal mine in Tarnowitz, Silesia. This machine, based on the design of James Watt, was the first steam engine in Prussia.

Life changed for Eversmann during the Napoleonic wars in Germany: in 1809, he was dismissed from his posts as politically unreliable. He emigrated to Russia, where he first directed mining and metallurgical companies in the Ural region and in 1812 oversaw the design and construction of a gun factory for the Tsar. In 1818 he retired and in 1819 returned to Prussia. Eversmann wrote several noteworthy books on technology and frequently published articles in German mining journals.

EVERSMANN IN RUSSIA: As mentioned above, Eversmann was dismissed from his posts in Prussia and sought his fortune in Russia, arriving there in 1810. A German entrepreneur, Hans Peter Andreas Knauf, known in Russia as Andrey Andreevich Knauf (1765-1835), had offered Eversmann the position of a director of his industrial enterprises in the Ural region. Knauf had played a significant role in the development of the mining and iron foundry industries in the Urals, introducing new technologies, including the steam engine.

En route to Russia, Eversmann made a scientific tour visiting the mining area of the Harz region which is described in the first manuscript volume: technical companies and mining methods are described in the Oberharz region, Lauterberg, Clausthal-Zellerfeld, Oker (Goslar), and many other mining towns. The greater part of Vol. I of the manuscript contains observations which Eversmann made while visiting metalwork companies in Iserlohn and Altena, silver mines and vitriol companies in Siegen and Marburg, and glass factories in Schornborn and Grünplan. He describes the mining and foundry industries and the steel industry in Salzgitter, Braunschweig and Goslar; the brass ware plants in Uslar; and the copper producing companies in Altenau. Very detailed descriptions of the products and there prices are given, along with details of the production process often in comparison to other companies and countries. The machines and blast furnaces are described in detail and their advantages over machines in other regions or countries are also outlined. All the major companies working with metal, steel or copper are visited and described on his route.

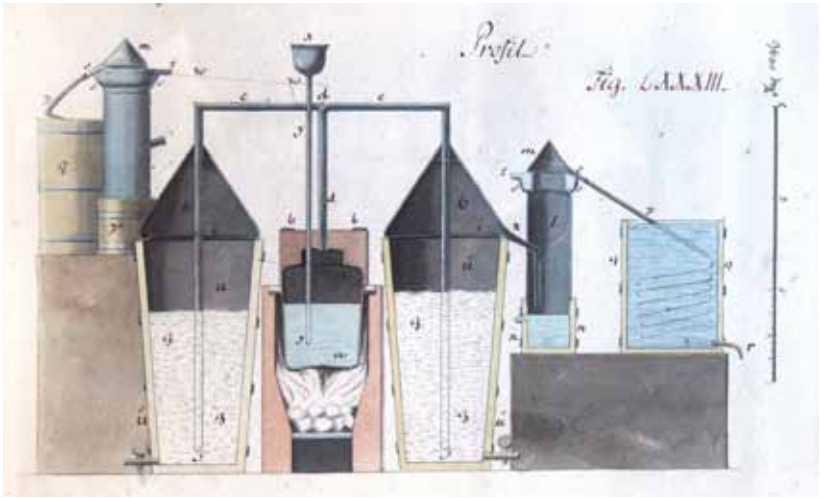


There are also 92 leaves loosely inserted, all in the hand of Eversmann, copying texts from journals or scientists like the German mineralogist Johann Friedrich Ludwig Hausmann (1782-1859) who was then general inspector of mines for Westphalia and professor of technology and mining at Göttingen University. Three essays on roasting ores are by him and two on similar mining

procedures are by Augustin Gottfried Ludwig Lentin (1764-1823) who was a lecturer at the University of Göttingen and subsequently inspector of saltworks. He is known to have made experiments on the roasting and smelting of ores at Rammelsberg in a large furnace, which is also described.

Traveling on to Halle & Berlin, where he visited steel companies, porcelain and brass ware manufacturers, Eversmann describes the trades and architecture of the capital. Proceeding on to Neustadt-Eberswalde, he visited brass ware companies and brick factories. He then travels to Danzig, Königsberg, and from page 300 describes the agriculture and factories in Russia, including steel and copper manufacturers in Riga, other companies and factories in Dorpat, and then finally St. Petersburg and Moscow.

In the late autumn of 1810 he reached Zlatoust, the famous ironworks town founded in 1754. Eversmann soon learned that Knauf had gone bankrupt and the state had taken over the company. Eversmann was commissioned by the Russian government to visit the state's factories in the Ural region to explore the location of a proposed sword factory. In 1813 he became employed by the Russian state and supervised the design and construction of the famous "factory for cold weapons" (the above-mentioned gun factory) in Zlatoust. In 1813 and 1814, he recruited specialists in Wuppertal and Solingen and brought 115 workmen with



him to Russia for the planned factory, which began operations under his direction in 1816.

The second volume of the manuscript is a vividly-detailed description of the earliest stages of Russia's industrialization, written by one deeply involved in that transformation. The first 44 pages describe his trip from Moscow to Zlatoust. In addition to the factories in and around Zlatoust, a number of others are described, such as in Troitsk, in and around Ekaterinburg, Ishevsk, the vicinity of St. Petersburg, etc. Eversmann describes in the journal chiefly the iron and copper manufactures, including the blast furnaces, wind furnaces, the cupola furnace, the raw steel smithy, the tin plate manufacture, special iron fixtures, cannon and ammunition foundries, steam engines, etc. He also provides many observations about all aspects of Russian life. He describes the city of Moscow and a factory for the production of vitriol and ammonia, as well as a textile house, a gun-powder firm, and a paper factory (adding a list of the varieties and prices of the paper). Outside of Moscow, he visited a hat producing company, inspected and described the blast furnaces, and recommended the "Windofen-Betrieb," a special open furnace.

Eversmann also gives descriptions of the other stages of his journey to Zlatoust. Eversmann describes the steel making factory at Simsk in detail, the wire factory in Wiksunsk, the scythe fabricator in Bataschow, a lead company in Wixa, and from pages 45 on, of course, the industrial activities at Zlatoust (the "Schwarzblech-Fabrikation" for the use of metal roofers; fabrication of iron rail, a canon foundry, gold mining, other sorts of mining and refining, rifle fabrication, etc.). He also describes the geology of Zlatoust in a very detailed way, and the organization of the iron plant and all its different companies and production spaces, many kinds of furnaces and metallurgical machinery (described are "Hohen-Offen" (furnace), "Kupfer-Ofen" (copper furnace), "Frisch-Feuer," "Walzen für Bleche und Bändern," "Kanonenbohrmühle," "Eisen-Drechsel-Anstalt," and "Stahl-Reckhammer" (sledges). He also describes his travels north to Perm and south to Orenburg to study the steel industry on behalf of the tsar.

The main power source is water: from a dam with a sluice, which has three openings, the water is forced onto the wheels at high pressure. For a variety water wheels, he gives details of construction and uses of the power (illustrated). He also describes the Ural mountains, especially

between Polikowsky and Ekaterinburg. Eversmann offers much information about what the workers eat, drink, how they store things, their working day, and how they (mis)spend their leisure time.

Zlatoust was mainly an iron manufacturing town, but copper was beginning to be produced as well. In a copper pit, a steam engine, which a Russian had designed, was used to pump the water. Zlatoust consisted of the following production facilities: two blast furnaces, two reverberation furnaces, four copper furnaces of various designs, various steel furnaces, a drill mill, a steel fire engine, a Breithammer, vices, winches, tongs, nails, iron crates, utensils, a sawmill, and a grinding mill. Eversmann describes the individual steps of production methods in great detail and has provided drawings.

This journal contains an abundance of observations and experiences, especially in conjunction with the finely drawn illustrations, and is an invaluable source for the history of industry, especially Russia. The volume of drawings provides descriptions of the country and its inhabitants as well as the situation of foreign specialists and reflections on the development of industry in Russia. The drawings range from simple drawings of small format (from approx. 130 x 210 mm.) to finely executed pencil drawings with wash watercolor, mostly of technical procedures and details. Particularly noteworthy are some maps, such a map of the Urals labelled in Russian and German "in relation to the Sawoden of the Lord Andreas Knauff" (approx. 640 x 810 mm.), a map of the "Uralische Sawoden" (the steel factories of the Sawoden, about 1080 x 920 mm.). There is as well a Russian map of the city of Troizk with a map of the surrounding area.

Eversmann obviously intended to publish a book about his experiences in Russia and the industrial areas he had visited. The present manuscript offered here has never been edited or published and has always been in private hands, restricted to a very few academic researchers (and they had limited access as well).

PHYSICAL DESCRIPTION: Vol. I: "Reise vom Niederrhein nach Siberien 1. Band" (title on spine). 239 leaves (erratically numbered) leaves and 92 leaves, loosely inserted, with 12 separately titled essays by Hausmann, Lentin and others, and 71 partly hand-colored drawings (apparently a few drawings removed). Large 4to (345 x 220 mm. & some leaves smaller), cont. calf (spine restored).

o) wenn Mündung [illegible] so wie die der Form ist,

n) je der der 3 Bälge [illegible] [illegible] und alle 3 wechseln 12 mal in der Minute, das giebt 420 [illegible] Luft.

(a) In der Beilage No 13 befindet sich ein Auszug aus dem Hütten-Buche über den Gang des hiesigen Blau-Ofens in seinem Betrieb in Gold. Die Beilage No [illegible] enthält einen vom Herrn Schlüter mitgetheilten Aufsatz über die Blau-Öfen im Allgemeinen.

(b) wenn [illegible] den Vollhammer auch beim Schmieden [illegible] [illegible], wenn man [illegible] auf die Schlacke [illegible], der Vollhammer [illegible] sich gleich [illegible] den Schwefel [illegible].

und wenn man sich ihrer [illegible] bedienen kann, so läßt sich die schwarzgültigen [illegible] auch im Hohen-Ofen [illegible]; hat man auch diese Gelegenheit nicht, so [illegible] man lieber gänzlich von der Zugutemachung derselben [illegible] ab. Übrigens geben alle schwarzgültigen [illegible] [illegible], den auch der Blau-Ofen nicht ganz [illegible].

Die Beschickung des Blau-Ofens ist hier 24 Fuß. Die [illegible] ganz in [illegible], welches [illegible] [illegible] [illegible], so [illegible] überschreitet kein Blau-Ofen [illegible].

Das Gebläse ~~zum Ofen~~ besteht aus 3 hölzernen Spitzbälgen, die in ein kleines Reservoir [illegible] und diesem mit einer Röhre in die Form blasen; die [illegible] [illegible] Fig: [illegible] und die Form von Kupfer.

Es werden gewöhnlich 140 bis 150 Zentner gemacht, auf 140 [illegible] werden 130–140 [illegible] Kohlen gewonnen; auf dem [illegible] Hohen-Ofen [illegible] 150 [illegible] Kohlen auf 100 [illegible] [illegible].

Die Gicht oder der Abstich wurde vermittelst einer [illegible] [illegible] vom Boden gezogen und geschlagen. (a)

Nach Herrn C. F. Schlüter's Meinung ist ein Blau-Ofen [illegible] [illegible], wenn man [illegible] die wenigstens 40 Fuß [illegible] und dessen Grundfläche [illegible] ist; [illegible] [illegible] [illegible] Schlacke, die sich leicht an die Form [illegible], und die man wegen der [illegible] des Blau-Ofens mit dem [illegible] nicht gut [illegible] kann, so läßt sich in diesem Falle [illegible] nicht helfen. Hat man aber einen [illegible] der ein [illegible] [illegible] [illegible], so zieht Herr Schlüter den Blau-Ofen dem Hohen-Ofen vor, weil er weniger Kohlen braucht und ein zum Verfrischen vorzüglich [illegible] [illegible] liefert. Er machte auch auf den Umstand aufmerksam, daß die Schlacke vom Blauofen einen starken Schwefel-Geruch verbreitet, und glaubte dies als Beweis für die Vorzüglichkeit dieses Ofens [illegible] [illegible] aufstellen zu können, denn daraus zeige sich, daß der Schwefel [illegible] [illegible] in die Schlacke [illegible]. Beim Hohen-Ofen, sagte Herr Schlüter, finde sich dieser [illegible] nicht, die Schlacke [illegible] dort gar keinen Schwefelgeruch.

Vol. II: "Reise vom Rhein zum Tobol 2. Theil" (title on spine). 340 leaves & 16 leaves loosely inserted. Large 4to (350 x 230 mm. & some leaves smaller), cont. half-calf (spine restored).

Atlas: this contains the drawings to Vol. II. There are 89 fine drawings & maps, etc. ranging from 130 x 210 mm. to 1090 x 750 mm. Large oblong folio (310 x 480 mm.), cont. half-calf (some repairs to binding).
PROVENANCE: Rudolf Wilhelm Eversmann (Freifrau von Eyb; 1977).
LITERATURE: H. Breil, *Friedrich August Eversmann und die industriell-technologische Entwicklung vornehmlichin Preußen von 1780 bis zum Ausgang der napoleonischen Ära. Dissertation . . .* (Hamburg: 1977), pp. 424-38. *N.D.B.*, IV, pp. 692ff. (Eversmann). *N.D.B.*, XII, pp. 161 (Knauff). Andreas Keller in: *Quaestio Rossica* (2013), pp. 144-59 und (2014), 206-18 (on Knauf).

ONE OF THE MOST FAMOUS & ATTRACTIVE OF ALL GEOLOGICAL BOOKS

31. 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., 2 leaves of subscribers. Large folio, cont. mottled calf (title with a little dampstaining round edges), spine richly gilt, red 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 with the rare four-page list of subscribers.

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

"Fourier's Theorem"

32. FOURIER, Jean Baptiste Joseph, Baron.

Analyse des Équations déterminées . . . Première Partie [all published]. 2 p.l., xxiv, 258 pp. Large 4to, cont. half-calf & marbled boards (very carefully rebacked with orig. spine laid-down), spine gilt, pale blue lettering piece on spine. Paris: Firmin Didot Frères, 1831. $3500.00

First edition of the work which first contains "Fourier's theorem" on the number of real roots between two chosen limits.

"At the time of his death, Fourier was trying to prepare these and many other results for a book to be called *Analyse des équations déterminées*; he had almost finished only the first two of its seven *livres*. His friend Navier edited it for publication in 1831 inserting an introduction to establish from attested documents (including the 1789 paper) Fourier's priority on results which had by then become famous. Perhaps Fourier was aware that he would not live to finish the work, for he wrote a synopsis of the complete book which also appeared in the edition. The synopsis indicated his wide interests in the subject, of which the most important not yet mentioned were various means of distinguishing between real and imaginary roots, refinements to the Newton-Raphson method of approximating to the root of an equation, extensions to Daniel Bernoulli's rule for the limiting value of the ratio of successive terms of a recurrent series, and the method of solution and applications of linear inequalities. Fourier's remarkable understanding of the last subject makes him the great anticipator of linear programming."–*D.S.B.*, V, p. 98.

Very nice copy. Old library stamp on title.

☾ Cajori, *A History of Mathematics*, p. 433–This book "contains much original matter, in particular there is a demonstration of Fourier's theorem on the position of the roots of an algebraical equation."

Galileo's First Reply in his Controversy with the Jesuits over the Comets of 1618

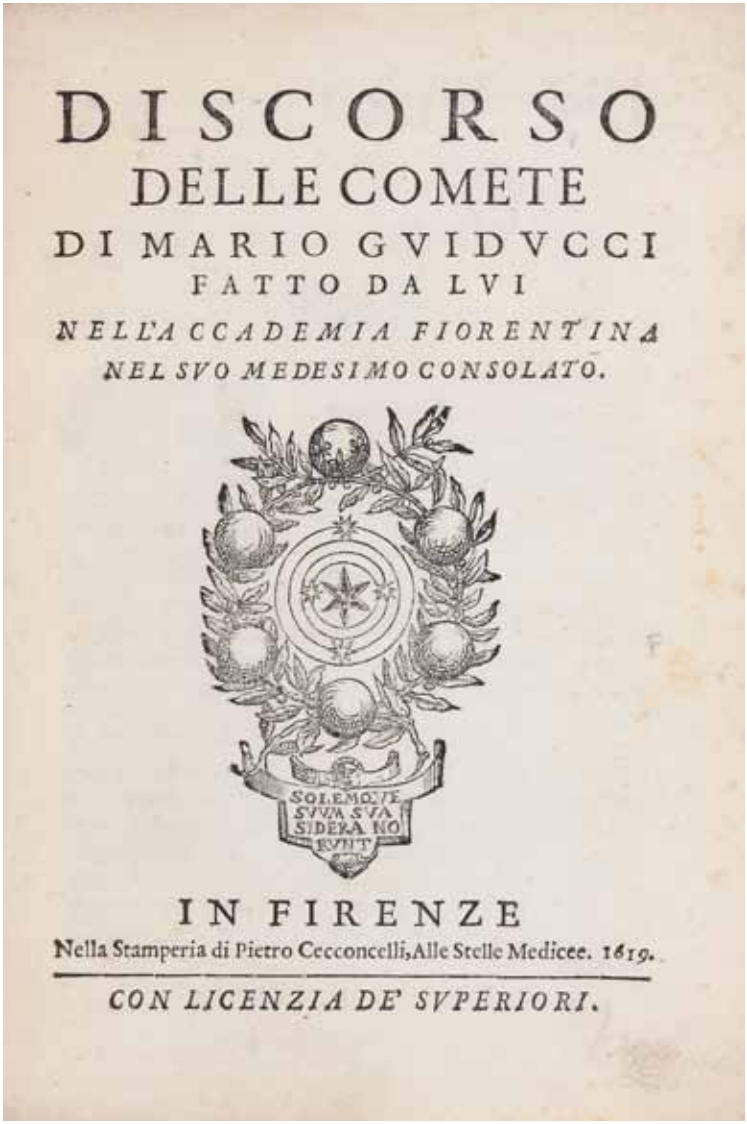
33. [GALILEI, Galileo].

Discorso delle Comete di Mario Guiducci fatto da lui nell' Accademia Fiorentina nel suo medesimo consolato. Woodcut device of the Medicean stars on title & two woodcut diagrams in the text. 2 p.l., 54 pp., one blank leaf. Small 4to, late 19th-cent. green diced morocco, arms of the House of Visconti in gilt within a richly decorated border, spine richly gilt, a.e.g. Florence: P.ffiCecconcelli, 1619. $40,000.00

First edition and a very fine copy. Although published under the name of his pupil and assistant Mario Guiducci (1585-1646), the present book is actually the work of Galileo (the autograph manuscript survives). It is a concealed reply to the attack of the Jesuit Orazio Grassi's *De Tribus Cometis,* published earlier in the same year, and marks the beginning of Galileo's long controversy with Scheiner and the other Jesuit astronomers over the comet of 1618. The dispute continued for several years and resulted in Galileo's scientific manifesto *Il Saggiatore* (1623) which contains his most important ideas on the philosophy of scientific investigation.

In addition to a description of the comets of 1618, Galileo discusses the satellites of Jupiter, the uses of the telescope, fixed stars not visible to the naked eye, etc.

☾ Carli & Favaro 80. Cinti 63.



DISCORSO
DELLE COMETE
DI MARIO GVIDVCCI
FATTO DA LVI
NELL'ACCADEMIA FIORENTINA
NEL SVO MEDESIMO CONSOLATO.

SOLEMQVE
SVVM SVA
SIDERA NO
VIT

IN FIRENZE
Nella Stamperia di Pietro Cecconcelli, Alle Stelle Medicee. 1619.

CON LICENZIA DE' SVPERIORI.

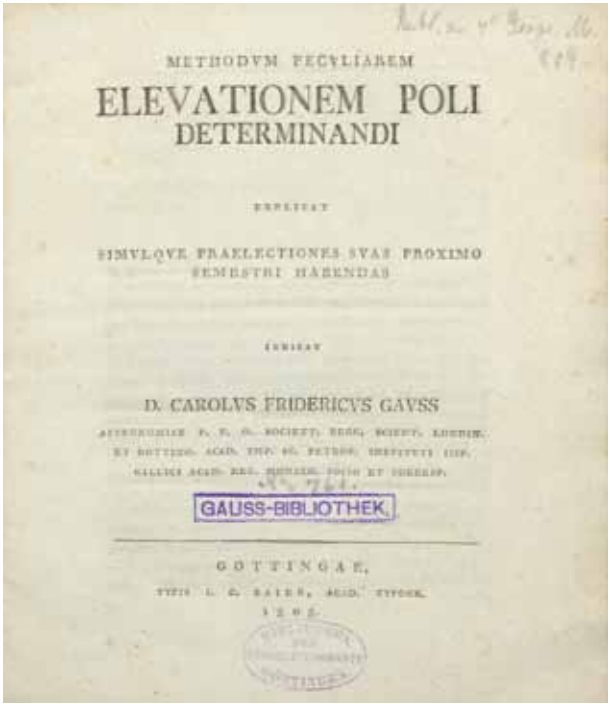
34. GAUSS, Carl Friedrich.

Methodum Peculiarem Elevationem Poli determinandi. Explicat simulque Praelectiones suas Proximo Semestri habendas . . . 19 pp. Small 4to, orig. slick turquoise wrappers (minor foxing). Göttingen: J.C. Baier, 1808. $9500.00

First edition, and a fine copy, from Gauss's own library, bearing the stamp "Gauss-Bibliothek" on title. This is one of his earliest and most important contributions to observational astronomy and geodesy. In it, Gauss explains his methods of re-determining the latitude of the Göttingen Observatory, an essential task for successful observations. Gauss's "preoccupation with geodesy was in fact one of the most scientifically creative of Gauss's long career."–*D.S.B.*, V, p. 303.

Fine copy and rare. With the stamp of the Royal Observatory at Göttingen on upper cover (with release stamp on front paste-down endpaper) and title. Preserved in a box.

☾ Poggendorff, I, 854-57.


METHODVM PECVLIAREM

ELEVATIONEM POLI
DETERMINANDI

EXPLICAT

SIMVLQVE PRAELECTIONES SVAS PROXIMO
SEMESTRI HABENDAS

EDISSERT

D. CAROLVS FRIDERICVS GAVSS

GAUSS-BIBLIOTHEK

GOTTINGAE,

A Fine Copy of "Gerard Emaculatus" "A Valuable Contribution to Botany & to the Art of the Printed Book"

35. GERARD (or GERARDE), John.

The Herball or Generall Historie of Plantes . . . Very much Enlarged and Amended by Thomas Johnson. Finely engraved title, woodcut head- & tailpieces, & 2776 woodcuts in the text. 20 p.l. (incl. initial blank & engraved title), 1630, [48] pp., one blank leaf. Thick folio (350 x 210 mm.), cont. calf (well-rebacked by Trevor Lloyd with the original spine laid-down, a few gouges carefully filled-in, corners bruised), panelled in gilt & blind, large gilt device in center of each cover, with initials "W H" on either side. London: A. Islip for J. Norton & R. Whitakers, 1633. $17,500.00

2 *Cicuta latifolia fœtidissima.*
Broad leafed stinking Hemlocke.

‡ 3 *Cicuta latifolia altera.*
Gyant Hemlocke.

¶ *The Place.*

Common Hemlocke groweth [illegible] about towne walls and [illegible] places, and by [illegible]

The second groweth [illegible] desert places, and [illegible] I have planted [illegible]

¶ *The Time.*

They flourish and seed in [illegible]

¶ *The Names.*

Hemlocke is called [illegible] the *Cicuta* [illegible] Dutch, **Scherling**: in [illegible] in French [illegible] Hemlocke, [illegible]

The second [illegible] *Cicuta latifolia*, [illegible] in English [illegible] Hemlocke.

¶ *The Temperature.*

Galen saith, that Hemlocke [illegible] in operation, [illegible] cold.

¶ *The Vertues.*

A It is [illegible] Hemlocke [illegible] body [illegible]

B The great Hemlocke [illegible] and therefore not to be used in physicke.

Chap. 437. Of wilde and water Hemlockes.

¶ *The Description.*

‡ 1 This wilde kinde of Hemlocke hath a small tough white root, from which arise [illegible] leaves [illegible] like the common Chervill or Parsley: the flowers stand at the tops of the stalks in small [illegible] the seed followeth, like that of Hemlocke, [illegible] Coriander seeds, but [illegible] the whole plant is of a naughty smell.

‡ 1 *Cicutaria tenuifolia.*
Thin leafed wilde Hemlocke.

2 *Cicutaria palustris.*
Wilde water Hemlocke.

2 Water Hemlocke, which *Lobel* calleth *Cicutaria palustris* [illegible], which spreadeth a [illegible] and empty hollow stalks, [illegible]

First edition of Thomas Johnson's expanded and corrected version of Gerarde's *Herball* (1st ed.: 1597), the most famous of all English herbals. "Many errors made by Gerard in his text and in the identification of the illustrations were corrected by the apothecary and botanist Thomas Johnson (d. 1644), of London, who prepared an expanded edition of *The Herball* that first appeared in 1633 . . . Johnson's painstaking revision of Gerard's herbal constituted in itself a valuable contribution to botany and to the art of the printed book. He added the descriptions of many new plants with illustrations, some of them borrowed from the botanical texts published by Christophe Plantin in Antwerp, in this way bringing the total number of engravings to 2,776. Any new passages were carefully marked with special symbols so that the reader could distinguish them from the original text . . .

"The title-page of *The Herball* is particularly attractive. It was executed by John Payne (1607-1647), one of the most talented engravers of the period . . . In the upper part of Payne's work we see a luxuriant garden with the goddesses Ceres and Pomona on either side. Below them are the fathers of botany, Theophrastus and Dioscorides, while in the lower section two imposing vases filled with flowers surround a portrait of Gerard, who is shown facing in the opposite direction to that of the portrait by Rogers. The vase on the left is crowned with a bunch of bananas as a tribute to Johnson . . .

"One of the most significant additions made by Johnson was his chapter on the 'Maracot' or 'Grandilla' as it was called at the time (actually the passion-flower). He includes a full page illustration (p. 1592) and refers the reader to Monardes for more information on this exotic species . . . In the long preface Johnson traces the history of the botanical sciences, analyzing the contributions of celebrated figures from the mythical King Solomon to William Turner . . . He closes with some critical remarks on John Gerard and the origins of his herbal."–Tomasi & Willis, *An Oak Spring Herbaria,* p. 84.

An uncommonly nice and crisp copy. Bookplates of John Charles Bigham, Viscount Mersey, Bignor Park and Oliver Howard.

☾ Garrison-Morton 1820–(1st ed. of 1597)–"The most important edition of his book is the second, published by T. Johnson in 1633." Henrey, I, pp. 48-54–"Johnson produced an edition that was noteworthy for its many corrections, improvements, and additions" & no. 155. Hunt 223.

The First Alphabetically Arranged Catalogue of Plant Names

36. GESNER (or GESSNER), Conrad.

Catalogus Plantarum Latinè, Graecè, Germanicè, & Gallicè . . . Namenbüch aller Erdegewächsen, Latinisch, Griechisch, Teütsch, und frantzösisch. Regestre de toutes Plantes en quattre langues, Latin, Grec, Aleman, & Francoys. Unà cum vulgaribus Pharmacopolarum nominibus . . . Adjectae sunt etiam Herbarum Nomenclaturae variarum gentium, Dioscoridi ascriptae, secundum literarum ordinem expositae. 4 p.l., 162 leaves. Small 4to, cont. blindstamped panelled pigskin, remains of two deerskin ties. Zurich: C. Froschauer, 1542.

$32,500.00

First edition of a very rare book on the market; this is a lovely fresh copy in contemporary blind-stamped pigskin. This, Gesner's second botanical work, is "an alphabetically arranged catalog of plant names in four languages, the first of its kind, and an indication of the growing interest in botany beyond purely philological investigations into the writings of the classics. The Greek names are based on the works of Dioscorides. This early work is already characteristic of Gessner's life-long endeavour to arrange scientific topics in alphabetical or systematic order; it also show his proficiency in languages, and his interest in their comparative treatment."–Wellisch 8.1.

A fine copy, preserved in a box. Signature at foot of title of "Lucas Schröck, M.D." Schröck (1646-1730), was a professor of medicine at Jena and president of the Deutschen Akademie der Naturforscher (see Hirsch, V, pp. 139-40). Early inscription on front free endpaper stating this is a duplicate from the Royal Library of Munich. Engraved armorial bookplate, dated 1744, of Franziskus Topsl (1711-96), prior of the Polling Abbey in Upper Bavaria. Modern booklabel of D. Henry. Some minor worming to upper inner corner of first seven leaves, touching a few letters of the first two leaves.

☾ Pritzel 3298.

CATALOGVS

PLANTARVM LATINÈ, GRAECÈ, Germanicè, & Gallicè.

ΚΑΤΑΛΟΓΟΣ ΦΥΤΩΝ, ΛΑΤΙΝΙΣΤΙ, ΕΛΛΗνιστί, γερμανικῶς, καὶ γαλλικῶς.

Namenbůch aller Erdgewächsen/ Latinisch/Griechisch/Teůtsch/ vnd Frantzösisch.

REGESTRE DE TOVTES PLANtes en quattre langues, Latin, Grec, Alleman, & Francoys.

Vnà cum uulgaribus Pharmacopolarum nominibus.

EN tibi candidissime Lector, stirpium interpretationem supra omnes omnium hactenus de re herbaria libros locupletissimà insuper instructissimamq; , in qua non solum omnia recte antehac ab alijs scripta breuiter continentur, sed permulta prius à nemine tradita, uel nunc primum inuenta, clarissime docentur.

ADIECTAE SVNT ETIAM HERBArum nomenclaturæ uariarum gentium, Dioscoridi ascriptæ, secundum literarum ordinem expositæ.

Authore Conrado Gesnero Tigurino.

TIGVRI APVD CHRISTOPH. Froschouerum. Anno M. D. XLII.

The First Illustrated Work on Fossils; A Fine Association Copy

37. GESNER, Conrad.

De Omni Rerum Fossilium Genere, Gemmis, Lapidibus, Metallis, et huiusmodi, libri aliquot, plerique nunc primum editi . . . Woodcut illus. on title, two ports. of J. Kentmann, many woodcuts of fossils & stones in the text, & several printer's devices. 8 parts in one vol. 8vo, 18th-cent. mottled half-sheep & marbled boards, spine gilt, red leather lettering piece on spine. Zurich: J. Gesner, 1565. $125,000.00

First edition of this famous collection of texts which forms one of the most important contributions to 16th-century geology and mineralogy. It consists of eight separate treatises by seven authors on the subjects of fossils, gems, and metals, all edited by Gesner and with his general introduction and extensive commentaries.

This is an important association copy, with the signature on the title of Caspar (Gaspard) Bauhin (1560-1624), the first professor of anatomy and botany at the University of Basel. He made a number of important contributions to both anatomy and botany (see *D.S.B.*, I, pp. 522-24). Like Gesner, Bauhin was greatly concerned with nomenclature; his great merit, again like Gesner, was his ability to treat his subjects in an orderly and methodical manner.

The treatises are:

I. Kentmann, Johann. *Nomenclaturae Rerum fossilium*. 8 p.l., 95 leaves, one blank leaf. This contains an illustration of Kentmann's cabinet, and catalogues over 1600 specimens, with localities where known, and German equivalents of the Latin names. It is the first published catalogue of a geological collection.

II. Kentmann. *Calculorum qui in Corpore ac membris hominum innascuntur*. 2 p.l., 22 leaves. An illustrated account of stones formed in the human body.

III. Fabricius, Georg. *De Metallicis rebus*. 3 p.l., 31 leaves. A treatise on noble and base metals.

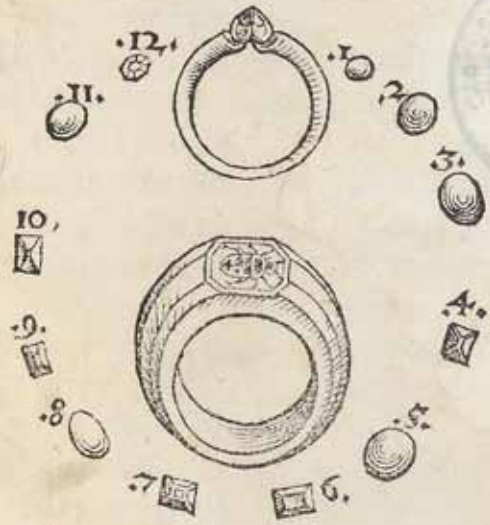
IV. Goebel, Severin. *De Succino libri duo*. 2 p.l., 30 (i.e. 31), [4] leaves, one blank leaf. A discussion of amber and other gems and minerals, with a separate treatise by Gesner on bitumen, amber, naphtha, etc.

V. Cordus, Valerius. *De Halosantho seu Spermate Ceti liber*. 3 p.l., 37 leaves. A commentary on the "efflorescence of salt" sometimes found floating on water, which Dioscorides and Galen had recommended as a

DE OMNI

RERVM FOSSILIVM GENERE, GEMMIS, LAPIDIBVS, METALLIS, ET HVIVSMODI, LIBRI ALIQVOT, PLERIQVE NVNC PRIMVM EDITI.

Operâ Conradi Geſneri: Quorum Catalogum ſequens folium continet.



Tiguri, excudebat Iacobus Geſnerus: Anno M. D. LXV.

Caspar Bauhinus M. D.

cure for skin diseases. Gesner in his commentary refutes the notion that this was the sperm of whales.

VI. Epiphanius. *De XII Gemmi*. 4 p.l., 28 leaves. A discussion of the gemstones in Aron's shield.

VII. Rue, François. *De Gemmis aliquot*. 2 p.l., 85 (i.e. 86) leaves. A treatise on gems mentioned in the Book of Revelation.

VIII. Gesner, Conrad. *De Rerum Fossilium . . .* 7 p.l., 169 leaves. The earliest scientific attempt to classify the members of the mineral kingdom, based on the forms of the fossils. It is illustrated by numerous woodcuts after Gesner's own drawings, many of which are still preserved in the Basel University Library. According to Adams, this part contains the earliest illustration of a lead pencil. There is also an illustration of the mariner's Compass made from magnetic iron ore.

A fine copy, preserved in a box. Old stamp on blank portion of title. Complete copies are of considerable rarity on the market today.

☾ Adams, *The Birth and Development of the Geological Sciences*, pp. 176-83–"Of special interest in that it presents a picture in miniature of the mineral kingdom as seen through the eyes of the greatest naturalist of his time." Hoover 347. Sinkankas 2366–(long note). Sparrow, *Milestones of Science*, p. 10 & plate 37. Wellisch A 63. Wilson, *The History of Mineral Collecting 1530-1799*, pp. 23-25.

38. GHILIOSSI DE LEMIE, Joseph Ignace.

Mûriers et Vers-a-Soie. 4 p.l., 74, [2] pp. 8vo, cont. green straight-grained sheep *maroquiné*, sides decorated in gilt, flat spine gilt, a.e.g. Cuneo: P. Rossi, 1812. $3500.00

First edition and a very rare provincial imprint. Ghiliossi, a resident of Cuneo in the Piedmont of northern Italy, was active in developing the agriculture and industries of the Cuneo area. The silk industry began to develop in the region in the 16th century and, by the early 19th century, became the predominant commercial activity.

In this work, Ghiliossi provides an excellent history of the growth of industry in Cuneo. He then goes on to the process of sericulture from the rearing of silkworms to cocoons and then the manufacture of silk. The development of the industry was greatly encouraged by the government and there is much information on the laws and regulations which governed the manufacture and trade in silk. Ghiliossi describes a number of processes which he claims are unique in the region.

He also gives a history of the early silk spinning and weaving machinery powered by water.

Fine and handsome copy. Corners a bit rubbed. Bookplate of Maurice Desgeorge of Lyon.

☾ Hagen, I, p. 279.

Important for Geology, Astronomy & Ophthalmology

39. GRUITHUISEN, Franz von Paula.

Beyträge zur Physiognosie und Eautognosie, für Freunde der Naturforschung auf dem Erfahrungswege: von den Jahren 1809, 1810 u. 1811. Four folding plates (three are engraved & the moon map is lithographed). xxiii, 446 pp., 1 leaf of errata. 8vo, cont. slick boards. Munich: I.J. Lentner, 1812. $2500.00

First edition of this varied and interesting book, reflecting the author's wide-ranging interests. Gruithuisen (1774-1852), studied philosophy, medicine, and natural history, and was first appointed professor of medicine at the University of Munich and was later made professor of astronomy at the same institution. Gruithuisen wrote on many subjects and his works are well-known for their numerous new observations and thoughts.

The present work contains chapters on physiology, electricity, geology, optics, and astronomy. In this book, the author describes his discovery that light comes out of the eyes of animals (see Gorin, *History of Ophthalmology*, p. 97).

Also contained here is Gruithuisen's important paper "on the erratic blocks of the South Bavarian plain, wherein he stated that they had been brought from the neighbouring Tyrolese and Bavarian Alps. He advanced the idea that glaciers had transported them to the low Alpine levels, and then the ice-masses in which the erratics were wedged had been borne northward across the plains by enormous floods . . . As the ice-masses melted, the erratics were left in their various positions. This was in substance the conception adopted by Karl Schimper several decades later."–Zittel, p. 229.

Gruithuisen's astronomical interests are reflected by the lithographed plate which is a map of a portion of the moon. Gruithuisen was a notable and imaginative observer of the features of the moon; the refractors from Munich, with their sharp images and easy handling, opened a new way for the study of the moon. See Whitaker, *Mapping and Naming the Moon*, pp. 109-14–(but not knowing of this work).

Fine copy and scarce. The engraved plates are a little foxed.

☾ Hirsch, II, pp. 873-74. Poggendorff, I, 964-65.

First Bibliography of Earthquakes

40. [GRUNDIG, Christoph Gottlob].

Historisch kritisches Verzeichniss alter und neuer Schriftsteller von dem Erdboeben . . . aufgesetzt und dargeleget, von M. C. G. G. One full-page woodcut on p. 105. 112 pp. Small 8vo, 19th-cent. half-sheep & marbled boards, spine gilt. Schneeberg: C.W. Fulden, 1756. $2950.00

First edition of the earliest bibliography of earthquakes and seismology; it is unknown to Besterman and Petzholdt and WorldCat locates no copy in North America. Grundig (1707-80), was a Protestant theologian, natural historian, and author of a number of works on natural history. He studied under Henckel at the Freiberg gymnasium who awakened his interest in mineralogy. Grundig was also the editor of several journals devoted to natural history and one of the founders of the famous mining school at Freiberg. He formed a large library and natural history collection (see Wilson, *The History of Mineral Collecting 1530-1799*, p. 173).

Grundig wrote this work as a result of the dramatic Lisbon earthquake of 1755. He lists in alphabetical order the earlier published writings on earthquakes, gives a biographical sketch of the authors, and describes the contents of each work.

Fine copy.

☾ Poggendorff, I, 965.

An Early User of the Telescope

41. GUALTEROTTI, Raffaello.

Discorso . . . sopra l'Apparizione de la Nuova Stella. E sopra le tre oscurazioni del Sole e de la Luna nel anno 1605. Con alquanto di lume del arte del Oro. Woodcut Medicean arms on title. 36 pp. Small 4to, attractive antique calf (final five leaves a little stained & with some minor marginal paper repairs), spine gilt, red morocco lettering piece on spine. Florence: C. Giunti, 1605. $25,000.00

First edition of this rare and important book on the new star of October 1604; it plays a significant role in the first great controversy of Galileo's scientific career in which he turned his back on the whole philosophical approach to science and sought reliable information and secure knowledge about the physical world through observations and calculations. The controversy which arose from the appearance of the supernova of 1604

DISCORSO

DI RAFFAEL' GVALTEROTTI

Centilhuomo Fiorentino.

SOPRA L'APPARIZIONE DE LA NVOVA STELLA.

E sopra le tre oscurazioni del Sole, e de la Luna nel anno 1605.

Con alquanto di lume del arte del Oro.

Dedicato al Serenis. Gran Duca di Toscana

D. FERDINANDO MEDICI.

IN FIRENZE.
Nella Stamperia di COSIMO GIVNTI.
M D C V.

was, simply, did the nova appear far beyond the moon — as believed by the astronomers — or did it occur in the sublunar region as believed by the Aristotelians who thought nothing new could be created in the heavens?

Gualterotti (b. 1548), "knew Galileo as a young man and showed him how stars could be seen in daytime through a long hole in a castle wall. In 1605 he published books [this and the following work] about the new star of 1604 . . . He also mentioned observations of stars through a dark tube, and from a letter written shortly after Galileo's telescopic discoveries it appears that he, like Porta, had employed a lens or lenses in a tube without developing the potentialities of the device. He was interested in alchemy and composed much poetry. He died at Florence in May 1639."–Drake, *Galileo at Work*, pp. 451-52.

In the present book, Gualterotti provides a long and careful account of his observations of the new star which he first observed from Florence on 9 October 1604. He "favored generation of the new star from the gatherings of vapors and exhalations in the region of the outer planets. He wrote at some length on the flexibility and penetrability of the heavens, on the presence there of elemental material in a refined and purified state, and on the essential similarity of matter everywhere."–Drake, *Galileo against the Philosophers*, p. 59. Both Galileo and Colombe read this book carefully. In fact, according to Drake, Galileo believed that Gualterotti's views were the main reason Colombe wrote his *Discorso* of 1606, in which he attacked Gualterotti without naming him.

Gualterotti also provides here an important and early scientific description of a sunspot.

Although not a scientist of great note, Gualterotti was a significant figure within the scientific debate over the supernova, thanks to his anti-Aristotelian theories and his connections to Galileo. He is also important for being one of the first to use a telescope although he only used it to observe jousting matches. In a letter to Galileo in 1610, shortly after the publication of *Sidereus Nuncius*, Gualterotti wrote that he had developed a telescope in 1598. But, as it seemed to him to be "a feeble thing" he neglected it.

Very good copy of a rare book.

☾ Carli & Favaro 14. Cinti 14–(& see his long detailed note on the scientific contents of this work). Riccardi, I, col. 535. Van Helden, "The Invention of the Telescope" in *Transactions* of the A.P.S., Vol. 67, Part 4 (1977), pp. 19, 24-25, 35, & 45-46.

42. HERBERSTEIN, Ferdinand Ernst von.

Cyclodiatomia, qua pro Rei Tormentariae Incremento Motum, ac Tempus Projectorum mensurat, & demonstrat. Folding engraved frontis. port. of the dedicatee Count Franz Anton von Sporck & 20 folding engraved plates. 6 p.l., 180 pp., one leaf. Small 4to, cont. vellum over boards. Prague: "Typis Universitatis Carolo-Ferdinandeae in Collegio S. Jesu ad S. Clementem," 1716. $6500.00

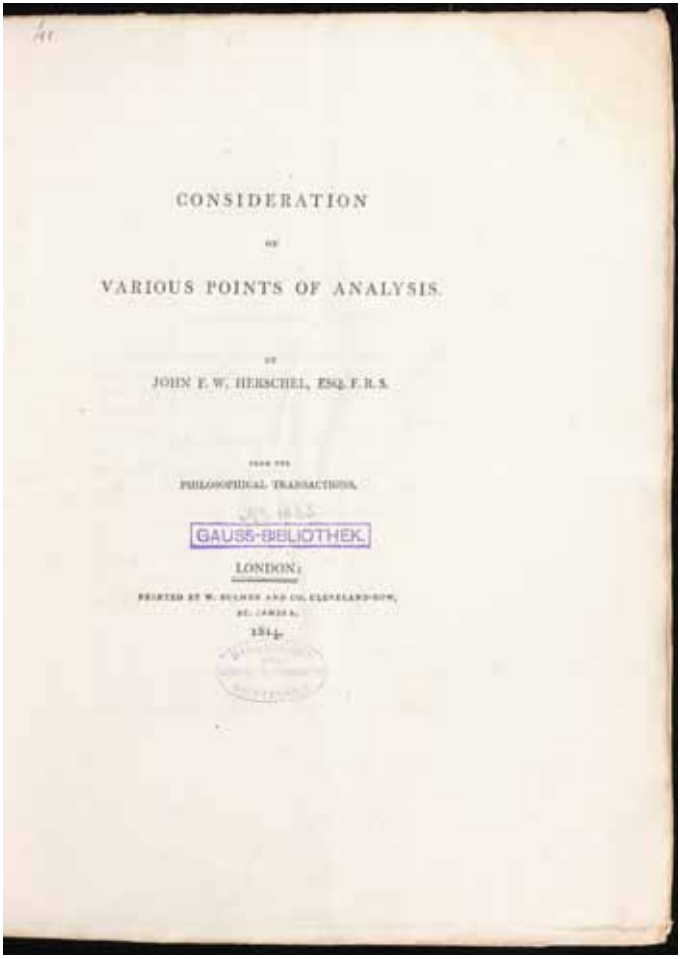
First edition of this very uncommon book. Herberstein (ca. 1650-1720), Bohemian count, marshal of Styria, and arch-chamberlain of Carinthia, was a distinguished amateur mathematician who published a number of extremely rare and interesting works on various aspects of pure and applied mathematics over a 35-year period.

The present work is concerned with the mathematics of ballistics in which Herberstein provides a number of calculations regarding throwing distances. The plates depict projected trajectories and required elevation angles.

Fine copy.

☾ Jähns, *Geschichte der Kriegswissenschaften vornehmlich in Deutschland*, 1625. *N.B.G.*, Vol. 24, col. 287. Poggendorff, I, 1074.


CYCLO-
DIATOMIA,
Quâ
pro
REI TORMENTARIÆ
Incremento
MOTUM, ac TEMPUS
PROJECTORUM
mensurat,
& demonstrat
FERDINANDUS
ERNESTUS
COMES
AB
HERBERSTEIN.



CONSIDERATION

OF

VARIOUS POINTS OF ANALYSIS.

BY

JOHN F. W. HERSCHEL, ESQ. F.R.S.

FROM THE

PHILOSOPHICAL TRANSACTIONS.

LONDON:

PRINTED BY W. BULMER AND CO. CLEVELAND-ROW,

ST. JAMES'S.

1814.

MATHEMATICS REFORMED; GAUSS'S COPY

43. HERSCHEL, John Frederick William.

Consideration of Various Points of Analysis . . . from the Philosophical Transactions. Several diagrams in the text. 1 p.l., 33 (i.e. 29) pp. Large 4to, orig. blue wrappers, uncut. London: W. Bulmer, 1814. $7500.00

First separate edition, with new pagination. This offprint belonged to Carl Friedrich Gauss, with the "Gauss-Bibliothek" stamp on the title. This copy was no doubt sent by Herschel to Europe's leading mathematician.

The present work is an important contribution to mathematical notation by Herschel, who was, with Charles Babbage and George Peacock, a founder of the famous Analytical Society, a group of Cambridge mathematical reformers. They wanted to leave behind the fluxional, Newtonian notation so prevalent in 18th-century Britain and embrace the algebraically based conception of the calculus developed by Lagrange. In this work, Herschel professes "his belief in the fruitfulness of the method of separating the symbols of operation from those of quantity."–S.E. Despeaux, "Very Full of Symbols" in *Episodes in the History of Modern Algebra (1800-1950)*, (2007), ed. by J.J. Gray & K.H. Parshall, p. 54.

Fine copy and rare. With the stamp of the Royal Observatory at Göttingen on upper wrapper (with release stamp on front paste-down endpaper) and title. Preserved in a box.

Herschel's Forty-Foot Telescope

44. HERSCHEL, William.

Description of a Forty-Feet Reflecting Telescope, From the Philosophical Transactions. 19 large folding engraved plates. 65 pp. Large 4to, cont. half-calf & paste paper boards (head of spine worn & corners a bit rubbed), spine gilt, red leather lettering piece on spine. [London: 1795]. $9500.00

First edition, the rare separately paginated offprint, of one of Herschel's most important papers. Herschel (1738-1822), designed an enormous 40-foot reflector telescope for King George III at Slough. To accommodate the mirror, the tube had to be over 40 feet long and nearly 5 feet in diameter.

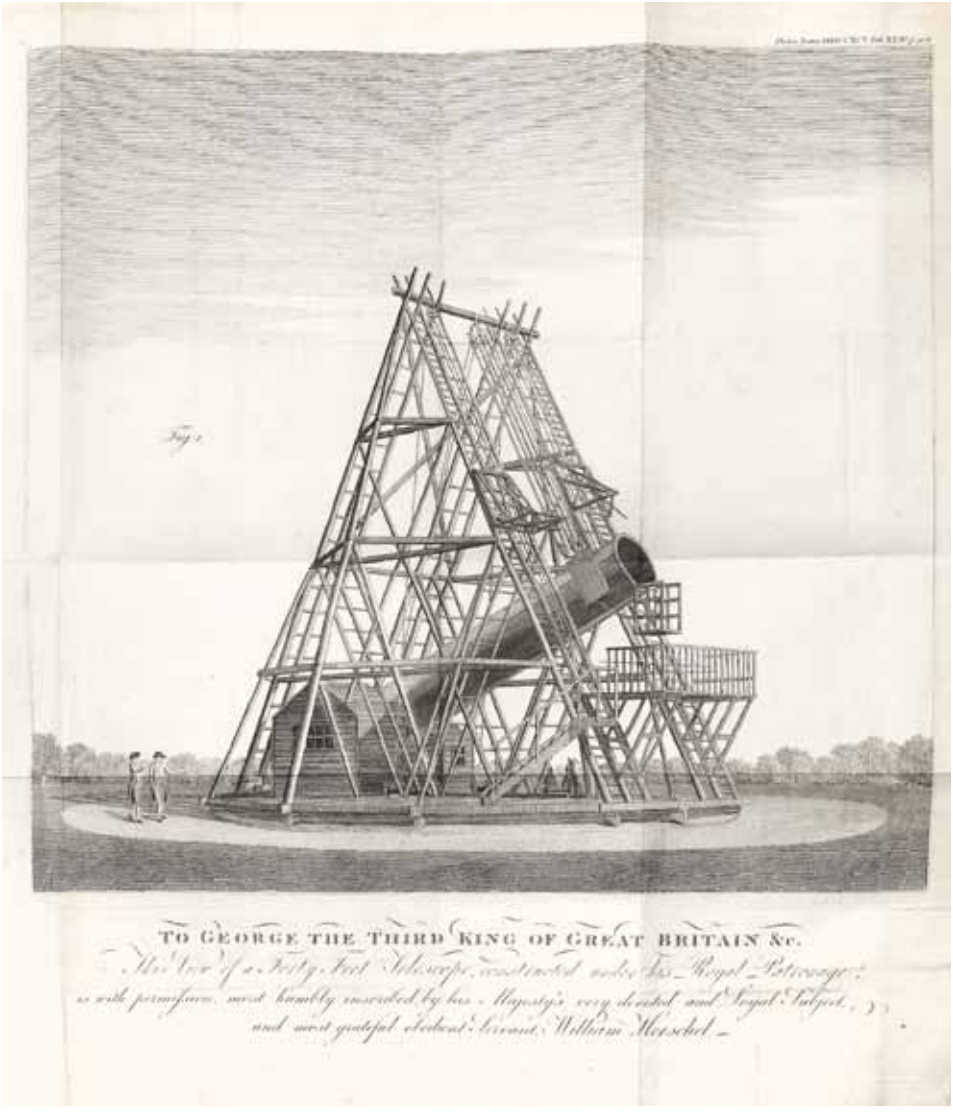
This work describes the entire process of its conception and costly four-year construction, completed in 1789, with special attention paid to the tube, the mounting, and their accessories. Dignitaries and prominent astronomers from all over Europe came to view the 40-foot telescope, which had become a wonder of the world. Herschel was able to discover two new moons of Saturn with his new telescope, but it proved impossible to maintain and use efficiently.

The finely engraved plates depict all of the components of the telescope in addition to highly detailed cross-sections and schematics.

Herschel wrote no monographs, leaving his papers, most of which were published in the *Philosophical Transactions*, as his sole printed works.

Very good copy of an uncommon offprint. Expert repair to the first plate and head of spine a little worn.

☾ Henry C. King, *The History of the Telescope*, pp. 128-34.



TO GEORGE THE THIRD KING OF GREAT BRITAIN &c.

This View of a Forty Feet Telescope, constructed under His Royal Patronage;
is with permission, most humbly inscribed by his Majesty's very devoted and Loyal Subject,
and most grateful Dedicat. Servant, William Herschel.

Ansicht der Mumien

Ansicht des Thores zum sogenannten Calvarienberge.

Mezzotint at its Finest

45. HOHENWART, Franz Jozef Hanibal, Graf von.

[Printed title]: *Wegweiser für die Wanderer in der berühmten Adelsberger und Kronprinz Ferdinands-Grotte bey Adelsberg in Krain*. [Engraved title]: *Ansichten der Adelsberger und Kronprinz Ferdinands . . .* One engraved title & 19 engraved plates (of which 17 are in magnificent mezzotint). Text: 16 pp.; 1 p.l., 9 pp.; iv, 14 pp. Three parts in one vol. Oblong folio, modern half-cloth & boards. [Part I]: Vienna: J.P. Sollinger, 1830; [Parts II & III]: Laibach (today Ljubljana in Slovenia): I.A. Edlen v. Kleinmayr, 1830-32. $6000.00

First edition of this beautifully illustrated monograph on the famous karst caves in Slovenia. They were first described and studied by Johann Weikhard von Valvasor in the late 17th century. The fine plates, most of which are in splendid mezzotint, have been drawn by Alois Schaffenrath (1794-1836), an engineer working for the Laibach ministry of travel, transport, and navigation.

The Adelsberger Grotte, a cave system 24,120 meters long near Postojna, was created by the Pivka River. In 1819, Archduke Ferdinand visited the caves and, as a result, they became widely known. Today, they are a major tourist attraction.

Howenwart (1771-1844), was an Austrian government official and natural historian. He furnishes here an exact account of the cave, its origins, and extent.

Fine copy and very rare. Two old stamps on first printed title of "Kupferst. Samml. S. M. FR.W. III" and "Kupferstich-Sammlung der Königl. Museen."

A Rare Journal Devoted to the Harz Mountains

46. HOLZMANN, Christian Erdwin Philipp, ed.

Hercynisches Archiv oder Beiträge zur Kunde des Harzes und seiner Nachbarländer. Einziger Band [all published]. Four parts in one vol. with continuous pagination. 2 p.l., 748 pp. 8vo, cont. marbled boards, paper labels on spine. Halle: "im Verlag der Waisenhaus-Buchhandlung, 1805."$1250.00

A rare and fascinating journal — which did not extend beyond its first four parts — concerning the Harz Mountains in northern Germany and the surrounding lands. "Hercynia" is the Latin name for "Harz." The Harz Mountains are most famous for the rich mining activities which have

taken place there since the Bronze Age. Silver was discovered in the 10th century and iron, copper, lead, barite, and zinc were also mined. Forestry has also been an important industry.

The editor, Holzmann, a resident of Goslar in the Harz, has gathered a collection of highly interesting articles on the local history, natural history, peoples, geography, geology, and mining activities of the region. Obituary notices and reviews of books and articles are also included. Johann Friedrich Ludwig Hausmann, the prominent geologist, and Holzmann are the most frequent contributors.

This work contains much original information on the Harz not to be found elsewhere.

Fine copy and rare. Old stamp of the "Stadt-Bibliothek Homburg v. d. H." on free front endpaper and verso of title. Old stamp of the Wiesbaden Public Library on verso of title.

"The Earliest Work in English on the Medicinal Virtues of North American Tropical Plants"

47. HUGHES, William.

The American Physitian; or, a Treatise of the Roots, Plants, Trees, Shrubs, Fruit, Herbs &c. growing in the English Plantations in America. Describing the Place, Time, Names, Kindes, Temperature, Vertues and Uses of them, either for Diet, Physick, &c. Whereunto is added a Discourse of the Cacao-Nut-Tree, and the use of its Fruit; with all the ways of making of Chocolate. The like never extant before. 12 p.l. (the first a blank), 159, [9] pp. (final leaf blank). 12mo, cont. sheep (spine faded, a bit rubbed). London: J.C. for W. Crook, 1672. $27,500.00

First edition of "the earliest work in English on the medicinal virtues of North American tropical plants. Based on first-hand observations made in the West Indies. Evidence suggests that Hughes began his career in 1651 with a privateering voyage to the West Indies, during which he traveled to Barbados, St. Kitts, Cuba, Jamaica and mainland Florida. He appears to have spent a good deal of time visiting British plantations on Jamaica and Barbados, where he observed and made descriptions of a large number of New World tropical plants including potatoes, yams, maize ('the wheat of America'), bananas, avocadoes ('Spanish pears'), chili peppers, watermelons, sugarcane, guavas, prickly pears, coconuts and manioc. Hughes's work 'contributed greatly to the spread of the American indigenous use of plants either for Meat or Medicine.'–Wilson

The American Physitian;
OR,
A TREATISE
OF THE
ROOTS, PLANTS, TREES, { SHRUBS, FRUIT, HERBS, &c.
Growing in the
ENGLISH PLANTATIONS
IN
AMERICA.
Describing the Place, Time, Names, Kindes, Temperature, Vertues and Uses of them, either for Diet, Physick, &c.
Whereunto is added
A DISCOURSE
OF THE
CACAO-NUT-TREE,
And the use of its Fruit; with all the ways of making of CHOCOLATE.

The like never extant before. By W. Hughes.

London, Printed by J. C. for William Crook, at the Green Dragon without Temple-Bar, 1672.

& Hurst, *Chocolate as Medicine* [2012] p. 55."–Garrison-Morton 7007 (online version, new addition).

While little is known about Hughes (active 1665-83), he did leave evidence in his books that he had worked at one time at Radley, in Warwickshire, and that he had travelled throughout England and to the vineyards in Europe. This book was written during his time in the West Indies.

The last third of Hughes's book is devoted to the medicinal properties of chocolate, which he called the "American nectar."

This is an extremely rare book on the market and our copy is very fine in its first binding. Preserved in a box.

☾ Henrey, I, p. 204 & no. 203 in the bibliography.

An American Wonder Drug; One of the First Published Patient Narratives

48. HUTTEN, Ulrich von.

Of the Wood Called Guaiacum, that healeth the frenche pockes, and also helpeth the goute in the feete, the stone, palsey, lepre, dropsy, fallyinge euyll, and other diseses. Made in latyn by Ulrich Hutten knyght, and translated in to englysh by Thomas Paynel. 4 p.l. (4th leaf a blank), 58 leaves. 4to, 17th cent. calf (neatly rebacked & recornered), spine gilt, red morocco lettering piece on spine. London: T. Berthelet, 1540. $35,000.00

An early Tudor translation of an important early medical work on the curative properties of the American wood known as "guaiacum," a text first published in Latin in 1519 as *De Guaiaci Medicina et Morbo Gallico* by the German scholar, poet and reformation thinker Ulrich von Hutten (1488-1523). Hutten's treatise, which was quickly translated into several languages, popularized the use of guaiacum to treat several conditions, especially the scourge of syphilis, and accelerated the importation of this medicinal agent from the Caribbean. Indeed, the work likely convinced the Fugger banking family of Augsburg to seek a monopoly on the import of the drug from the Americas, a concession they later secured from the Spanish crown in exchange for a loan. In this work, Hutten gives a full account of the appearance of syphilis in Europe along with its various treatments. Hutten also recounts in detail his own struggle with the affliction (at one point, a friend counsels him to commit suicide) and the various therapeutic (and sometimes gruesome) regimens to which he was sub-

OF THE VVOOD CALLED GVAIACVM,

that healeth the frenche pockes, and also helpeth the goute in the feete, the stone, palsey, lepre, dropsy, fallynge euyll, and other diseses.

Made in latyn by Ulrich Hutten knyght, and translated into englysh by Thomas Paynel.

LONDINI
EX OFFICINA Thomæ Bertheleti regii impressoris. Cum priuilegio ad imprimendum solum.
ANNO.M.D.XL.

jected, making the treatise one of the earliest patient narratives published.

"This tract had enormous resonance in 16th-century medical circles . . . Hutten was the first significant publicist for the Guaiac treatment . . . Hutten's descriptions of the therapy are the most accurate of the period, and the account of the qualities of Guaiac is worthy of any modern pharmacopoeia . . . it remained influential into the 18th century."–L. Jillings, "The Aggression of the Cured Syphilitic: Ulrich von Hutten's Projection of his Disease as Metaphor," *German Quarterly*, Vol. 68, No. 1 (1995), p. 5.

The present work was translated into English by Thomas Paynel, who recounts in his preface the genesis of the publication (English editions, all now very rare, appeared in 1533, 1536, 1539, and 1540). He describes visiting the printer Thomas Berthelet in London to discuss the intellectual and commercial success of their recent collaboration (the medical compendium *Regimen sanitatis Salerni*) and being urged to undertake Hutten's treatise for the good of Tudor England. Paynel closes with a disclaimer that patients should not take guaiacum without first consulting a physician.

A fine and fresh copy. Final three leaves with minor marginal spotting.

His Rare First Book

49. HUYGENS, Christiaan.

Theoremata de Quadratura Hyperboles, Ellipsis, et Circuli, ex dato portionum Gravitatis Centro. Quibus subjuncta est Exetasis Cyclometriae Cl. viri Gregorii a S. Vincentio . . . Woodcut printer's device on title & numerous woodcut diagrams in the text. 4 p.l., 43 pp. 4to, attractive antique half-vellum. Leiden, Elzevier, 1651. $14,500.00

First edition of Huygens' first publication; it is very rare. The book is an investigation of the quadrature of segments of a conic section by consideration of the centroid ("related areas under curves to their centers of gravity") in which he criticized Gregorius Saint Vincent's important work *Opus Geometricum* (1647), and thereby began to lay the early origins of the infinitesimal calculus. Huygens showed that the attempt to square the circle was faulty, but the integration methods was ingenious and influential and Huygens recommended Gregorius's book to the young Leibniz.

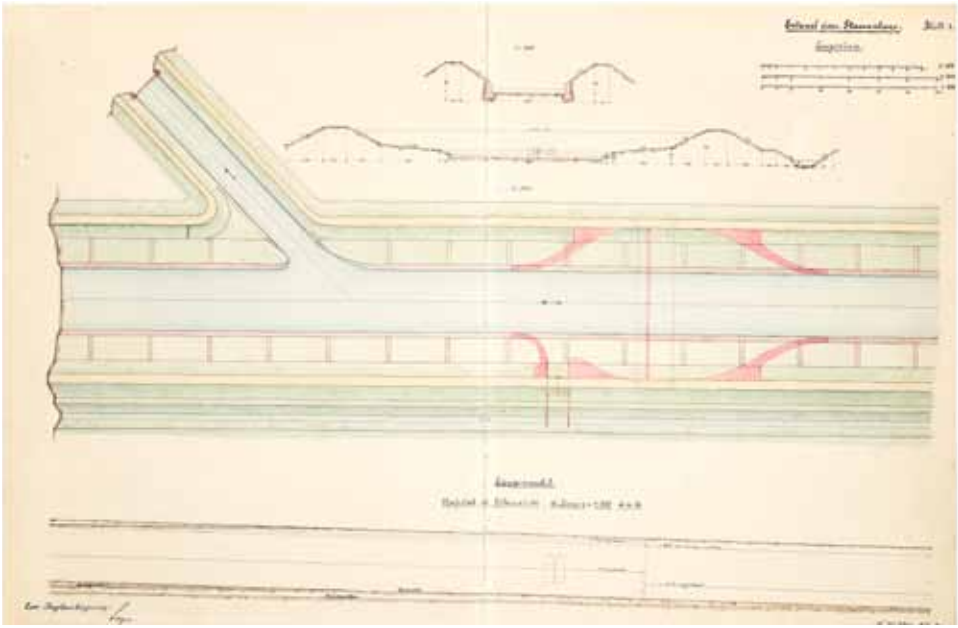
In an appendix to the *Theoremata*, Huygens refuted the celebrated proof by Saint Vincent on the possibility of the quadrature of the circle. Huygens "derived a relation between the quadrature and the center of gravity of segments of circles, ellipses, and hyperbolas. He applied this

result to the quadratures of the hyperbola and the circle."–*D.S.B.*, VI, p. 599.

Saint-Vincent (1584-1667), was the most gifted pupil of Clavius and developed in his *Opus Geometricum* his "remarkable quadrature methods. It is a summation procedure . . . related to the method of indivisibles developed by Bonaventura Cavalieri, although the two are mutually independent. Gregorius' method, however, is somewhat better founded."–*D.S.B.*, XII, p. 75.

Fine copy.

☾ Willems 696.



50. HYDRAULIC & BRIDGE ENGINEERING IN GERMANY.

Two albums of related manuscript drawings of engineering projects in Germany for river & waterway control (Vol. I) and the building of bridges for railways and roads (Vol. II). Vol. I: eleven finely drawn & hand-colored plates (five single-page, four double page (415 x 650 mm.), and two double-page & folding (820 x 650 mm.); Vol. II: ten finely drawn & hand-colored double-page (one triple-page) plates (415 x 650 mm). Two vols. Large 4to (420 x 348 mm.), orig. cloth. [Germany]: 1890-93. $5500.00

Two handsome albums with 21 finely-drawn technical illustrations employing black ink and wash water colors. Almost all of the illustrations are signed "Karl Hübler" and dated by him from 1890-93. Some are also signed by "Engessen" and "Sayer," who were perhaps the design engineers.

Laid-in are ten further fine folding original pen-&-ink drawings with wash water coloring concerning different water and bridge engineering projects in Bavaria as well as a printed contract for engineering projects for the state from about 1900.

51. KEILL, John.

Introductiones ad veram Physicam et veram Astronomiam. Quibus accedunt Trigonometria. De viribus centralibus. De legibus attractionis. Engraved vignette on title & 47 folding engraved plates. Title printed in red & black. 2 p.l., [1]-636, [10] pp. Large 4to, cont. Dutch vellum over boards, panelled in blind with a blind arabesque in center of each cover. Leiden: J. & H. Verbeek, 1725. $2250.00

First Latin edition of Keill's lectures on physics and astronomy delivered at Oxford University; each was first separately published in 1702 (physics) and 1718 (astronomy). The 1702 *Introductio ad veram Physicam* was "probably the first textbook of Newtonian physics ever to appear."–Gjertsen, *The Newton Handbook*, p. 284–(giving the date as 1701).

Keill (1671-1721), a student of David Gregory and Savilian professor of astronomy at Oxford from 1712, "was one of the very important disciples gathered around Newton who transmitted his principles of philosophy to the scientific and intellectual community, thereby influencing the directions and emphases of Newtonianism."–*D.S.B.*, VII, p. 275.

The lectures were general introductions to the principles of physics and astronomy based on Newtonian concepts and contain sketches of the history of the two sciences.

Fine copy. Stamp on title of Mr. Maurice Mauger.

The Second Observation of Halley's Comet

52. KEPLER, Johannes.

De Cometis Libelli Tres. I. Astronomicus . . . II. Physicus . . . III. Astrologicus. Two folding woodcut plates, three folding printed tables (plus two in duplicate), & several woodcuts in the text. 4 p.l., 138 pp., one blank leaf. 4to, antique 18th-century style calf-backed boards. Augsburg: Typis A. Apergeri, sumptibus S. Mylii, 1619–[20]. $35,000.00

First edition, and a very good copy of a rare book; it contains the second observation of Halley's comet. In this work, Kepler "discussed in detail the bright comets of 1607 and 1618. Reflecting on the ephemeral nature of comets, he proposed a strictly rectilinear trajectory, which of course appeared more complex because of the earth's motion. Some decades later Edmond Halley made extensive use of the observations recorded in this book when he showed the seventy-six year periodicity of the comet of 1607. The brief second section of Kepler's trilogy concerned the 'physiology of comets': they fill the ether as fish fill the sea but are dissipated by the sun's light, forming the tail that points away from the sun. The final section treated the significations of the comets."–*D.S.B.*, VII, p. 302.

Nice large copy with some uncut leaves and without the usual heavy browning. Stamp of the "K[öniglich] K[aiserliche] Universitätsbibliothek," Vienna, to several leaves, including versos of most tables and with the Library's duplicate or release stamp superimposed. One diagram with an old repair.

☾ Caspar 60. Cinti 65. Zinner 4739.

First Account of the Leyden Jar

53. KRÜGER, Johann Gottlob.

Geschichte der Erde in den allerältesten Zeiten. Engraved vignette on title & three folding engraved plates on two sheets. Title printed in red & black. 5 p.l., 7-186 pp. 8vo, orig. wrappers (some fraying, occasional foxing), uncut. Halle: Lüderwald, 1746. $2500.00

First edition. On 11 October 1745, E.G. von Kleist (d. 1748), dean of the cathedral at Cammin in Pomerania and an amateur experimenter, discovered the electric condenser, later call the "Leyden Jar." Shortly af-

terwards, he sent an account of his experiment to friends who were also interested in electrical experiments. His correspondents included J.G. Krüger (1715-59), a physician and scientist at Halle, who added a section on electricity to the present book, an interesting work on the origins of the earth. Kleist's letter appears on pages 177-81 and is the first printed account of his great discovery. It is accompanied by a small illustration of the Leyden jar on plate 3.

Priestley called the invention of the Leyden jar "the most surprising yet made in the whole business of electricity." The Leyden jar dealt a death-blow to the traditional understanding of electricity and cleared the way for the Franklinian system.

Very good uncut copy in original state. Early private library stamp of "Alvensleben," the noble family of Saxony-Anhalt.

☾ *D.S.B.*, VII, p. 403 (Kleist) & IX, p. 596 (Krüger & Musschenbroek). Hoover 495.

A Photographic Panorama of the Krupp Steel Works from the Library of Otto von Bismarck

54. KRUPP, Friedrich, Cast Steel Works, Essen; Photographer: Hugo van Werden.

Krupp'sche Gussstahlfabrik. Six albumen prints from wet collodion negatives (each 430 x 430 mm.), each mounted on stiff card stock panels (each panel measuring 620 x 430 mm.), joined together with the orig. linen,

with the lithographed title at foot of the two middle panels. Preserved in the orig. green cloth-backed board portfolio, ties gone. [Essen: F. Krupp, ca. 1872-73]. $45,000.00

A magnificent and rare photographic panorama of the Krupp Steel Works in Essen, consisting of six albumen prints, each mounted on paper board panels, measuring altogether 430 x 2480 mm. The industrial steel manufacturer Friedrich Krupp AG was the largest company in Europe at the beginning of the 20th century. One of the most powerful business dynasties in Europe, for 400 years Krupp flourished as the premier weapons manufacturer of Germany. From the Thirty Years' War until the end of the Second World War, they produced everything from guns and cannons, battleships, U-boats, tanks, and hundreds of other products.

"In 1861, one of the most remarkable figures in German industrial history, Alfred Krupp, commissioned his far relative Hugo van Werden [(1836-1911)] to learn photography in a studio in Hannover then well-known for its qualities in depicting industrial products. After a short apprenticeship, van Werden set up the Krupp photographic and lithographic institute which from then on had to deliver all visual materials used for documentation, press releases, and public relations for Krupp's steel company. As early as 1862, on the occasion of the London World Fair, Krupp was able to show and deliver large quantities of photographs of all his products, and the company gained fame for the use of the new medium in advertising . . . On top of the Krupp stand at the World Fair

in London in 1862 there was a large photograph showing the Essen company site. Made of 12 images, it correlated to a recent fashion among manufacturers: showing a bird-like view of their establishment."–Rolf Sachsse in *Encyclopedia of 19th-Century Photography*, p. 584.

In the century prior to the advent of photography, panoramic painting reached a pinnacle of development in which whole buildings were constructed to house 360 degree panoramas, and even incorporated lighting effects and moving elements. Indeed, the career of one of the inventors of photography, Daguerre, began in the production of popular panoramas and dioramas. Shortly after the invention of photography, the desire to show overviews of cities and landscapes prompted photographers to create panoramas.

The development of panoramic cameras was a logical extension of the 19th-century enthusiasm for panorama. Because of the high cost of materials and the technical difficulty of properly exposing the plates, Daguerreotype panoramas, especially those pieced together from several plates, are rare. After the advent of wet-plate collodion process, photographers would take anywhere from two to a dozen of the ensuing albumen prints and piece them together to form a panoramic image. This photographic process was technically easier and far less expensive.

The history of photography and the modern manufacturing of steel have been interwoven since both came into being in the mid-19th century. Photography of steel mills began about the same time that modern steel making became possible through invention of the Bessemer converter (furnace) in 1855. Photographers have actively engaged this topic ever since. Photographing the steel industry has always presented technical as well as aesthetic challenges, but no challenge was more daunting than that of access. Mere fascination with industrial architecture, the dramatic processes of transforming raw iron ore to finished steel, or the many tasks performed by steel workers, did not entitle a photographer to take pictures of mills.

The pioneering German industrialist Alfred Krupp hired Hugo van Werden as the company's first full- time photographer. As an employee, van Werden had unlimited access to take photographs of the factory. The stunning nature of van Werden's early photographs interpreted Krupp's business vision. Van Werden's task was to document Krupp's rapidly expanding company; he began to make periodic panoramas

of the Kruppsche Gußstahlfabrik in Essen in 1861. These panoramas started modestly and ended up being monumental. Krupp's intensive advertising work for his company, as well as the company's presence in commercial and world exhibitions, was important in the success and economic expansion of the company. Krupp used the new medium photography for the self-presentation and documentation of his emerging company. In addition to a historical department, which was founded in 1861, Krupp set up an atelier for photographers. Not only the individual products but also the company as a whole were documented by means of the photographic image.

Our 180 degree panoramic view of the cast steel factory was taken by van Werden at the request of Krupp from a tower of the cannon workshop. Krupp himself gave the order to photograph the factory on a Sunday because "the work days carry too much smoke, steam and restlessness." The elevated viewpoint provides an overview of the extent of the factory, which transitions into the landscape on the horizon. The panoramic view over the roofs of the factory buildings, along the chimneys to the landscape, gives the impression of a self-contained world. From the tower, one looks westward over the works to the surroundings of Essen. The arranged scenery — the factory buildings still partly under construction, the workers and steam locomotives, the railway bicycles and other steel goods transported throughout the plant — give the impression of remarkable economic activity.

In fine and fresh condition. From the library of Otto von Bismarck, no doubt presented to him by the firm.

☾ Tenfelde, *Pictures of Krupp: Photography and History in the Industrial Age* (2005).

55. [LA GARAYE, Claude Tousaint Marot, Comte de].

Chymie hydraulique, pour extraire les Sels essentiels des Végétaux, Animaux & Minéraux, avec l'eau pure. Par M. L. C. D. L. G. Two folding engraved plates. xi, [5], 390 pp. Small 8vo, cont. red morocco, with the arms in gilt of either the Comtesse de Provence or the Comtesse d'Artois (see below), triple gilt fillet round sides, spine nicely gilt, a.e.g. Paris: J.B. Coignard, 1745. $3500.00

First edition and a lovely copy in contemporary red morocco with arms (see below). "La Garaye (1675-1755), a Breton nobleman and philan-

thropist, was a diligent chemist who devised a novel method of preparing medicines from minerals by long maceration with neutral salt solutions. He also extracted a number of principles from plants as from Peruvian bark, the extract of which became known as the 'essential salt of Garaye'."–Neville, II, p. 3.

"He devised a rapid method of making black oxide of iron, and prepared an ammoniacal chloride of mercury called 'Tinctura mercurialis'."–Ferguson, II, p. 78 (under Marot).

It is unusual to find a book of this kind so finely bound. Daughters of King Victor-Amédée III of Sardinia, Marie Joséphine (1753-1810), and Marie Thérèse (1756-1805), married respectively the Comte de Provence (the future Louis XVIII) and the Comte d'Artois (the future Charles X). The arms for their bindings are identical ("le graveur ayant oublié de représenter la bordure crénelée ou dentelée, qui seule permet la discrimination" (OHR 2517).

A very fine copy, with the smallest defects to the binding. This is the first issue of the book with the title dated 1745. There is a second issue which appeared a year later with a new title-page and different publisher.

☾ Duveen, p. 391. Hoover 500. Partington, III, pp. 88-89. Quentin-Bauchart, II, pp. 309-331.

56. LAGRANGE, Joseph Louis, Comte.

Théorie des Fonctions Analytiques, contenant les Principes du Calcul différentiel, dégagés de Toute considération d'Infiniment Petits ou d'Evanouissans, de Limites ou de Fluxions, et réduits a l'Analyse Algébrique des Quantités finies. 2 p.l., viii, 277, [1] pp. Large 4to, cont. half-calf & speckled boards (final ten

leaves with pale & unimportant dampstaining, occasional minor browning), uncut. Paris: Imprimerie de la République, An V [1797]. $3000.00

First edition and a lovely copy. In this work, Lagrange "intended to show that power series expansions are sufficient to provide differential calculus with a solid foundation. Today mathematicians are partially returning to this conception in treating the formal calculus of series."–*D.S.B.*, VII, p. 570.

"The year 1797 . . . saw the appearance of the famous work of Lagrange, *Théorie des fonctions analytiques*, . . . This book developed with care and completeness the characteristic definition and method in terms of 'fonctions derives,' based upon Taylor's series, which Lagrange had proposed in 1772. In it the author gave not only an attempted proof of the incorrect theorem that every continuous function may be so expanded, but also the determination of the 'fonctions derives' (or derivatives) of the elementary functions, and numerous applications to geometry and mechanics . . . Lagrange's *Théorie des fonctions* was only one, but by far the most important, of many attempts made about this time to furnish the calculus with a basis which would logically modify or supplant those given in terms of limits and infinitesimals."–Cajori, *The Concepts of the Calculus*, pp. 261-63.

Fine uncut copy.

Fine Uncut Copy

57. LAGRANGE, Joseph Louis, Comte.

De la Résolution des Équations numériques de tous les Degrés. viii, 268 pp. Large 4to, cont. calf-backed marbled boards (head of spine a trifle worn), flat spine gilt, orange leather lettering piece on spine, uncut. Paris: Duprat, An VI [1798]. $3250.00

First book edition of these two papers, originally published in 1769 and 1770 in journals, containing for the first time a fine historical introduction and followed by numerous notes. In this work, Lagrange "gives the method of approximating to the real roots of an equation by means of continued fractions, and enunciates several other theorems . . . He also here explains how the equation whose roots are the squares of the differences of the roots of the original equation may be used so as to give considerable information as to the position and nature of those roots."–Ball, *A Short Account of the History of Mathematics*, p. 411.

Lagrange also gives here a proof that every equation must have a root, a theorem which before this usually had been considered self-evident.

An uncommonly attractive copy, entirely uncut.

☾ *D.S.B.*, VII, pp. 559-73.

Tables Compiled by his Illegitimate Daughter

58. LALANDE, Joseph Jérôme Le Français.

Abrégé de Navigation, historique, théorique et pratique, òu l'on trouve les principes de la Manoeuvre & ceux du Pilotage, les méthodes les plus simples pour se conduire sur mer par longitudes & latitudes, avec des Tables horaires pour connoître le tems vrai par la hauteur du Soleil & des Etoiles dans tous les tems de l'année, & à toutes les latitudes jusqu'à 61°. Finely engraved frontis. port. of the author & one folding engraved plate. Many tables in the text. 2 p.l., 70, [2], 308 pp. Large 4to, fine cont. straight-grained red morocco, panelled & decorated in gilt, flat spine gilt, dentelles gilt, blue silk endpapers, a.e.g. Paris: chez l'Auteur & Dezauche, 1793. $5500.00

First edition, and a magnificent large copy in finely gilt contemporary straight-grained red morocco, of one of Lalande's most important works; the 308 pages of tables were entirely calculated by Lalande's illegitimate daughter, Marie Jeanne Amélie Harlay (1760-1832). Lalande trained Amélie in mathematics so she could help him with his work. He also trained his cousin Michel Lefrançais de Lalande (1776-1839), whom he called his nephew. Michel married Amélie and Lalande then called her his "niece."

Amélie and Michel became important members of the Lalande family team working day and night on many of his projects. In the present work, the vast navigation tables, containing a wealth of calculations, were entirely executed by her. The book was designed to help navigators calculate the time at sea by the altitude of the sun and stars.

Amélie also lectured on astronomy. Michel and Amélie named their son Isaac after Isaac Newton and their daughter Caroline after Caroline Herschel.

Pages 11-19 contain an invaluable bibliography of books on navigation, pilotage, and naval architecture.

This is the finest copy of this work to appear on the market in many, many years.

(*D.S.B.*, VII, pp. 59-82. Lalande, p. 627–"On y trouve le catalogue de tous les bons livres de navigation qui ne sont point dans cette Bibliographie; les tables sont de Mme. Le Français de la Lande. C'etaient les seules tables qui manquassent aux navigateurs pour trouver facilement les longitudes."

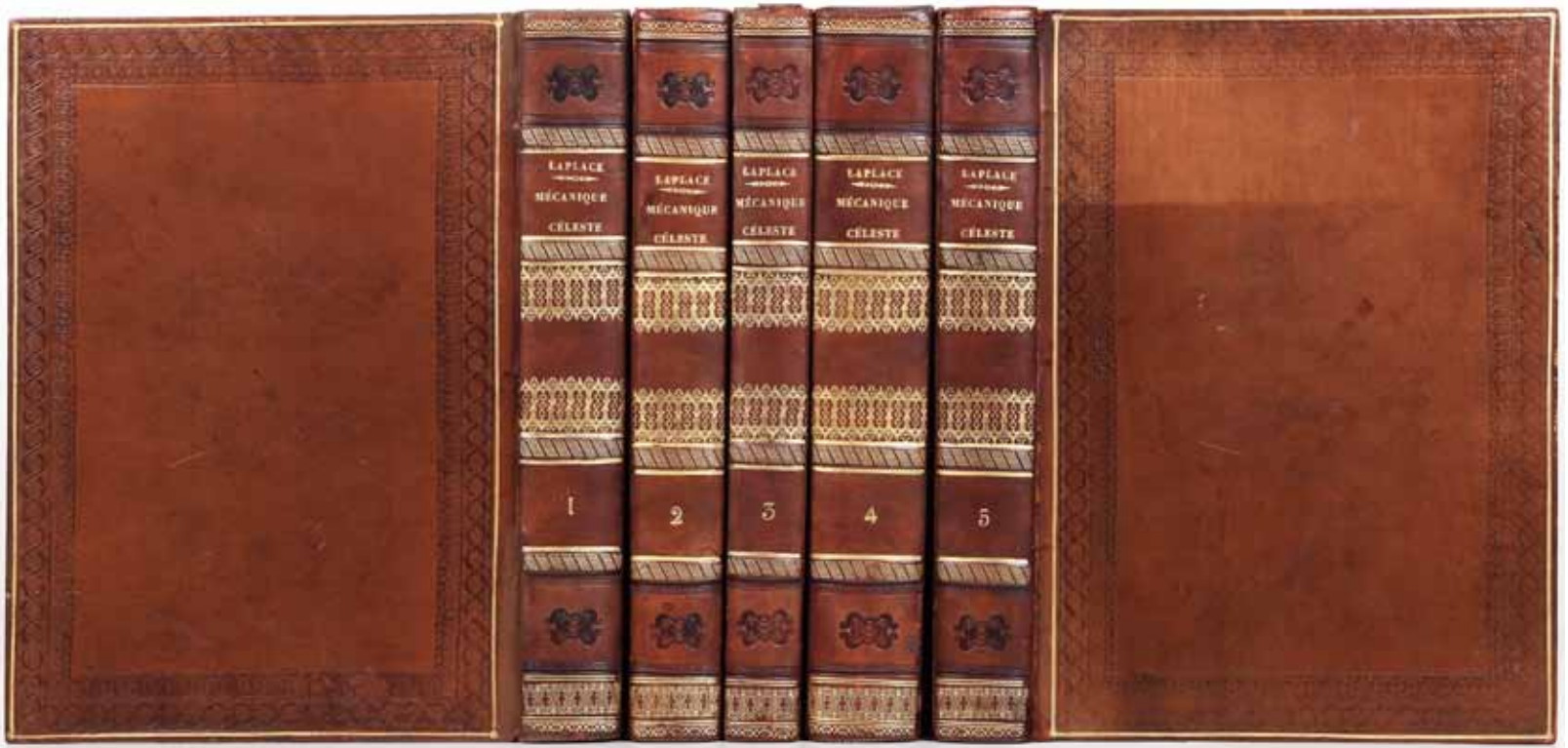
Large & Fine-Paper Set

59. LAPLACE, Pierre Simon, Marquis de.

Traité de Mécanique Céleste. Folding engraved plate in Vol. IV. Five vols. Large 4to (281 x 200 mm.), cont. polished calf, sides panelled in blind & gilt, spines decorated in blind & gilt, a.e.g.. Paris: J.B.M. Duprat & others, An VII [1798]-1825-1827. $85,000.00

First edition, a magnificent set on large and fine paper, complete set with all the supplements. This is the only large and fine paper set I have ever seen on the market.

In this monumental and fundamental astronomical work, Laplace — the "Newton of France" — codified and developed the theories and achievements of Newton, Euler, d'Alembert, and Lagrange. "Laplace main-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tained that while all planets revolve round the sun their eccentricities and the inclinations of their orbits to each other will always remain small. He also showed that all these irregularities in movements and positions in the heavens were self-correcting, so that the whole solar system appeared to be mechanically stable. He showed that the universe was really a great self-regulating machine and the whole solar system could continue on its existing plan for an immense period of time. This was a long step forward from the Newtonian uncertainties in this respect . . . Laplace also offered a brilliant explanation of the secular inequalities of the mean motion of the moon about the earth — a problem which Euler and Lagrange had failed to solve . . . He also investigated the theory of the tides and calculated from them the mass of the moon."–*Printing & the Mind of Man* 252.

A magnificent set, preserved in two boxes. Our set has the first state of the titles of Vols. I and II and all the supplements (the supplement in Vol. V, issued in 1827, is on regular paper).

☾ Dibner, *Heralds of Science,* 14. *D.S.B.,* XV, pp. 273-403. *En Français dans le Texte* 201. Horblit 63. Roberts & Trent, *Bibliotheca Mechanica,* pp. 197-98. Sparrow, *Milestones of Science,* 125.

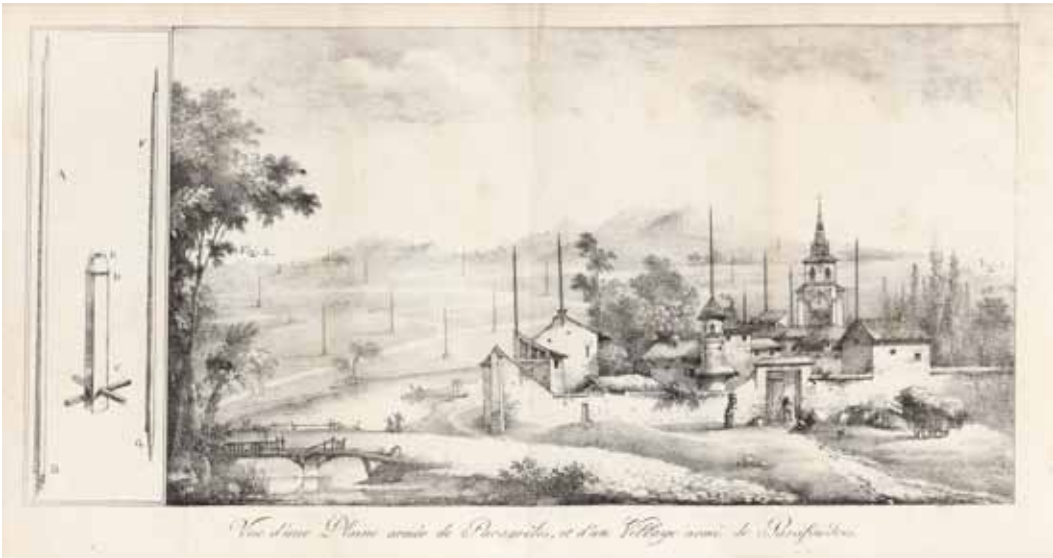
From the Library of the Only "Doppelkaiser" in History

60. LAPOSTOLLE, Alexandre Ferdinand Léonce.

Traité des Parafoudres et des Paragrêles en Cordes de Paille, précédé d'une Météorologie électrique, présentée sous un nouveau Jour, et terminé par l'Analyse de la Bouteille de Leyde. One long folding lithographed plate & one folding printed table. 2 p.l., v, [3] (including the leaf of "explication de la planche"), 320 pp., one leaf of errata.
8vo, cont. red morocco, sides gilt, with arms in gilt of Francis I, the first Emperor of Austria, on each cover, flat spine gilt, a.e.g. Amiens: Caron-Vitet, 1820. $4500.00

First edition and a lovely copy from the library of Francis I (1768-1835), the final Holy Roman Emperor and the first Emperor of Austria, with his arms in gilt on the covers. Lapostolle was an apothecary at Amiens and studied under Cadet de Vaux. Taking Franklin's researches as his starting point, he gives first a general survey of the current state of electrical science, and then a description of his straw-rope lightning rods, which could be used both on buildings and adapted for use in fields to prevent


LA POSTOL
PARAFOUDR
ET
PARAGRÊLE



the destruction of crops by hailstorms.

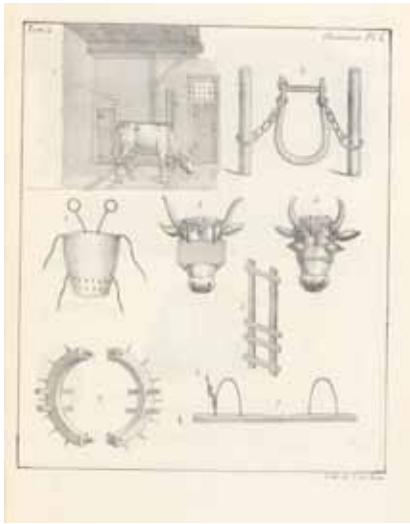
This fascinating work contains one of the stranger illustrations in the history of early electrical books: it is a long lithographed plate depicting the construction of the rods and a view of a village and surrounding fields equipped with them. It very much resembles a modern wind farm.

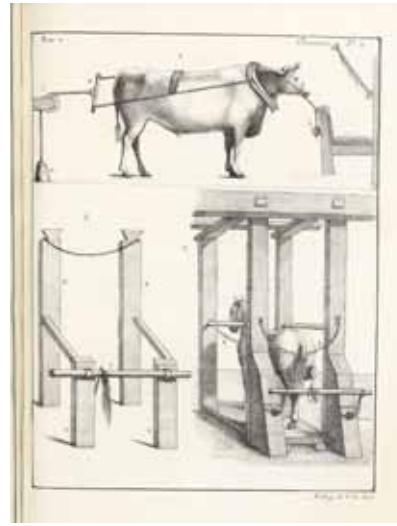
A very fine and handsome copy with half-title. With the copyright notice on verso of title signed by the author. Bookplates of Fernand J. Heitz and Jean-Claude de Rocha Carneiro.

☾ Wheeler Gift Cat. 771.

61. LASTEYRIE DU SAILLANT, Charles Philibert de.

Collection de Machines, d'Instrumens, Ustensiles, Constructions, Appareils, etc. employés dans l'Economie rurale, domestique et industrielle. D'après les dessins faits dans diverses parties de l'Europe . . . 199 finely lithographed plates (the plate "Irrigations, No. 6" in Vol. I was not published). Lithographed title, 48 printed leaves of text including final leaf listing plates; one lithographed leaf of "Prospectus," lithographed title, 45 leaves of text incl. final leaf listing plates. Two parts in one vol. Large 4to, cont. green half-sheep (joints very carefully repaired), spine gilt. Paris, "á l'Etabissement lithographique du Comte de Lasteyrie, Rue du Bac No. 58," 1820-21. $8500.00





First edition of one of the most extensive and important lithographic works published in the early days of the medium. Lasteyrie (1759-1849), agronomist, industrialist, and philanthropist, was much involved in modernizing the agricultural techniques practiced in France. He had taken an interest in lithography almost from the beginning and was, in large part, responsible for making Paris the lithographic center of the world. He established his first lithographic press in Paris in 1815 and did much commercial work for the government, printing of caricatures, vanity projects for the "high society" of the city, and, above all, the drawings of artists and amateurs.

The plates, all signed "C. de Last," contain depictions of farm buildings of various sorts; many kinds of fences, barriers, and walls; carriages, wagons, and wheel barrows; farm tools including hoes and rakes; distillation apparatus; bee hives of many sorts; wine-making equipment; irrigation devices including pumps, water raising devices, canals, and ditches; harnesses for horses, cows, and goats; racks to dry crops; bridges; furnaces; mills; baskets to be placed on horses; chicken coops; ladders; trellises; gates; shelves for aging cheeses; dairy equipment; picks and axes; barns; bird houses; silos; designs for stalls for horses and cows; dams; green houses; etc.; etc.

A fine and attractive copy. Bookplate of the Chateau de Monbouan.

☾ Twyman, *Lithography*, pp. 49-57.

Collection de

MACHINES, D'INSTRUMENS,

USTENSILES, CONSTRUCTIONS, APPAREILS, etc.

employés

dans l'Économie rurale, domestique et industrielle.

D'après les dessins faits

dans diverses parties de l'Europe,

PAR LE COMTE DE LASTEYRIE.

TOME PREMIER.

PARIS

à l'Établissement Lithographique du Comte de Lasteyrie,

Rue du Bac, N.° 58.

1820.

"One of the Most Attractive Little Mathematical Works Ever Published" The Uncommon First Edition

62. LE CLERC, Sébastien.

Pratique de la Geometrie sur le Papier et sur le Terrain. Avec un nouvel Ordre & une Methode particuliere. Engraved frontis., an engraved head-piece at beginning of the dedication, & 82 full-page engravings in the text. 4 p.l. (incl. frontis.), 41, 139, [8] pp. 12mo, 18th-cent. green morocco, sides panelled in gilt, flat spine gilt, a.e.g. Paris: T. Jolly, 1669 (colophon dated 1668).

$4500.00

First edition, and a lovely copy, of this uncommon and influential book, a popular manual for artists and architects. This is "one of the most attractive little mathematical works ever published."–Hofer, *Baroque Book Illustration*, pp. 14 & 32. The illustrations in this book show beautiful small landscapes in the lower portion of the image, while the upper portion shows geometrical diagrams; many are animated by figures (peasants, soldiers, noblemen in contemporary costume). Leclerc's style of illustration strongly influenced the 18th-century French vignettists, prefiguring the grace and elegance of the best French rococo.

Le Clerc (1637-1714), a native of Lorraine, adapted the technique of

his countryman Jacques Callot. Professor of geometry and perspective at the Royal Academy of Arts and Sciences, Le Clerc also worked for Louis XIV as "graveur du Roi."

Fine copy.

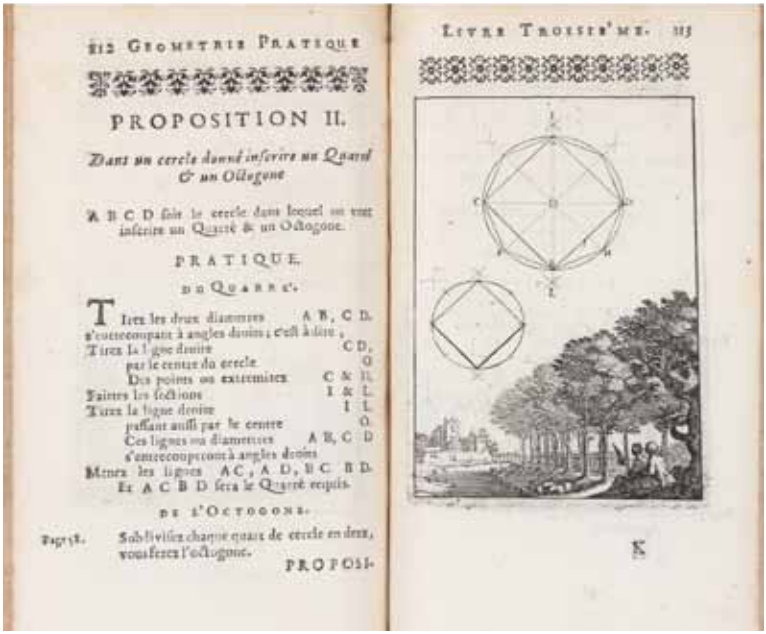
☾ Brunet, III, 915–"elle est recherchée à cause des figures qui y sont de premier tirage."

Bound by Bozerian

63. LE CLERC, Sébastien.

Pratique de la Geometrie sur le Papier et sur le Terrain. Ou par une Methode nouvelle & singuliere l'on peut avec facilité & en peu de temps se perfectionner en cette science. Engraved frontis., an engraved head-piece at beginning of the dedication, & 82 full-page engravings in the text. 4 p.l. (incl. frontis.), 188, [8] pp. 12mo, late 18th-cent. light brown morocco, sides with gilt fillets & concentric circles, flat spine gilt, a.e.g., signed at foot of spine "Rel. P. Bozerian." Paris: J. Jombert, 1682. $1650.00

Second edition, bound by Bozerian, of this popular manual for artists and architects. Fine copy. Tiny chip to head of upper joint.


112 Geometrie Pratique

PROPOSITION II.

Dans un cercle donné inscrire un Quarré & un Octogone

A B C D soit le cercle dans lequel on veut inscrire un Quarré & un Octogone.

PRATIQUE.

du Quarré.

Tirez les deux diametres A B, C D. s'entrecoupant à angles droits; c'est à dire, Tirez la ligne droite C D, par le centre du cercle O. Des points ou extremités C & D. Faites les sections I & L. Tirez la ligne droite I L. passant aussi par le centre O. Ces lignes ou diametres A B, C D s'entrecoupent aussi à angles droits Menez les lignes A C, A D, B C B D. Et A C B D sera le Quarré requis.

de l'Octogone.

Page 58. Subdivisez chaque quart de cercle en deux, vous ferez l'octogone.

PROPOSI-

Livre Troisie'me. 113

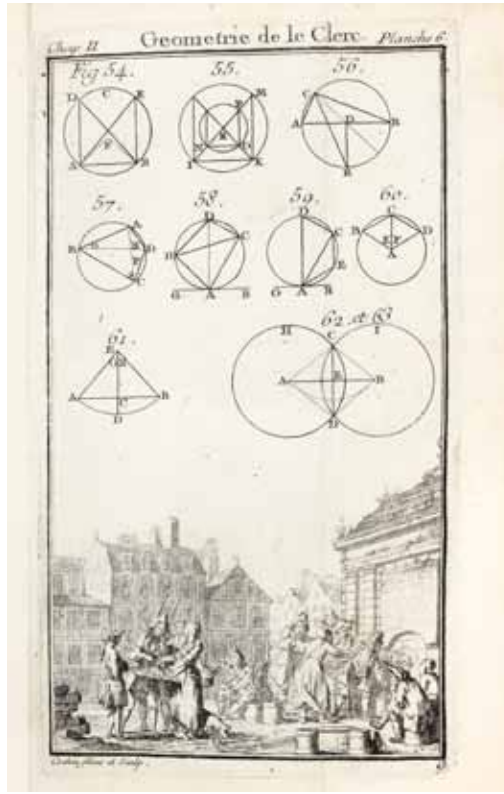
K

64. LE CLERC, Sébastien.

Traité de Geometrie theorique et pratique, a l'Usage des Artistes. Engraved vignette on title & 45 folding engraved plates. Title within double-ruled border. xiv, [2], 231, [9] pp. 8vo, cont. sheep-backed paste-paper boards. Paris: C.A. Jombert, 1744. $1650.00

This new edition, with a new title, contains for the first time a biography of Le Clerc in the preliminary leaves; the plates have been re-drawn and engraved by Cochin and Chedel. While the plates continue to depict landscapes in the lower portion and geometrical diagrams in the upper part, they have been "modernized" for the mid-18th-century reader.

Very good copy. Contemporary ownership inscription on title "Ex libris N. Despret." Small tear in outer blank margin of title strengthened at an early date.



Leibniz Defended — But Too Late

65. LEIBNIZ, Gottfried Wilhelm & BERNOULLI, Jean.

Commercium Philosophicum et Mathematicum. 23 folding engraved plates. 2 p.l., xxviii, 484 pp.; 1 p.l., 492 pp. Two vols. Large 4to, cont. vellum over boards, crowns in gilt in center of each cover, brown leather lettering piece on each spine (Vol. II's label is a little chipped). Lausanne & Geneva: M.M. Bousquet, 1745. $4750.00

First edition. "Important for containing the evidence, as embodied in the correspondence between Leibnitz and Jean Bernoulli, on the question of the rival claims to priority in the invention of the calculus, between Newton and Leibnitz. It was the only serious claim published in Leibnitz's favor and a tardy answer to the *Commercium Epistolicum*, which gave the evidence in Newton's favor."–Babson 196.

Our copy does not contain the portrait of Leibniz (missing in a great many copies).

Fine set. Book label of Sydney Ross.

The Finest Book "Printed" by Computer; Woven Entirely in Silk

66. LIVRE DE PRIÈRES

tissé d'après les Enluminures des Manuscrits du XIVe au XVIe Siècle. Four full-page illus. & each page within a decorative border, all taken from early illuminated MSS. 50 pages. Small 4to, orig. Jansenist-style binding of morocco by J. Kauffmann-Petit, doublures gilt with an aubergine silk panel, aubergine silk endpapers. Lyon: [A. Henry for A. Roux], 1886-88. $35,000.00

This is one of the true marvels of nineteenth-century technology in the service of the "Book Arts," and absolutely must be seen to be fully appreciated. It is a spectacular neo-Gothic Book of Prayers, made of silvery-grey and black silk thread, woven together by means of the Jacquard automated loom method, the results being accurate to within one-tenth of a millimeter. There is a strange and wondrous dimensionality in these pages, which without exaggeration can be said to shimmer. The book also represents an important technical innovation: hundreds of thousands of punched cards were employed as automated weaving instructions, conveyed to an array of mechanized looms. It took two

years of programming and weaving to create approximately 60 copies.

At the time of its invention, in 1801, the Jacquard loom was the most complex programmable machine in existence. The incredible potential of the "Operations / Variables" punched card system, with its binary data and modern "Input / Output / Storage" capabilities, was seized upon by English visionary Charles Babbage, who integrated the process into his theoretical "Analytical Engine." James Essinger has argued convincingly that the Jacquard loom was pivotal in the development of computer science (see *Jacquard's Web: How a Hand-loom led to the Birth of the Information Age*, 2004). With uncanny prescience, the data input mechanisms and intricate algorithms that created the present volume prefigure modern computer automation and computer programming: input consisting of complex instructions conveyed to the mechanical looms by means of punched cards; output in the form preconceived patterns; and memory in which the instructions can be stored and subsequently recovered.

Lillian Randall determined that the "illuminations" in the present Prayer Book actually came from a single source, namely a late 19th-century monograph published by Gruel and Engelmann: *Imitation de Jésus-Christ*, which contained reproductions of a variety of illuminated manuscripts from the 14th through the 16th century.

Our copy is in a perfect state of preservation. Preserved in a slipcase.

☾ For a detailed account of the technical intricacies see: Paul Marais, "Livre de Prières tissé" in the *Bulletin du Bibliophile* (1889), pp. 163-66. Bowden, *Faster than Thought: The Invention of Perforated Cards by M. Jacquard* (London: 1953), pp. 23, 350-51, & 379-80. Michael Laird in *The World from Here. Treasures of the Great Libraries of Los Angeles* (edited by C. Burlingham & B. Whiteman, 2001), 63–"Despite the fact that this rare volume is not a printed book, it is of singular interest in that it was completely woven with silver and black silk thread. It also represents an extremely early book production involving automation and programming . . . The book was manufactured on silk looms that were programmed using the punched-card system developed by Joseph-Marie Jacquard (1752-1834). Several hundred thousand cards were required to program this curious magnum opus (the actual figure is not known, but estimates range from 106,000 to 500,000). After fifty failed attempts, it took two years to weave approximately sixty copies . . . It will be observed that the weave in the present volume is almost microscopic (it is exactly four hun-


Les Prieres
du
Matin
et du Soir


Livre
de Prières
Messe
d'après les Enluminures
des Manuscrits du
XVIe et XVIIe Siècle.
Lyon
MDCCCLXXVI

dred weft threads for every 2.5 centimeters [approximately one inch]) . . . The movement of the machine was limited to one tenth of a millimeter, the result being an extremely precise piece of bookmaking, which, on account of the material used, truly gleams. It is noteworthy that Jacquard's looms, only slightly modified, are still in use today, producing some of the world's finest fabric for furniture. The punched instructional cards utilized by Jacquard's weaving machinery served as the primary inspiration for the famous 'Analytical Engine' conceived by Charles Babbage (1791-1871) . . . The present volume may represent the first, and probably the only, successful attempt at weaving a book."

Pretty Set

67. MACQUER, Pierre Joseph.

Élémens de Chymie-Pratique, contenant la Description des Opérations fondamentales de la Chymie, avec des Explications & des Remarques sur chaque Opération. Engraved vignette on each title. 2 p.l., lxxii, 519, [1] pp.; 8 p.l., 576 pp. Two vols. Small 8vo, cont. mottled calf, spines richly gilt, red & green morocco lettering pieces on spines. Paris: J.T. Hérissant, 1756.

$1500.00

Second edition, revised and corrected; this book "presents the operations of chemistry as applied to mineral, vegetable and animal substances and is, as well, an extensive account of compound substances."–Cole, p. 361.

Fine and handsome set. 18th-century engraved French armorial bookplate in each volume.

☾ Cole 883–"The second edition has some corrections and additions. The Avant-Propos was expanded and a long section, Eclairissemens, responding to criticisms of the first edition by the unknown translator of Cramer's Elementa artis docimasticae and by the editor of Lemery's Cours de chymie, Théodore Baron d'Hénouville (1715-1768)."

"An Important Milestone" Presentation Copy

68. MAGALHAES (or MAGELLAN), João Jacinto de.

Description of a Glass Apparatus for making Mineral Waters, like those of Pyrmont, Spa, Seltzer, &c. in a few Minutes, and with a very little Expence: together with the Description of some new Eudiometers, or Instruments for ascertaining the Wholesomeness of Respirable Air ; and the Method of using these Instruments: In a Letter to the Rev. Dr. Priestley . . . by J.H. de Magellan . . . Engraved frontis. viii, 47 pp. 8vo, later wrappers (title a little browned), uncut. London: Printed for W. Parker . . . , 1777. $2500.00

First edition of "an important milestone in the early literature of gas analysis . . . Magellan (1722-90), was an Augustinian prior who emigrated to England and Protestantism in 1764. Elected F.R.S. (1774), he published this account of his researches on gases, addressed to Joseph Priestley. The glass apparatus for impregnating water with fixed air (carbon dioxide) is described in detail. Newly improved by 'Mr. Parker,' the apparatus was superior to that used by Priestley and described by him in 1772. Carbon dioxide was prepared by dissolving marble (calcium carbonate) in dilute sulphuric acid. Magellan also describes three new types of eudiometer he had designed; these, and the apparatus for making carbonated waters, are illustrated in the frontispiece."–Neville, II, p. 125.

Very nice copy, inscribed by Magellan at the head of the title-page: "Comte de Castelbourgh par L'Auteur." The attractive frontispiece depicts 24 figures of apparatus.

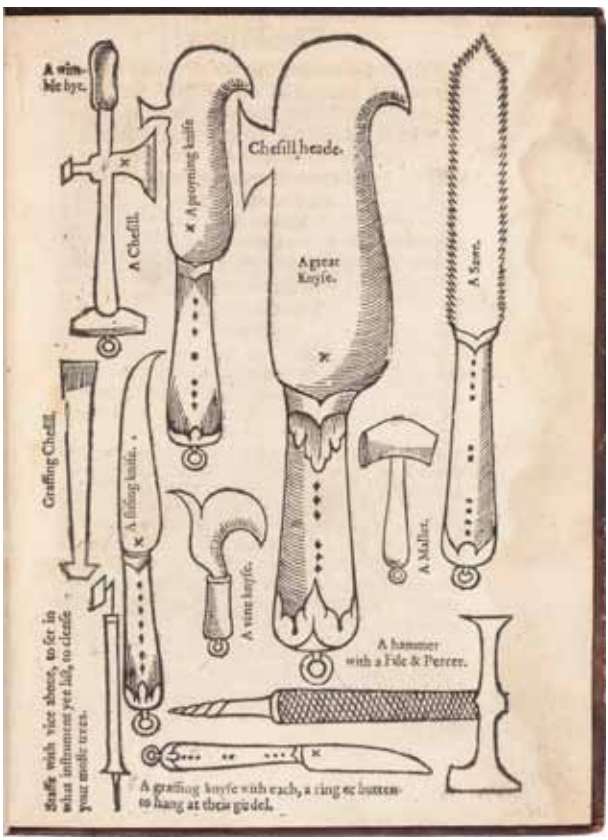
☾ *D.S.B.*, IX, pp. 5-6.

The First English Gardening Manual

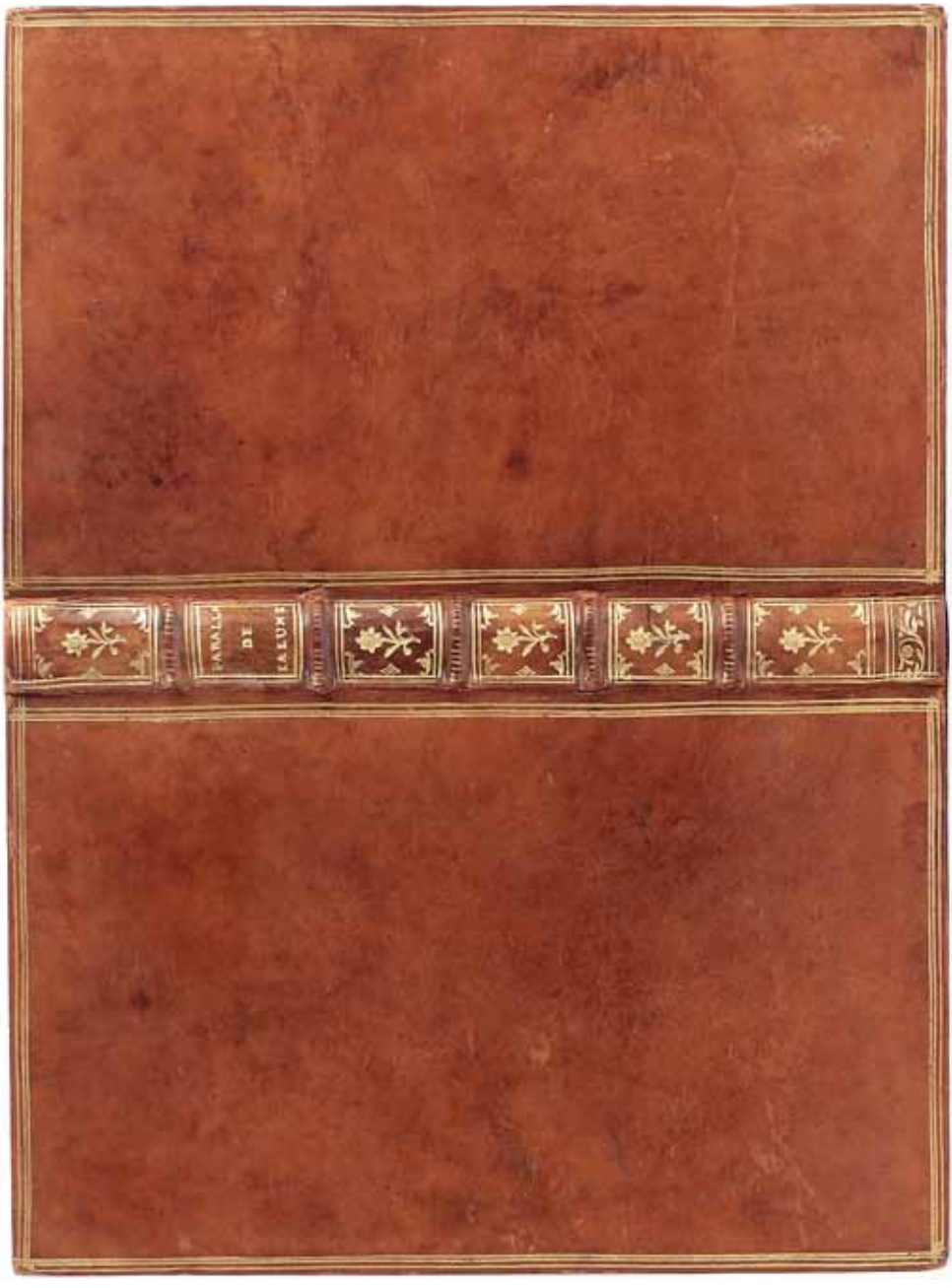
69. MASCALL, Leonard.

A Booke of the Arte and maner how to Plant and Graffe all sorts of Trees, how to set Stones & sow Pepins, to make wyld trees to graffe on, as also remedies and medicines. With divers other newe practises, by one of the Abbey of Saint Vincent in Fraunce . . . wyth an addition in the ende of this book, of certayne Dutch practices, set forth and Englished by . . . Woodcut vignette on title, one full-page woodcut, & several smaller woodcuts in the text. Black letter. 11 p.l., 88, [10] pp. Small 4to, late 18th cent. calf (upper joint cracked but strong, small paper flaw on blank outer margin of title, fore-edges faintly dampstained), spine lettered in gilt. London: J. Wight, 1575. $15,000.00

The third edition of the first English gardening manual; the first edition appeared in 1569 and all 16th-century printings are rather rare on the market. Mascall took most of his text from David Brossard's *Art et Manière de Semer et Faire Pépinières de Sauvageaux* (Paris: 1552) with certain Dutch practices added. "Brossard, a Benedictine monk at the abbey of Saint-Vincent near Le Mans, who lived during the second half of the sixteenth century, was a skilful horticulturist . . . The English translation proved extremely popular and it appeared in many editions. Comparatively little is known of the translator, Leonard Mascall (d. 1589), who was the owner of a mansion called Plumpton Place, a few miles northwest of Lewes, in Sussex. He became clerk of the kitchen in the household of Matthew Park, Archbishop of Canterbury. It is said that in 1525 Mascall introduced pippin apples into England and established an orchard at his home in Sussex."–Henry, I, pp. 63-64 & p. 258 in the bibliography.



A very good copy, preserved in a box. Head of spine a bit chipped and a few headlines just shaved.


DE SALUTE

A Large & Thick Paper Copy

70. MAUPERTUIS, Pierre Louis Moreau de.

Discours sur la Parallaxe de la Lune, pour perfectionner la Théorie de la Lune et celle de la Terre. Numerous woodcut diagrams in the text. xxxii, 133 pp. 8vo, cont. blond calf (very short crack at foot of upper joint), triple gilt fillet round sides, spine nicely gilt, contrasting morocco lettering piece on spine, a.e.g. Paris: Imprimerie Royale, 1741. $9500.00

First edition and a fine copy, printed on large and thick paper. This is a further work by Maupertuis to determine the shape of the earth through the accurate measurement of a degree of the meridian, using the results of the French expedition to Lapland in 1735. He argued "that a theory of the moon's motion, based on parallax observations, was integrally tied to accurate knowledge of the shape of the earth."–Terrall, *The Man who Flattened the Earth. Maupertuis and the Sciences in the Enlightenment*, p. 168.

Maupertuis (1698-1759), was the foremost proponent of the Newtonian movement in France.

Fine copy. Unidentified ownership inscription on title: "D. Cht d. Ves."

☾ *D.S.B.*, IX, pp. 186-89. Not in Babson or Wallis.

71. (MINING LAWS, Germany).

Neue Berg-Ordnung des Eisslebisch- und Mansfeldischen Bergwercks. Woodcut printer's device on title. 19 leaves, one blank leaf. Small folio, later 18th-century half-sheep & speckled boards, spine gilt. Eisleben: A. Koch, 1674. $3950.00

A most interesting volume containing a printed edition of mining laws of 1674 and three manuscript copies of mining laws of the 16th century, assembled by and bound for August Ferdinand, Graf von Veltheim (1741-1801). He was appointed in 1790 by Empress Catherine of Russia as general inspector of mines and saltworks in the western regions of the Russian empire. Geology and mining were favorite subjects and at his home in Harbke, he formed an important library along with a fine cabinet of minerals and fossils. His books, with their characteristic oval ownership stamp on the verso of the title of his son Röttger, still appear on the market with some regularity. They are always in very fine condition.

Eisleben and Mansfeld in the eastern foothills of the Harz Mountains were important mining towns, where silver and copper mining took


Neue
Berg-Ordnung
Des Eißlebiſch- und Mansfeldiſchen
Bergwercks.
Eißleben /
Druckts Andreas Koch / 1674.

place from the beginning of the 13th century. The 52 sections in the printed collection of laws (dated 28 October 1673) — no copy in North America according to WorldCat — concern surveying, assaying standards, weighing instruments, labor laws, wages, division of profits, etc., etc. They reflect the practical concerns and problems of operating a mine.

Also bound-in is an 18th-century manuscript copy, written in one neat hand on 63 leaves, of three mining laws of the 16th century: "Neue Ordnung und Reformation der Züsammensetzung Eislebishen und Mansfeldischen Bergkwergs . . . Actum Dresden, den 26 Julii Anno 1568;" "Volget der ander Umbzüge der Mansfeldischen Bergkgrentze . . . Anno 10, 11, und 12 Septembris 1571," and "Protestatio beider Bergkvoigt, Richter und Geschwornen Mansfeldischen und Eislebischen Berges an alle Graven zu Mansfeld [1572]." I do not know if these have been printed.

Very fine condition.

72. (MINING LAWS, Germany).

Der Durchläuchtigen Hoch-Gebohrnen Fürsten und Herren, Herrn Christiani und Herrn Joachim Ernsten, Gebrüdern, Marggrafen zu Brandenburg in Preussen . . . Berg Ordnung . . . mit Befreyung und neuen Artickuln vermehret . . . Title printed in red & black. 2 p.l., 84, [8], 15, [1] pp. Small folio, later 18th-century half-sheep & speckled boards, spine gilt. Bayreuth: J. Lober, 1715.

[BOUND WITH]:

(—). Manuscript on paper entitled "Die New gegebene Bergkfreyheit uber die Vichtelbergischen Ertzgebirge, ausgegangen den Ersten Marti des Funffzigisten Jares" by Albrecht Alcibiades, Markgraf von Brandenburg-Kulmbach. Attractive pen-and-ink coat-of-arms on title. 9 leaves (final leaf blank). Written in a fine & highly legible hand. Small folio (320 x 198 mm.). [Germany: 18th-century]. $3500.00

An attractive volume containing a printed edition of Prussian mining laws of 1715 and a manuscript copy of mining laws first printed in Zwickau in 1550, assembled by and bound for August Ferdinand, Graf von Veltheim (1741-1801). He was appointed in 1790 by Empress

Catherine of Russia as general inspector of mines and saltworks in the western regions of the Russian empire. Geology and mining were favorite subjects and at his home in Harbke he formed an important library along with a fine cabinet of minerals and fossils. His books, with their characteristic oval ownership stamp on the verso of the title of his son Röttger, still appear on the market with some regularity. They are always in very fine condition.

There are 122 "Artickuln" in the printed collection of laws. No copy is listed in North America according to WorldCat. They concern surveying, assaying standards, weighing instruments, labor laws, wages, division of profits, etc., etc. and they reflect the practical concerns and problems of operating mines.

Also bound-in is an 18th-century manuscript copy, written in one neat hand on 9 leaves (final leaf a blank), of mining laws first printed in Zwickau in 1550.

At end are two further printed "Resolutiones in Berg-Sachen" of Christian Friedrich Carl Alexander, Markgraf zu Brandenburg dated 28 June 1771 (2 p.l., 8 pp.).

Very fine condition.

The Death of Astrology

73. MONTANARI, Geminiano.

L'Astrologia convinta di Falso col mezzo di nuove esperienze, e Ragioni Fisico-Astronomiche, ó sia la Caccia del Frugnuolo . . . Fine engraved port. of the author holding a telescope. xiv (i.e. xvi), 158 (i.e. 160) pp. 4to, cont. limp boards (boards slightly soiled, minor spotting), uncut. Venice: F. Nicolini, 1685. $2950.00

First edition and a lovely copy in original state. This book, a summary of Montanari's battles against astrology, aroused great interest and brought about the banning of astrology from the universities. In this work, Montanari "instead of merely fulminating against astrology or repeating old arguments, attempted to show its falsity by experiments as well. His book is furthermore written in a sober, dispassionate and impartial manner which accords well with experimental science."–Thorndike, VIII, p. 342.

Montanari (1633-87), professor of mathematics at the University of Bologna, was in large part responsible for laying the groundwork for the

extraordinary flowering of science in Bologna at the beginning of the 18th century. His greatest achievements were in astronomy, particularly in the study of variable stars.

Fine copy. Initials of "AP" at foot of title. Doodle in lower blank margin of portrait.

(*D.S.B.*, IX, pp. 484-87. Riccardi, II, 175.

Tobacco

74. NEANDER, Johann.

Tabacologia: hoc est Tabaci, seu Nicotianae descriptio Medico-Chirurgico-Pharmaceutica vel eius praeparatio et usus in omnibus fermè corporis humani incommodis. Finely engraved title, engraved port. of the author (a bit shaved at top), & nine full-page engraved plates. 20 p.l. (incl. engraved title & port.), 256, [3] pp. 4to, 18th cent. olive morocco, triple gilt fillet round sides, arms in gilt of Louis Joseph de Bourbon-Condé (1736-1818) on covers, spine gilt (joints a little rubbed), a.e.g. Leiden: I. Elzevier, 1626. $6500.00

First edition, second issue with the addition of the finely engraved title-page dated 1626 and rare portrait (the first edition had only a printed title which was removed for the second issue). Apart from these first two leaves, the rest of the volume consists of sheets of the first edition.

This is the "most famous early book dealing wholly with the subject of tobacco . . . Neander (1571-1639), a physician of Bremen, treats tobacco as a medicine, especially against the plague. Of pharmaceutical chemical

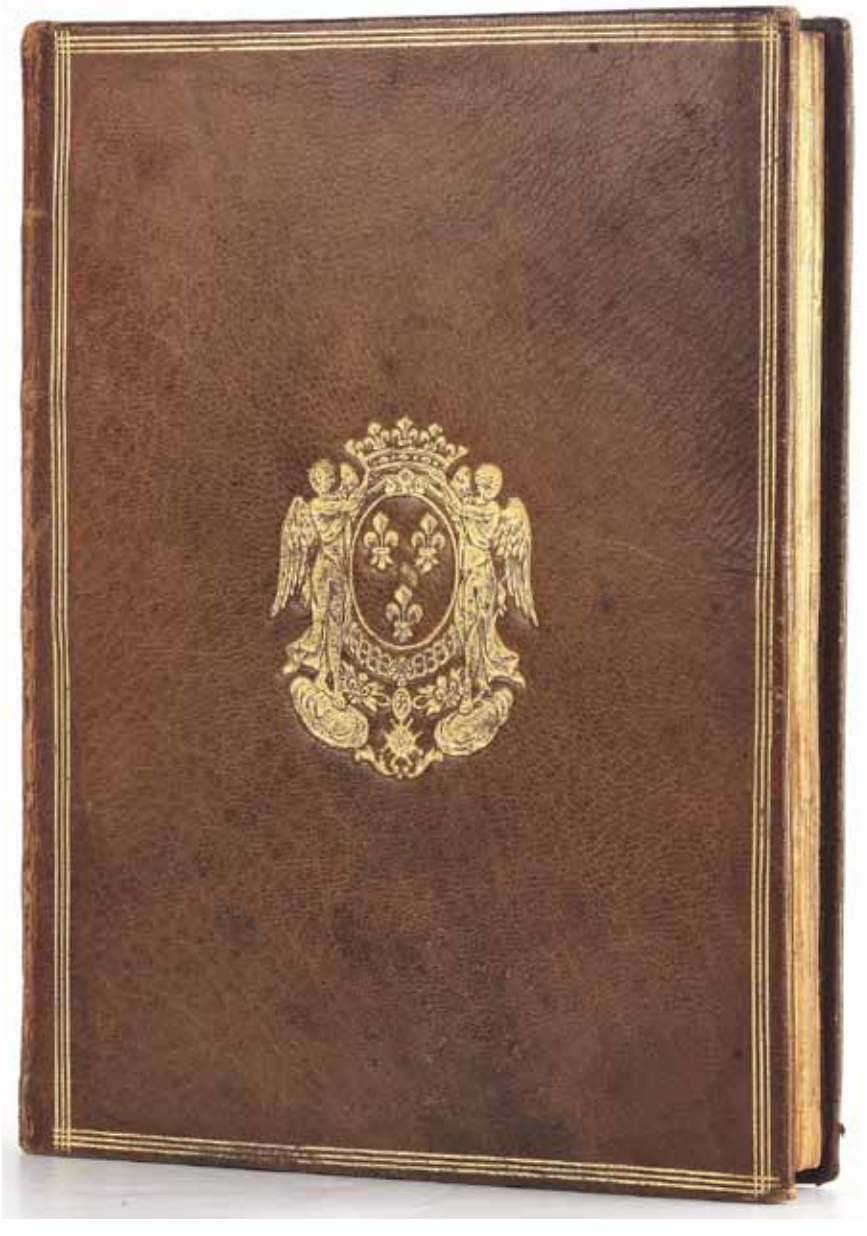
interest are the prescriptions containing tobacco for treating a wide variety of diseases. Three of the fine plates are etchings by the famous Dutch painter Moses van Uytenbroeck, showing Indians preparing tobacco, and these are the earliest illustrations of the American tobacco trade . . .

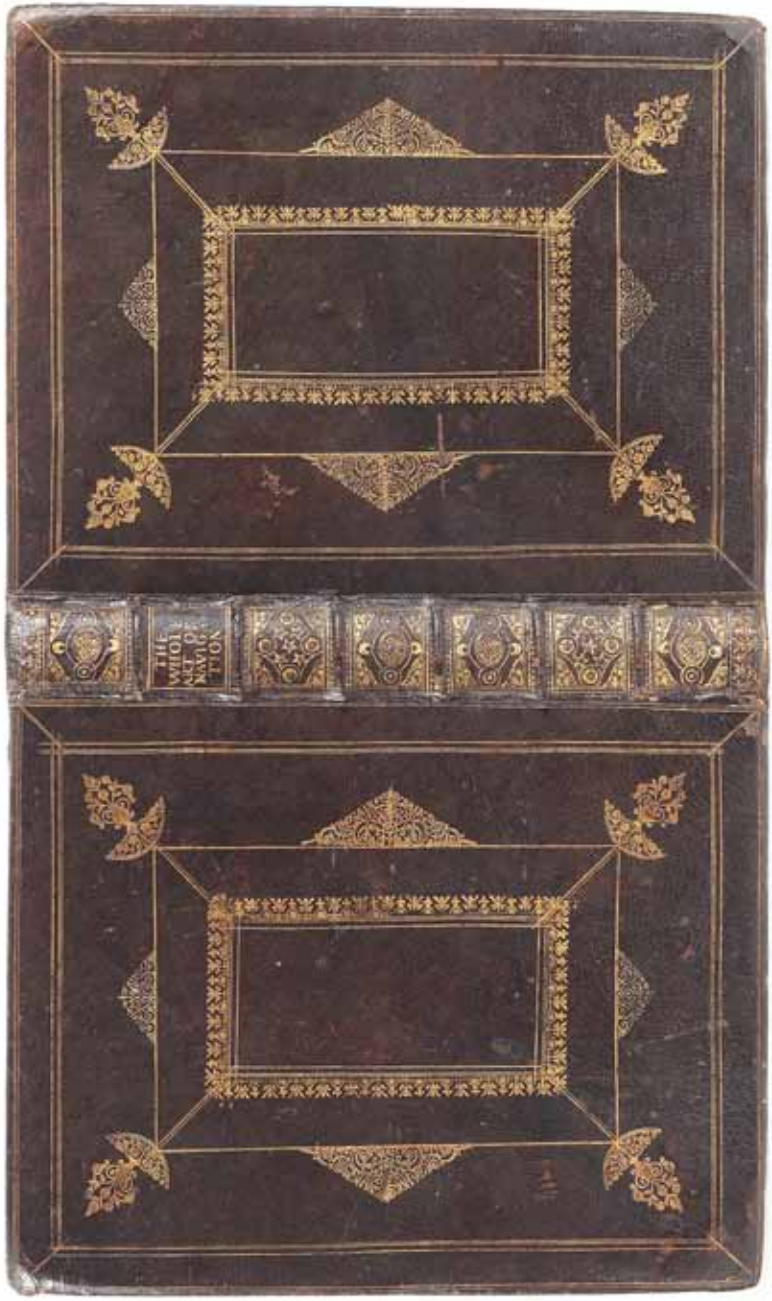
"The last two leaves contain a poem in Dutch, by Joost van Ravelingen, praising tobacco. Its popularity as a stimulant spread rapidly during the early seventeenth century, and on page 47 is an account of the post-mortem of a young man whose death is attributed to his addiction to smoking, having had no previous illness."–Neville, II, p. 216–(lacking the portrait and incorrectly calling this a second edition).

The finely engraved title-page is most handsome and depicts chemical apparatus. The engraved portrait of the author is rarely present.

Fine and handsome copy. Faint dampstaining to margins at end. From the Debry collection with bookplate (sale 1966, lot 139).

☾ Willems 257.

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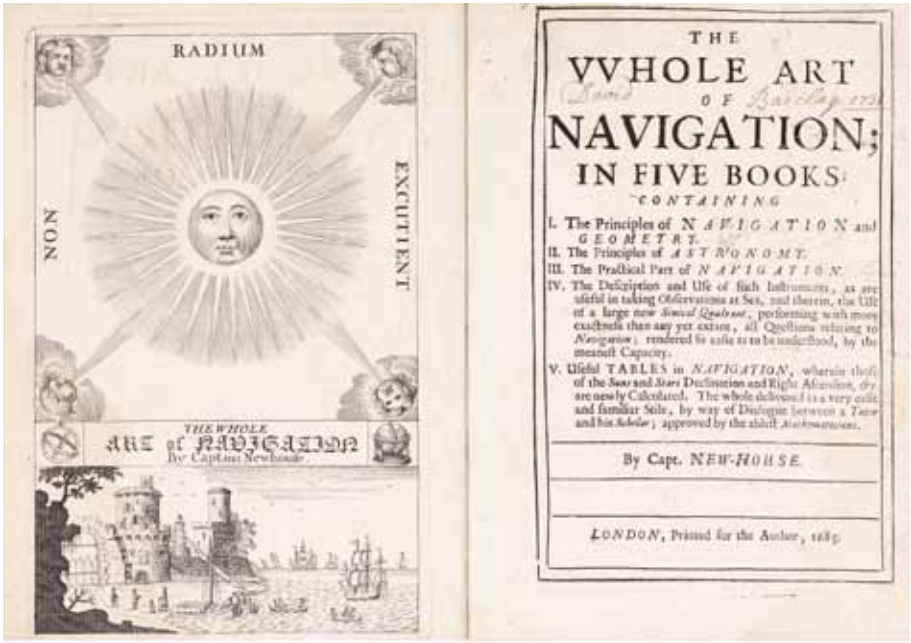


In a Charles Mearne Binding

75. NEWHOUSE, Daniel.

The Whole Art of Navigation; in Five Books: Containing I. The Principles of Navigation and Geometry. II. The Principles of Astronomy. III. The Practical Part of Navigation. IV. The Description and Use of such instruments, as are useful in taking Observations at Sea, and therein, the Use of a large new Sinical Quadrant, performing with more exactness than any yet extant, all Questions relating to Navigation; rendered so easie as to be understood by the meanest Capacity. V. Useful Tables in Navigation, wherein those of the Suns and Stars Declination and Right Ascension, &c. are newly calculated. The whole delivered in a very easie and familiar Stile, by way of Dialogue between a Tutor and his Scholar; approved by the ablest Mathematicians. Engraved frontis., two folding engraved charts, six engravings in the text, and numerous woodcut diagrams & illus. in the text. 10 p.l., 199, 100-124, 121-152, 253-311, [1], 128, 113-131 pp. [and quite complete]. 4to, cont. black morocco by the Charles Mearne bindery (short crack at foot of upper joint, faint dampstain in lower outer corner to first 50 leaves), sides panelled in gilt, inner panel with roll-tooled floral

pattern, the corners surmounted with floral & vase devices, spine richly gilt, a.e.g. London: Printed for the Author, 1685. $45,000.00

First edition and very rare; ESTC locates only the Huntington and Yale copies in North America. This is a fine and fresh copy in a binding from the Charles Mearne bindery, using a number of tools which can be traced to the Mearne bindery (see Nixon, *English Restoration Bookbindings* (1974), plates 17, 30, 31, 33, and 34).

"Captain Newhouse gives a clear and comprehensive account of navigational practise in his day, including the astronomical tables then in use, but he prints the faulty tables of the sun's parallax published by Tycho Brahe and Philip Lansberg, giving values up to 2 and 3 minutes, whereas it has been shown to be a matter of seconds only (correctly 8 sec.), as well as the tables of refraction by the same two astronomers which had been improved upon. He gives an engraving of the sinical quadrant, which with the astrolabe, cross-staff, Davis's Quadrant (i.e. backstaff) and the astronomical ring are the instruments recommended."–Taylor, *The Mathematical Practitioners of Tudor & Stuart England 1485-1714*, 443.

This was a successful book with at least four editions through 1718.

Nice copy. Minor wear and a slight tear in inner blank margin of frontispiece. Signature of "David Barclay 1731" on title and repeated on rear free endpaper. Bookplate of the Institution of Naval Architects, Scott Library.

76. PARACELSUS.

Erster [—Ander—Dritte] Theil der grossen Wundartzeney . . . von allen Wunden, Stich, Schüsz, Brendt, Thierbissz, Beinbrüch . . . Fine woodcut vignette (each different) on titles & several full-page woodcut illus. in the text. Titles printed in red & black. 12 p.l., 116 leaves (the last blank); 12 p.l. (the last


Der ander Theil

Der grossen Wundtartz-

ney deß weitberhümpten / bewerten / vnnd

erfahrnen / Theophrasti Paracelsi von Hohenheim /

der Leib vnd Wundartzney Doctorn / Von der offnen

Schäden vrsprung vnd heylung. Auß rechtem grundt vnd

bewerten stücken treüwlich an

Tag geben.

Mit Röm. Keis. Mateſtet Freyheit nicht

nachzudrucken.

blank), 129, [1] leaves; 74 unnumbered leaves (the last blank). Three parts in one vol. 4to, later limp vellum, yapp edges. [Colophon in Part II: Frankfurt am Main: G. Raben & the Heirs of W. Hanen, [1562].] $12,500.00

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

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

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

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

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

Fine and fresh copy.

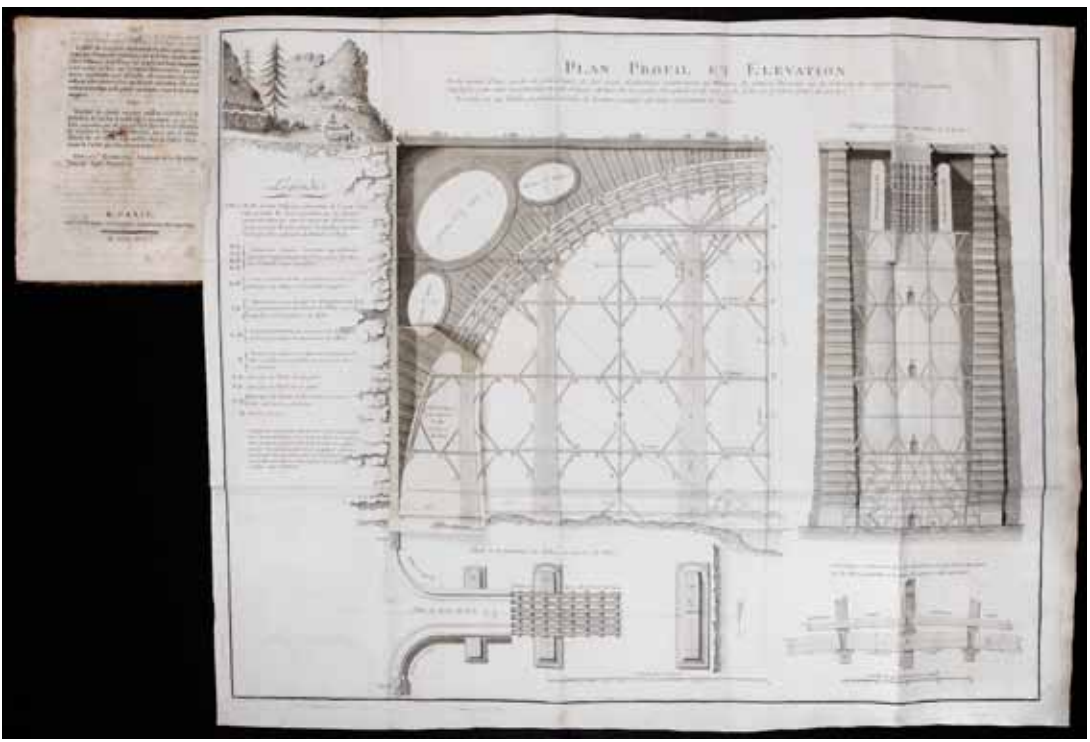
☾ Sudhoff 52.

77. PERRONET, Jean Rodolphe.

Mémoire sur la recherche des moyens que l'on pourroit employer pour construire de grandes Arches de pierre de deux cents, trois cents, quatre cents, & jusqu'à cinq cents pieds d'ouverture, qui seroient destinées à franchir de profondes vallées bordées de rochers escarpés. One large folding engraved plate. 1 p.l., 44 pp. Large 4to, cont. half-sheep & marbled boards (minor foxing). Paris: de l'Imprimerie Nationale, 1793. $4250.00

First edition. "This *Mémoire* on his monumental concept of masonry bridges with spans of 200 to 500 feet is the rarest of all Perronet's works. Inspired by some of the great spans of the past (Verona 150ft or Pontypridd 178ft) he asks why, 'dans un siècle ou les sciences & les arts ont fait de si grands progrès, ne pourroit-on pas se flatter d'en établir solidement qui ayent encore plus d'ouverture?' . . .

"Perronet is fascinated by the challenge of building such huge spans,



particularly that of 500ft, and three main problems are considered. The first of these is the choice of stone and here he draws on his considerable knowledge, derived from experiments carried out on the strength of stone from quarries all over France, as well as citing his experience during the construction of the Neuilly bridge. The other two problems concern the design of centring for such a gigantic arch and the method of dismantling it after the keystone has been put in place. Here, too, he brings his unparalleled experience to bear in his design but cites the theoretical works of Parent, Buffon, Musschenbroek and Couplet to prove its feasibility . . .

"The spandrels of his arch were to have been pierced by three voids, reminiscent of the Pontypridd bridge, and the design and construction of these are discussed, together with the retaining walls, the fill of the haunches behind the spandrel walls etc. Altogether a remarkable work (illustrated with a single magnificent plate)."–Elton, *Cat. 5*, 42.

Perronet (1708-94), was the founding director of the École des Ponts et Chaussées and developed the classical stone arch bridge to its ultimate perfection.

The fine and very large plate depicts the projected 500 foot bridge and has an engraved flap pasted over a portion of the image to show before-and-after effects.

Very good copy.

☾ *D.S.B.*, X, pp. 527-28. Picon, *French Architects and Engineers in the Age of Enlightenment*, pp. 167-68.

"The Dawn of Experimental Research in Cancer"–Raven

78. PEYRILHE, Bernard.

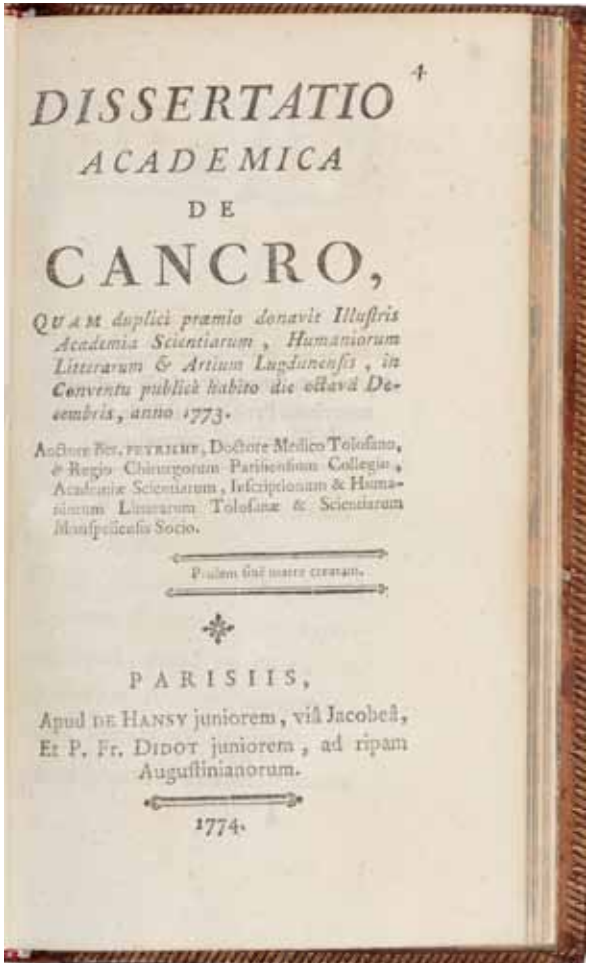
Dissertatio Academica de Cancro, quam duplici proemio donavit illustris Academica Scientiarum, Humaniorum Litterarum & Artium Lugdunensis, in Conventu publicè habito die octava Decembris, anno 1773. 2 p.l., 100 pp. Small 8vo, cont. polished calf (a little rubbed, carefully rebacked by Trevor Lloyd), spine gilt, red morocco lettering piece on spine. Paris: Hansy Jr. & P.Fr. Didot Jr., 1774. $13,500.00

First edition and a book of very considerable rarity. WorldCat lists only two copies in American libraries. Peyrilhe (1735-1804), "was the first to attempt an experimental study to determine the nature of cancer. He

injected fluid from human mammary cancer into a dog . . . Peyrilhe recognized for the first time the essential unity of the many different forms of cancer."–Garrison-Morton 2608. He advocated surgical treatment in mammary cancer, removal of the axillary notes and even of the pectoralis major.

Fine copy with the bookplate of "Petri Vidal, Doct. Med. Monsp." A French translation appeared two years later.

☾ Raven, *The Theory and Practice of Oncology*, p. 10–"The dawn of experimental research in cancer."



DISSERTATIO
ACADEMICA
DE
CANCRO,

Quam duplici præmio donavit Illustris Academia Scientiarum, Humaniorum Litterarum & Artium Lugdunensis, in Conventu publicè habito die octavâ Decembris, anno 1773.

Auctore Fr. PEYRILHE, Doctore Medico Tolosano, & Regio Chirurgorum Parisiensium Collegio, Academiæ Scientiarum, Inscriptionum & Humaniorum Litterarum Tolosanæ & Scientiarum Monspeliensis Socio.

Proximus sum egomet mihi.

PARISIIS,
Apud DE HANSY juniorem, viâ Jacobeâ,
Et P. Fr. DIDOT juniorem, ad ripam Augustinianorum.

1774.

79. PLINY, the Elder.

Historiae Mundi Libri XXXVII . . . accesserunt ad Marginem Variae Lectiones ac Notae Fer. Pintiani, Adr. Turnebi, Ios. Scaligeri, Iusti Lipsi, & aliorum doctissimorum virorum scriptis diligenter excerptae, quorum nomina sequenti pagina indicantur . . . cum duplici Indice. Title printed in red & black. 18 p.l., 679 pp.; [24], [92] leaves. Two parts in one vol. Large folio, cont. blind-stamped panelled pigskin over boards (light browning). [From title-page of second part]: Lyon [but really Geneva]: P. Santandreanus, 1582. $2950.00

An excellent edition of Pliny's *Natural History,* the greatest general scientific and encyclopedic work of antiquity, a storehouse of physical, geographical, and historical knowledge which profoundly affected the Western world's thought for more than 1500 years. It deals with mathematics, physics, geography, astronomy, medicine, physiology, zoology, botany, geology, mineralogy, mining, metallurgy, pharmacology, anthropology, philosophy, history, agriculture, the arts and letters, etc.

This edition contains the valuable *Castigationes* of Sigismund Gelenius (1497-1554), the eminent Greek scholar and humanist, who used two ancient manuscripts in the preparation. Adrianus Turnebus (1512-65), professor of Greek at the College Royal, Joseph Justus Scaliger (1540-1609), Justus Lipsius (1547-1606), and others have provided notes and variant readings.

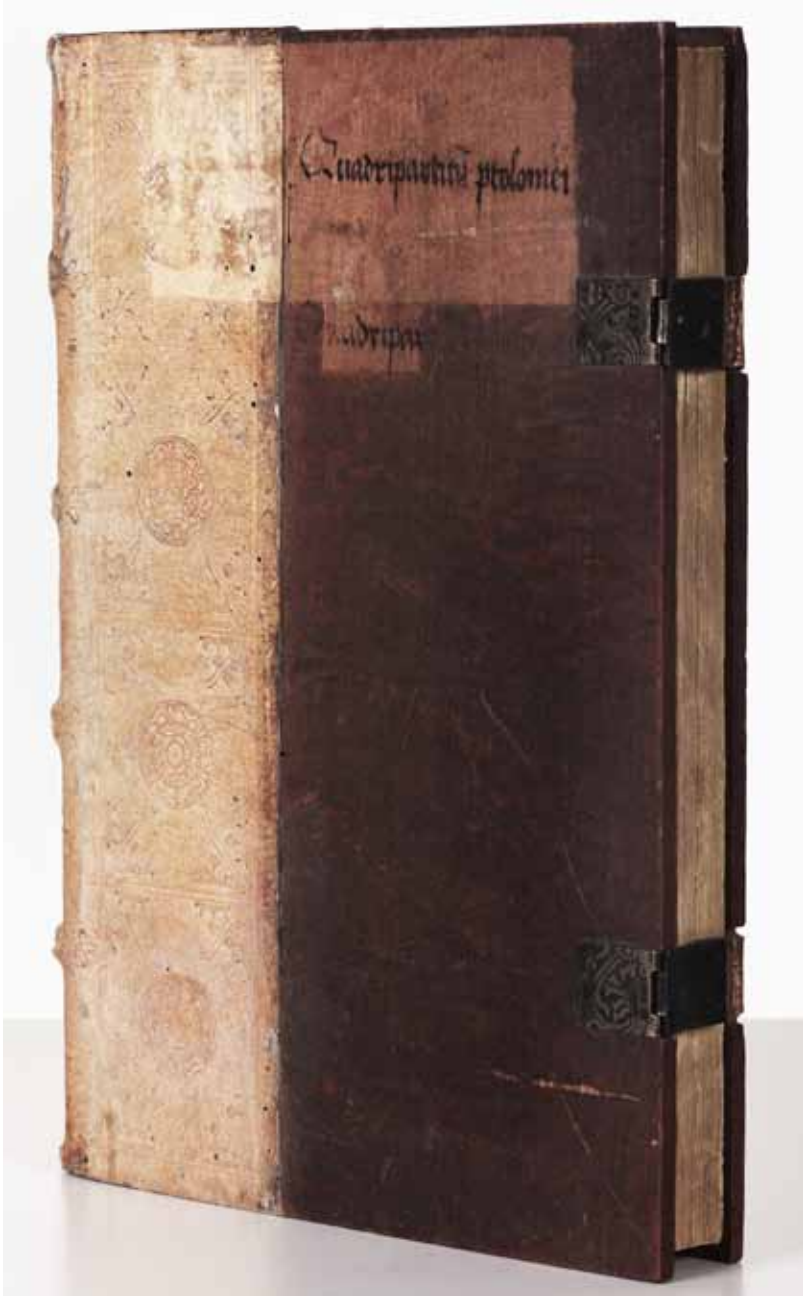
At end there is an invaluable 184-page index. Bound-in at the end is a engraved map of Europe from Ortelius.

Fine copy. One leaf of index with a neat 3-inch clean tear.

"A Little Astrological Library"–Westman; An Edition Studied by Copernicus?

80. PTOLEMAEUS, Claudius.

Quadripartitium. Centiloquium cum commento Hali [& other works]. [Edited by Girolamo Salio]. Eighteen woodcut diagrams in the text, numerous woodcut initials, & a woodcut printer's device on recto of final leaf. Rubricated throughout in red. Gothic type, 66 lines & headlines. Two columns. 2 p.l., 152 numbered leaves. Folio (310 x 210 mm.), cont. blind-stamped pigskin-backed wooden boards (spine a little rubbed, some unimportant worming at front & back), orig. or early clasps & catches. Venice: Bonetus Locatellus for O. Scotus, 20 Dec. 1493. $75,000.00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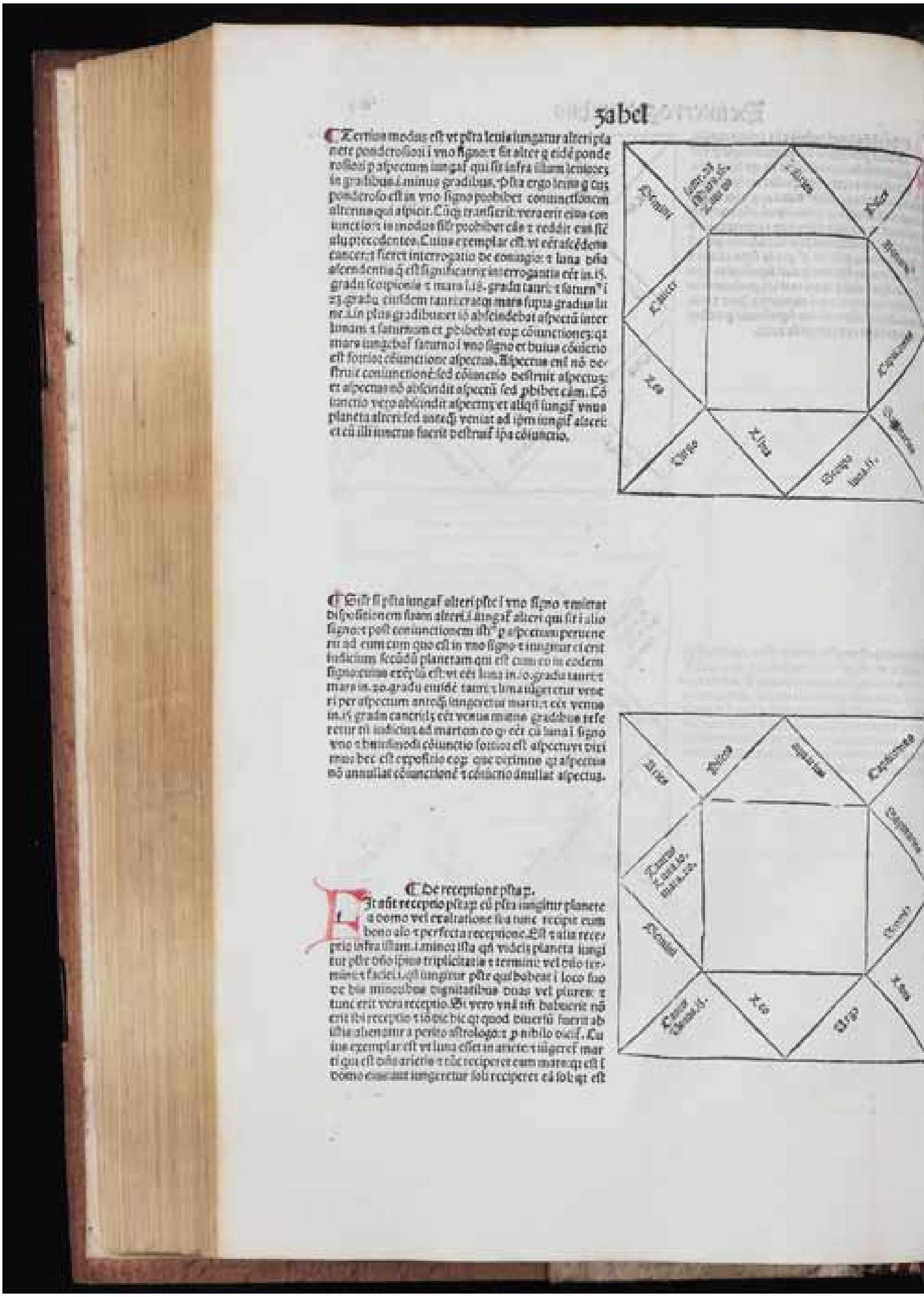


Zahel

Tertius modus est vt planeta leuis iungatur alteri planete ponderosiori in vno signo et sit alter q eidem ponderosiori p aspectum iungat qui sit infra illum leuiorem in gradibus .i. minus gradibus. planeta ergo leuis q cum ponderoso est in vno signo prohibet coniunctionem alterius qui aspicit. Cum transierit: vera erit eius coniunctio: in modum sit prohibet eam et reddit eam sic alius precedentes. Cuius exemplar est vt eet ascendens cancer: et fieret interrogatio de coniugio: et luna dna ascendentis q est significatrix interrogantis eet in .15. gradu scorpionis et mars in .18. gradu tauri: et saturn9 in 23. gradu eiusdem tauri: erat q mars supra gradus lune .3. in plus gradibus et io abscindebat aspectu inter lunam et saturnum et phibebat eorum coniunctionem: q mars iungebat saturno in vno signo et huius coniunctio est fortior coniunctione aspectus. Aspectus enim no destruit coniunctionem sed coniunctio destruit aspectum: et aspectus no abscindit aspectum sed phibet eam. Coniunctio vero abscindit aspectum et aliqn iungit vnus planeta alteri: sed anteq veniat ad ipm iungit alteri et cum illi iunctus fuerit destruit ipa coniunctio.

Sed si planeta iungat alteri planete in vno signo et mittat dispositionem suam alteri .i. iungat alteri qui sit in alio signo et post coniunctionem istius p aspectum perueneri ad eum cum quo est in vno signo et iungitur ei erit iudicium secundum planetam qui est cum eo in eodem signo cuius exemplum est vt eet luna in .10. gradu tauri: et mars in .20. gradu eiusdem tauri: et luna iungeretur veneri per aspectum anteq iungeretur marti: et eet venus in .15. gradu cancri: et eet venus minus gradibus referetur ei iudicium ad martem eo q eet cum luna in signo vno et huiusmodi coniunctio fortior est aspectu vi dicimus hec est expositio eorum que diximus q aspectus no annullat coniunctionem et coniunctio annullat aspectum.

De receptione planetarum.

Et nunc est receptio planetarum cum planeta iungitur planete a domo vel exaltatione sua tunc recipit eum bono alio et perfecta receptione. Est et alia receptio infra illam .i. minor illa qn videlicet planeta iungitur planete dno ipius triplicitatis et termini: vel dno termini et faciei .i. qn iungitur planete qui habeat in loco suo de his minoribus dignitatibus duas vel plures: et tunc erit vera receptio. Si vero vnam tn habuerit no erit ibi receptio et io dicimus qr quod diuersum fuerit ab istis alienatur a perito astrologo: et pro nihilo dicitur. Cuius exemplar est vt luna esset in ariete: et iungeretur marti qui est dns arietis et ideo reciperet eum mars: qr est in domo eius: aut iungeretur soli reciperet eam sol: qr est

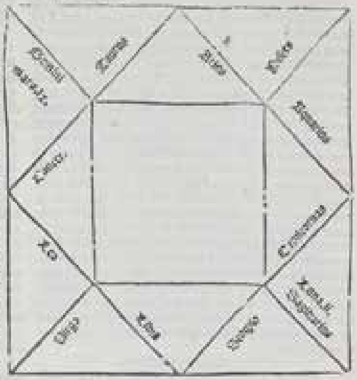
domus exaltationis fuerat esset in tauro: et iungeretur veneri aut in geminis: et iungeretur mercurio: hec est receptio perfecta. Receptio autem triplicitatis est ut sit luna in virgine in termino veneris et iungatur eidem veneri: est enim venus domina triplicitatis lune et domina termini eius: aut si esset luna in geminis in termino saturni et iungeret saturno: reciperet eam saturnus: qui est dominus triplicitatis et termini. Cumque fuerit luna vel planeta in tali similitudine erit recepta. Hec est sententia meschalah in receptione triplicitatis et termini. Et si fuerit luna in hoc similitudine iuncta alteri planete: et ipse planeta iunctus fuerit domino domus in quo est luna aut domino eius exaltationis erit luna recepta: et si fuerit luna vacua cursu post hec transierit ad alterum signum et iuncta fuerit domino primi signi aut domino exaltationis eius: erit luna recepta: et si fuerit planeta iuncta qui non fuerit dominus primi signi aut dominus exaltationis eius impedit eam. Sed hec loca sunt in quibus non fit receptio neque conuenientia cum luna et aut dominus ascendentis iunctus fuerit planete qui non habeat in loco lune vel domini ascendentis testimonium et aliquam dignitatem non cognoscit eam nec recipit. Similiter si iuncta fuerit luna aut dominus ascendentis planete in descensione sua erit quasi qui venit ad eum de domo inimicorum suorum: et non recipit eum nec diligit. Cuius exemplum est: ut sit luna in ariete et iungatur saturno aut in capricorno et iungatur ioui aut in cancro et iungatur marti aut in libra et iungatur soli aut in virgine et iungatur veneri aut in piscibus et iungatur mercurio: et si aliquis significator fuerit in descensione sua: et iunctus fuerit planete qui non habeat in loco illius significatoris potestatem: domum et vel exaltationem: videbis eum pro nihilo: et si alicui querenti contra vel similiter ignotum: et si iunctus fuerit planeta alteri planete in descensione sua aut descendens: ipse planeta pulsans facit eum descendere: et monuit quod veniet ei ex hoc.

De cursu planete vacui.

Expositio cursus vacui cum luna et orbis motor vel planeta fuerit vacuus: et planeta fuerit quasi exulans tunc dicitur vacuus cursu: hoc est quando nulli planete iungitur aut nullus planetarum iungatur ei.

De expositione reddens.

Expositio reddimus est quando planeta vel luna iungitur retrogrado planete aut sub radijs solis et reddit ei quod recipit ab eo: et destruat causam. Iter quoque modus est de reddimus iudicio et destructione: ut iungatur planeta pulsans et leuis qui sit cadens ab ascendente planete ponderoso cadenti tunc reddit ei quod recepit ab eo et destruit eius dispositionem: et significat quod interrogatio ipsa non habeat initium nec finem: cuius exemplum est: ut sit ascendens cancer et luna in sagitario in 6°. cadens ab ascendente et iungatur marti et ipse mars fuerit in geminis 12°. ab ascendente cadens: tunc significat destructionem initij interrogationis bonum et finis.



Et est alius modus de reddimus ut sit planeta leuis qui fuerit in angulo: et iungatur planete cadenti ab ascendente cui erit illi cause initium: quia ille qui iungit quod significat vel initium erat in angulo et non habebit finem quia receptor est: quod significat finem vel erat cadens: et ille qui iungitur est leuior et ab eo est initium: et receptor est ille qui est ponderosus: et nominatur receptor dispositionis: et leuis vocatur pulsator dispositionis.

De pulsu virtutis.

Expositio huius est ut iungatur planeta alteri de domo sua aut de triplicitate aut de exaltatione sua sub tali exemplo ut esset luna in cancro vel in tauro et iungeretur ioui vel alteri ex planetis: et pulsaret virtutem suam ad eum quem pulsauit et commisit dispositionem suam de domo et exaltatione sua. Similiter faciunt reliqui cum pulsauerint dispositionem ex domibus vel exaltationibus suis.

De pulsu dispositionis et nature.

Pulsio quoque dispositionis ac nature est: ut planeta iungatur cum alio planeta de domo vel exaltatione: et pulset dispositionem sanationem suam ad eum: cuius exemplum est ut luna vel aliquis planetarum esset in ariete et iungeretur marti vel esset in geminis et iungeretur mercurio: et luna cum fuerit in tauro vel in cancro pulsat virtutem: et dispositionem cum non fuerit in his duobus signis pulsat tamen dispositionem.

De fortitudine planetarum.

Expositio autem fortitudinis planetarum cui decelit occasio siue impedimentum ad perficiendum causam cum receperit atque promiserit: fit hoc undecim modis. Quorum primus est: ut planeta sit in bono loco ab ascendente. i. in angulis et succedentibus angulorum ex locis. s. qui aspiciunt ascendens. Secundus est: ut sit planeta in aliqua partium

Second edition, enlarged with the addition of other important astrological texts, of Ptolemy's *Quadripartitum*, a textbook of astrology more usually known today under its Greek title, the *Tetrabiblos*. "Ptolemy's *Quadripartitium* ranks as the Bible of Astrology, but the attribution of the *Centiloquium* is considered spurious."–Stillwell, *The Awakening Interest in Science during the First Century of Printing 1450-1550*, 96–(describing the first edition of 1484).

"To modern eyes it may seem strange that the same man who wrote a textbook of astronomy on strictly scientific principles should also compose a textbook of astrology . . . Ptolemy, however, regards the *Tetrabiblos* as the natural complement to the *Almagest*: as the latter enables one to predict the positions of the heavenly bodies, so the former expounds the theory of their influences on terrestrial things . . . Ptolemy regards the influence of heavenly bodies as purely physical . . . By careful observation of the terrestrial manifestations accompanying the various recurring combinations of celestial bodies, he believes it possible to erect a system which, although not mathematically certain, will enable one to make useful predictions."–*D.S.B.*, XI, p. 198.

This edition is important; according to Prof. Robert S. Westman, it was the principal resource of theoretical astrology of the late 15th century. "The 1493 edition was, for all practical purposes, a little astrological library. It was produced in a dense, double-columned folio volume . . . the fifteenth-century editor Girolamo Salio of Faventino appended his own introduction, a detailed table of chapter headings, and thirteen auxiliary works by different authors [see below for a listing]."–Westman, *The Copernican Question: Prognostication, Skepticism, and Celestial Order*, p. 44.

Prof. Westman goes on to strongly suggest that this edition was an influential source book for Copernicus who had come to assist Domenico Maria Novara in Bologna in the fall of 1496 (see pp. 96-97). Novara was a major astrological practitioner and his copy of this book — the only surviving book from his library — is at the University of Bologna.

The first edition of 1484 contained only the *Quadripartitum* and the *Centiloquium*. Our edition adds for the first time the following valuable texts:

1. Hermes Trismegistus. *Centiloquium Hermetis* and *De Stellis beibenijs* (the "desert stars").

2. Bethem. *Centiloquium, De Horis planetarum,* and *De Significatione triplicitatum ortus.*

3. Messahalah. *De Receptionibus planetarum, De Interrogationibus, Epistola,* and *De Revolutionibus annorum mundi.*

4. Zahel (or Sahl ibn Bishr). *De Interrogationibus, De Electionibus,* and *De Temporum significat. in Judiciis.*

Salio was a physician and astrologer who specialized in editing medical and astrological texts targeted for a university audience.

A fine and crisp copy in its first binding.

☾ Goff P-1089. Klebs 814.2.

Werner's Edition of Ptolemy's Geography

81. PTOLEMAEUS, Claudius.

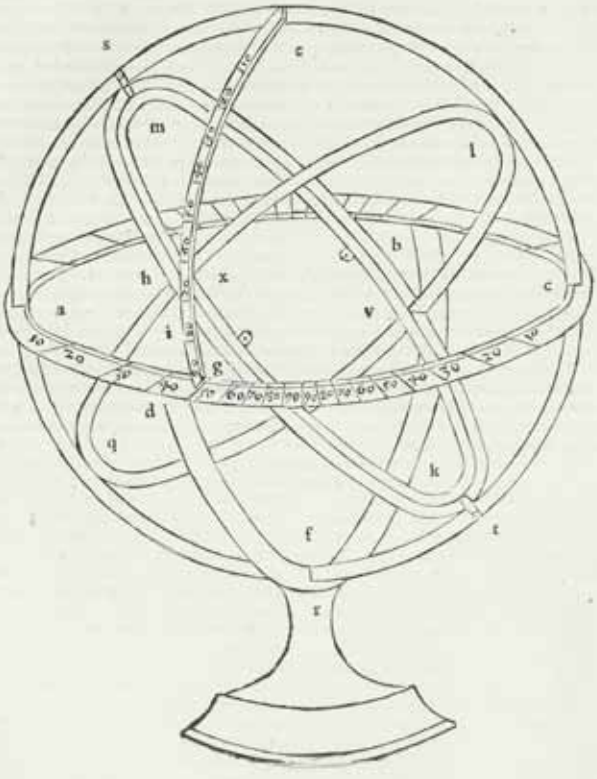
In hoc Opere haec continentur Nova translatio primi libri Geographiae Cl. Ptolomaei: quae quidem translatio verbum: habet e verbo fideliter expressum: Joanne Vernero Nurembergen. interprete [and other texts, see below]. Numerous fine woodcut diagrams & tables in the text. 68 unnumbered leaves. Small folio, attractive antique calf (title a little dusty), panelled in gilt & blind. [Nuremberg: J. Stuchs, 1514]. $75,000.00

First edition of a very scarce and little-known book (because of its rarity, I think), which is of great importance in the history of cartography, navigation, and astronomy. It contains, amongst much else, the first published direct translation of any part of Ptolemy's *Geography* from the original Greek. It also includes the first publication of Johannes Werner's map projection, a development and correction of the two projections used by Ptolemy which had "reigned" for 1400 years; it was very influential in cartography and used for two centuries, most notably by Apianus, Finé, Ortelius, and Mercator.

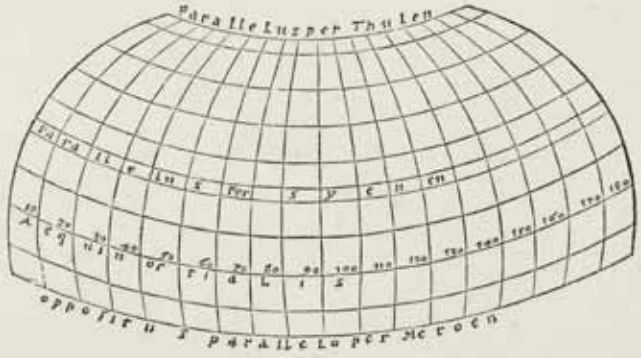
The texts include:

I & II. Werner's translation of and commentary on the first and seventh books of Ptolemy's *Geography* and his *Libellus quatuor terrarum orbis*. Werner (1468-1522), astronomer, mathematician, and cartographer, knew Greek well and in the dedication of the present volume criticizes previous translators of Euclid and Ptolemy who were not skilled in mathematics. The first book of the *Geography* is concerned with the accurate drawing of a map of the inhabited world and describes proposals for two projections, one simple and one complex. "In the commentary on the first book of Ptolemy's *Geography,* Werner explains the basic concepts of

Formula metheoroſcopii Ioannis de Regiomonte.



nem/ eorum sub tota longitudine contentorꝝ. Semicirculorꝝ accipiemus æqueualentia segmenta: sedm quemlibet expositorũ trium parallelorũ/ ipsis tertiæ partis vnius horæ/ quinq; punctis/ ab k. quidem per duas partes & quartam facientes sectiones/ qualiũ habebamus e f. rectam. 90. ab h. vero quatuor semis & duodecimum/ ab f. denicp quatuor semis & tertium super eisdem. Deinde scribentes per æqueualentia tria signa/ futuras pro reliquis meridianis periferias vti determinantes omnem longitudinem/ & eam s t v. & eam x y s. Complebimus insuper & eas/ pro reliquis parallelis/ centro quidẽ rursus l. interuallis vero factis super f k. segmentis: sedm eas ad æquinoctialem ipsorũ distantias. Hæc denicp iam similior ei super sphæra figuræ/ Quod ex tali descriptione/ super priorem seipso est manifestum/ quoniã & ibi manente sphæra & non reuoluta/ quod & tabulæ conuenit ex necessitate/ sedm medium descriptionis aspectum vertendo/ vnus quidẽ medius meridianus/ in eo per axim aspectum plano cadens/ rectæ quidem prebet phantasiã/ qui vero ex vtraqp parte huius oĩes inuersi sedm conexa ad ipsum apparent/ & magis/ plus ab ipso distantes: quod & ibi custoditur/ cum decenti conexitatũ proportione/ & etiam cõmensuratio parallelorum periferiarũ adinuicem/ non super solis his sibtus æquinoctialem: & eum per thulen/ vt illic seruat propriam rationem/ sed & super aliis/ vt est quam maxime prope/ quemadmodũ licet experientibus considerare. Et totius latitudinis/ ad totam longitudinẽ/ nõ super solo rursus eo per Hrodiam scripto parallelo/ quemadmodũ illic: sed super omnibus simpliciter. Cum enim & ibi perstemus s & v. rectam velut in priore figura/ huius h &. periferia minorem videlicet faciet rationem ad ipsas f s & k v. decente/ in hac descriptione ratione/ quæ deficit/ iuxta totum h t. intellectam/ sedm æquinoctialem. Et si hanc cõmensuratam fecerimus ipsi k f. latitudinis distantiæ/ hæ f s & k v. maiores erunt his ad f k. symmetriis. id est. cõmensurationibus quemadmodũ & h t. Et si f s & k v. seruemus ipsi f k. cõmensuratas h &. minor erit/ ea ad k f. symmetria seu cõmensuratiõe quemadmodũ & ea k v. h. t. His igitur instructio hæc plus perficitur priore. Deficit autem ab illa & hæc facilitate descriptionis/ quoniam illic quidem/ erat a normalis circumductione/ & appositione: vno solo parallelorũ scripto/ & diuiso instituere quemlibet locorum/ ibi autem neutiquã tali promptitudine propter eas meridianorũ lineatum ad mediam inuersiones: omneſq; circulos quia describendum est. Et eas in medio Interculorũ/ cadentes positiones/ ad tota continentia latera/ quadam per signatas partes ratiocinatione coniectare. His autem sic habentibus/ honore quidem præferendum mihi & ibi & vbiqp quod pulchrius/ & integrius/ deteriori/ & facili. Seruandum autem simul ambas instructiones. subiectas eorum causã/ super promptiorem earum: ex facilitate subintroducendorum.



spherical geography and then turns to the measurement of degrees on the sphere. When determining the declination of the sun, he refers to the tables compiled by Georg von Peurbach and Domenico Maria. Werner's method is interesting in that it determines simultaneously the longitude and the latitude of a place (ch. 3, annotation 8): For the first time it was possible for two sites the locations of which are being sought to be found by a combined series of observations. Since for the determination of latitude it is necessary merely to observe the upper and lower culmination of a circumpolar star, but not the position of the sun, quite a few sources of errors were removed. The fourth chapter deals with the determination of the difference in longitude of two places, which can be obtained by simultaneous observation of a lunar eclipse. Another method is based on the determination of the distance of a zodiac star from the moon as seen from two places (ch. 4, annotation 8). This method of calculating the distances to the moon requires only the determination of the angular distances, which can be carried out by means of the Jacob's staff, and the precise knowledge of the true and mean motions of the moon. This method soon replaced the older ones and was then used as the principal method for determining longitude in nautical astronomy . . .

"The methods used by Werner enabled him to improve or to explain certain details of the ancient geographers, especially those of Marinus. Werner's remarks in chapters 7-10 refer to Marinus' determination of places, which he proves to be often incorrect, or to the sea voyages mentioned and explained by Marinus. Werner demonstrated a knowledge of the existence and direction of the trade winds and explained their origin. In addition, he tried to present a theoretical proof of approximate formulas for the determination of distances that were used in navigation . . .

"Werner's contributions to cartography are based on his criticism of Marinus: they can be found at the end of the commentary on Ptolemy and in the 'Libellus quatuor terrarum orbis.' The remarks on chapter 24 of the *Geography* lead us to believe that Werner understood the two projections used by Ptolemy (simple conic projection and modified spherical projection) and developed them. The treatise on four other projections of the terrestrial globe, which is dedicated to Pirckheimer, contains more new ideas. In it Werner outlines the principles of stereographic projection and emphasizes that any point on the surface of the sphere can be chosen as the center of projection. In addition, Werner develops

three cordiform map projections that resemble one another; the second gives an equal-area projection of the sphere. The idea of an equivalent projection occurred earlier in the works of Bernard Sylvanus, but Werner and Johannes Stabius were the first to work it out mathematically. Later, Oronce Fine, Peter Apian, and Gerardus Mercator adopted the cordiform projection . . .

"Werner's work in geography gained widespread recognition. Peter Apian, in particular, was a student of Werner's in theoretical cartography."–*D.S.B.*, XIV, pp. 274-75.

III. The first printing of the essay on Ptolemy's *Geography* by the Greek scholar Georgios Amiroutzes (ca. 1400-70), who was in the retinue of Mohammed II and was commissioned by the sultan to translate the text of the *Geography* into Arabic. Following this, we have the valuable commentaries by Werner on Amiroutzes' writings.

IV. Regiomontanus' description of the meteoroscope, written in 1462 in the form of a letter to Cardianal Bessarion and published here for the first time. The meteoroscope was a complex instrument used to observe the stars and planets; it aided in the solution of different tasks of spherical astronomy. The instrument was developed from the Arabic *safea*. It is very well illustrated in the text.

A fine and crisp copy with deep impressions of the woodcuts.

☾ Bagrow, *History of Cartography*, pp. 34-35 & 209-10. Sabin 66479. Stillwell, *The Awakening Interest in Science during the First Century of Printing*, 212n & 252. Zinner, *Astronomische Instrumente des 11. bis 18. Jahrhunderts*, pp. 479-83 & pl. 63. Zinner, *Geschichte und Bibliographie . . .*, 1019.

82. QUESTIER, Georgius.

De Naturalibus et Legitimis Matrimonii dissolvendi Causis, Medica decisio. 2 p.l., 89, [3] pp. (final leaf a blank). 8vo, modern boards. Rouen: T. Ovin, 1660.

$1250.00

First edition of this rare and quite interesting medico/legal work on the reasons a marriage can be dissolved for medical reasons, including impotence in the man and a wife's sterility. Questier (ca. 1610-80), a native of Valognes in Normandy, studied medicine in Caen and Paris, and established a successful practice in Rouen.

Very good copy.

☾ Krivatsky 9337.

Monstration oder beweißthum auß Zahlen.

Diß zeichen > heisset mehr dann: und weilen a gleich war b+E, itzonder aber E hinweggethan worden/so ist ja a mehr dann b mögen alsso für a und b beliebige zahlen genommen werden / dasselbe a nur gröſſer ist alß b.

Das zeichen < heisset minder dann: diser proceß aber heisset Collatio quantitatum, oder Vergleichung der quantitæten.

2̇+b	14	a=b+c
∴14	15	a>b
Esetze	16	a=4. ∴ aa=16
	17	b=2. ∴ bb=4
16+17	18	a+b=6. =D
16—17	19	a—b=2. =E
18+19	20	D+E=8.
18—19	21	D—E=4.
18⊙2	22	DD=36
19⊙2	23	EE=4
18✳19	24	DE=12.
20÷2	25	$\frac{D+E}{2}=4=A\,(4.)$
21÷2	26	$\frac{D-E}{2}=2=B\,(8.)$
20÷22	27	$\frac{D+E}{D-E}=2=\frac{A}{B}\,(9.)$
22—23	28	DD—EE=32
28÷4	29	$\frac{DD-EE}{4}=8=AB\,(8.)$
22+23+2	30	$\frac{DD+EE}{2}=20=AA+BB\,(12.)$
18✳19	31	DE=12=AA—BB(12.)

In dieser monstration oder beweisung hetten auch für D und E beliebige zahlen können genommen werden/da nur D>E. Dann

$\frac{D-E}{2}=B\,(7.)$

D—E=2B
D=E+2B
∴D>E

Auß D und F das überig finden.

a=?	1	a+b=D
b=?	2	ab=F
1⊙2	3	aa+2ab+bb=DD
2✳4	4	4b = 4F
3—4	5	aa—2ab+bb=DD—4F
5ww2	6	a—b = √DD—4F

Weil a+b Item a—b bekant sind/so were es ein überfluß weiter zuproceedieren/alß da in den nächst hiervorstehenden auflösungen / die manier weiter zuschreiten / vorgetragen hat.

Auß D und G.

a=?	1	a+b=D
b=?	2	$\frac{a}{b}=G$
1—5	3	a=D—b
2✳5	4	a=bG
3.4	5	D—b=bG
5+6	6	D=b+bg
6÷1+G	7	$\frac{D}{1+G}=B$
1—7	8	$\frac{DG}{1+G}=A$ ꝛc.

Auß D und T.

a=?	1	a+b=D
b=?	2	aa+bb=T
1⊙2	3	aa+bb+2ab=DD

83. RAHN, Johann Heinrich, Landvogt zu Kyburg.

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

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

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

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

Rahn (1622-76), came from a prominent Zurich family and had a major role in the administration of his native city. About 1654, Rahn came to know John Pell (1611-85), then a representative of the Commonwealth at Zurich, and engaged the English mathematician as a tutor in 1657, meeting every Friday night. While some of the advances in notation in

this book might have derived from Pell, "without further evidence, it is best to assume that there was joint responsibility for these innovations and that Pell's contemporary reputation as a mathematician, and particularly as an algebraist, was not unearned."–*D.S.B.*, X, p. 495.

Fine crisp copy. Old library stamp on title.

☾ Cajori, *A History of Mathematics*, p. 140. Smith, *History of Mathematics*, I, p. 412 & II, pp. 406, 411-12, 431n, & 474. For Pell and his relationship with Rahn, see *D.S.B.*, X, pp. 495-96.

"Raphson's Method"; Not "Newton's Method" or, Maybe, the "Newton–Raphson Method"

84. RAPHSON, Joseph.

Analysis Aequationum Universalis, seu ad Aequationes Algebraicas resolvendas Methodus generalis, & expedita, ex nova infinitarum serierum methodo, deducta ac demonstrata. Editio secunda cui accessit Appendix de Infinito Infinitarum Serierum progressu ad Equationum Algebraicarum Radices eliciendas. Cui etiam Annexum est; De Spatio reali, seu Ente Infinito Conamen Mathematico-Metaphysicum. Woodcut diagrams in the text. 3 p.l., 5-55, [9], 95, [1] pp. Small 4to, 18th-cent. calf (rebacked & recornered), red morocco lettering piece on spine. London: Typis TB. for A. & I. Churchill et al., 1702. $4500.00

Third edition; the first edition appeared in 1690 and the second in 1697. Raphson (d. 1715 or 1716), also wrote the important *History of Fluxions* (1715) and translated Newton's *Arithmetica Universalis* into English (1720). He was a fellow of the Royal Society.

"In 1690, Joseph Raphson . . . published a tract, *Analysis aequationum universalis*. His method closely resembles that of Newton. The only difference is this, that Newton derives each successive step, *p, q, r*, of approach to the root, from a *new* equation, while Raphson finds it each time by substitution in the original equation . . . Raphson does not mention Newton; he evidently considered the difference sufficient for his method to be classed independently. To be emphasized is the fact that the process which in modern texts goes by the name of 'Newton's method of approximation,' is really not Newton's method, but Raphson's modification of it . . . It is doubtful, whether this method should be named after Newton alone . . . Raphson's version of the process represents what J. Lagrange recognized as an advance on the scheme of Newton . . . Perhaps

the name 'Newton-Raphson method' would be a designation more nearly representing the facts of history."–Cajori, *A History of Mathematics,* p. 203.

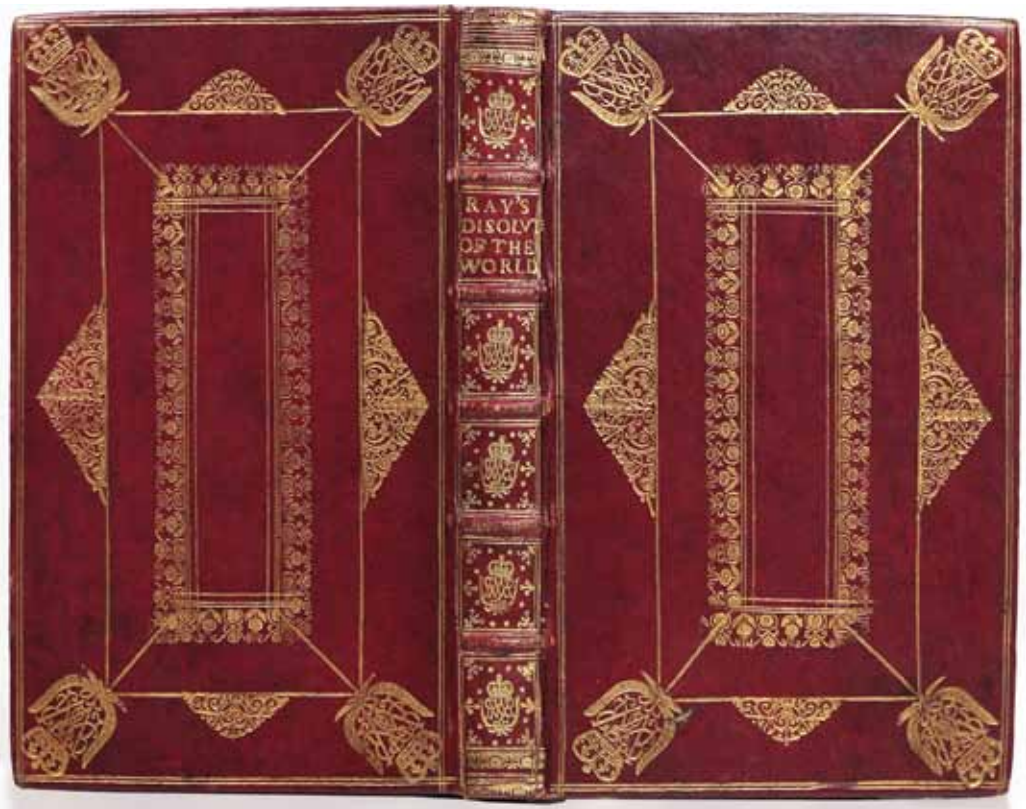
The first edition is very rare. The *Appendix* appears for the first time in the second edition of 1697 along with the separately paginated second part *De Spatio reali.*

Fine fresh copy. 19th-century bookplate of P. Duncan.

A Lovely Copy in Richly Gilt Contemporary Red Morocco

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, Volcanoes, the Universal Conflagration and Future State, are largely Discussed and Examined. Title within ruled border. 14 p.l., 259, [1] pp. 8vo, cont. red morocco (joints a trifle rubbed), covers gilt tooled in a panel design with roll-tooled flowers around the central panel, scroll-work tools outside outer panel, and the royal cipher of William and Mary stamped in the four corners, spine gilt with repeated royal cipher in compartments, a.e.g. London: S. Smith, 1692. $15,000.00

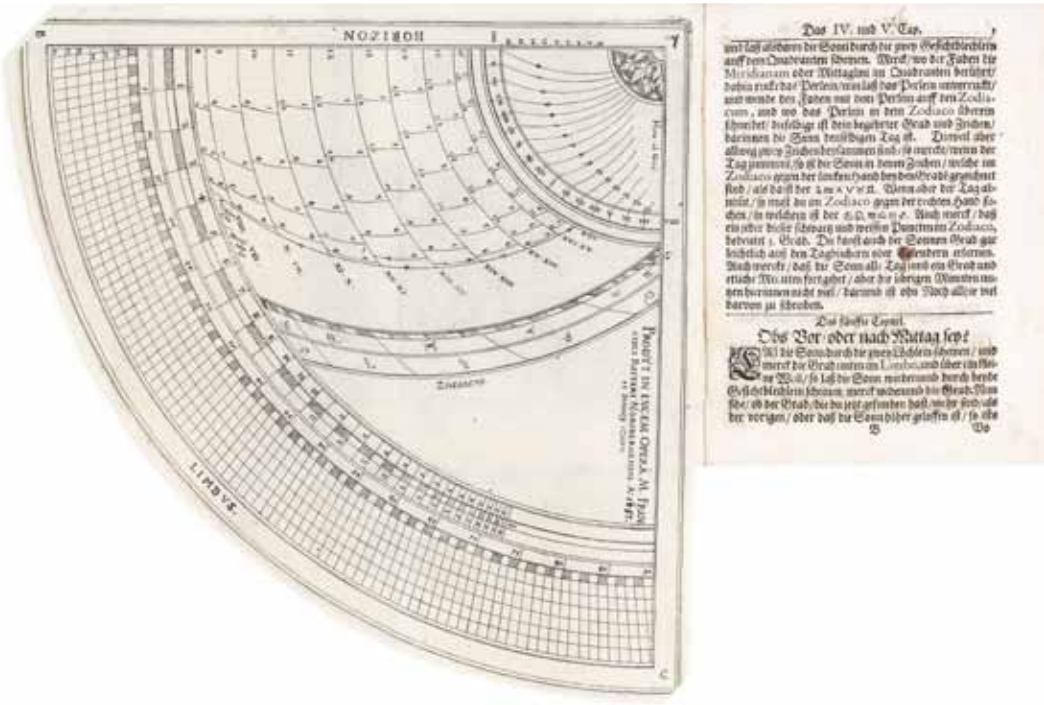
First edition, and a splendid copy in richly gilt contemporary red morocco, of one of Ray's most important paleontological and geological works, which displays his considerable knowledge of the subjects. "During much of the 1690s Ray was engaged in correspondence with Edward Lhwyd and others about the nature of fossils. In general he was inclined to accept that they were the remains of once-living creatures, and he also suggested that their current distribution might owe something to observable changes in the nature of the surface of the earth. He qualified these opinions, however, by stressing that the fossils which had so far been discovered were not unlike known plants and animals, and that their burial might owe something to the action of the biblical flood, as well as to natural effects. He argued that those remains which seemed to be unfamiliar might represent species of which the surviving representatives had not yet been discovered. Although fossils were mentioned in the preface to his *Synopsis* (1690), his fullest treatment of them was in *Miscellaneous Discourses Concerning the Dissolution and Changes of the World* (1692)."–ODNB.

A very fine and fresh copy and just about the nicest copy you will ever see. Signature of August Maitland on front flyleaf dated 9 January 1795, and again on title. Signature on title of A.C. Stirling, dated 1855. Inscription on free front endpaper of Helen M. Everard, the gift of her mother in 1865. Preserved in a box.

☾ *D.S.B.*, XI, pp. 313-18.

86. RITTER, Franz.

Instructio Instrumentalis Quadrantis Novi. Das ist: Beschreibung und Unterricht, eines neuen Quadranten, mit welchem man allerley Gebäu, Thürn, Höhe und Länge, ohn eigene Rechnung abzumessen, dessgleichen in den Graden der Gestirn-Höhe, die Minuten finden kan . . . Auffs neu auffgelegt. One folding engraved plate. Title within ornamental type border. 2 p.l., 12 pp.



Small 4to, attractive antique calf (minor worming at head), spine gilt, red morocco lettering piece on spine. Nuremberg: P. Fürsten, n.d. [but about 1660]. $5000.00

First published in 1597, this is a description of the author's newly invented quadrant — depicted on the plate — which could be used by engineers for surveying. It was an extremely successful text with at least five later editions. Ritter (1579-died after 1640), a native of Nuremberg, was an astronomer and innovative cartographer, famous for his "sundial" world map. He had studied under Johann Praetorius at the University of Altdorf. Ritter specialized in the design and manufacture of astrolabes, sundials, and other astronomical, horological and cartographical instruments.

Fine copy.

☾ Kiely, *Surveying Instruments,* pp. 165-80. Pilz, *600 Jahre Astronomie in Nürnberg,* 263-65. Zinner, *Instrumente,* pp. 491-92.

"One of the Best and Clearest Manuals of the Time"–Ferguson

87. ROTHE, Gottfried.

Gründliche Anleitung zur Chymie, darinnen nicht nur Die in derselben vorkommende Operationes, und die aus denen Operationibus entstehende Producta, sondern auch die Preparationes derer besten chymischen Medicamenten aus der berühmtesten Medicorum, sonderlich Ludovici, Wedelii, Stahlii &c. Schrifften, nebst andern, die man sonst rar und geheim gehalten, aufrichtig gewiesen wird. 6 p.l., 240, [4] pp. 8vo, attractive antique calf, double gilt fillet round sides, spine gilt, red morocco lettering piece on spine. Leipzig: C.J. Eysseln, 1721.

[bound with]:

—. *Anhang zu seiner Chymie, handlend von denen metallischen Saltzen und Schmertz-stillenden Schwefel des Vitriols.* 1 p.l., 108 pp. 8vo. Leipzig: C.J. Eysseln, 1720. $2500.00

Second and much enlarged edition of the first work (1st ed.: 1717) and first edition of the *Anhang*. Rothe (1679-1710), a practicing physician in Leipzig, was a diligent student of Stahl. This is his posthumously published work on pharmaceutical chemistry which went through many editions and was translated into French and English.

The book begins with "an historical introduction and bibliography, and then deals with operations (solution, precipitation, etc.) and a section on lutes, and in the second part with chemical products (alkalis, acids, salts, sulphurs, and earths) . . . The second half of the second part deals with chemical processes and contains recipes for sixty preparations. The book is very clear and practical. It does not use the phlogiston theory explicitly."–Partington, II, p. 687.

Nice copies.

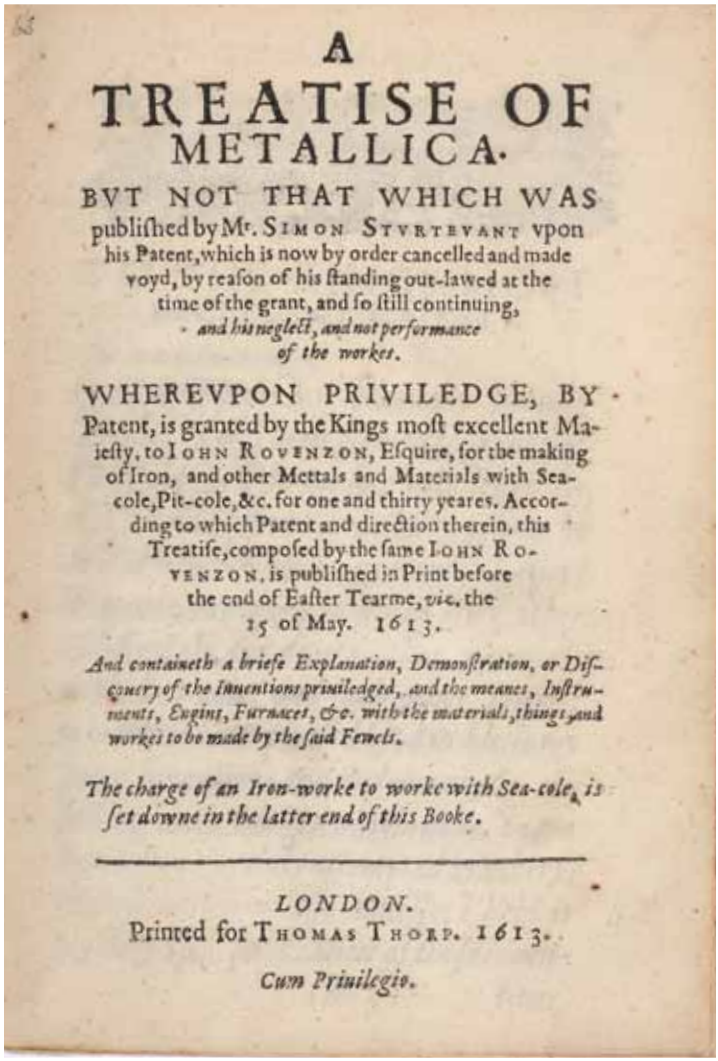
☾ Cole 1128-29–"concise." Duveen, p. 517–"this important 18th-century textbook (describing the 1741 French edition). Ferguson, II, p. 296–"One of the best and clearest manuals of its time."

"A Milestone Work on Metallurgical Chemistry"

88. ROVENZON, John.

A Treatise of Metallica. But not that which was published by Mr. Simon Sturtevant vpon his Patent, which is now by order cancelled and made voyd, by reason

of his standing out-lawed at the time of the grant, and so still continuing, and his neglect, and not performance of the workes. Whereupon Priviledge, by Patent, is granted by the Kings most excellent Maiesty, to Iohn Rovenzon, Esquire, for the making of Iron, and other Mettals and Materials with Sea-cole, Pit-cole, &c. for one and thirty yeares. According to which Patent and direction therein, this Treatise, composed by the same Iohn Rovenzon, is published in Print before the



A

TREATISE OF METALLICA.

BVT NOT THAT WHICH WAS published by Mr. SIMON STVRTEVANT vpon his Patent, which is now by order cancelled and made voyd, by reason of his standing out-lawed at the time of the grant, and so still continuing, *and his neglect, and not performance of the workes.*

WHEREVPON PRIVILEDGE, BY Patent, is granted by the Kings most excellent Maiesty, to IOHN ROVENZON, Esquire, for the making of Iron, and other Mettals and Materials with Sea-cole, Pit-cole, &c. for one and thirty yeares. According to which Patent and direction therein, this Treatise, composed by the same IOHN ROVENZON, is published in Print before the end of Easter Tearme, *viz.* the 15 of May. 1613.

And containeth a briefe Explanation, Demonstration, or Discovery of the Inventions priuiledged, and the meanes, Instruments, Engins, Furnaces, &c. with the materials, things and workes to be made by the said Fewels.

The charge of an Iron-worke to worke with Sea-cole, is set downe in the latter end of this Booke.

LONDON.
Printed for THOMAS THORP. 1613.

Cum Priuilegio.

end of Easter Tearme, viz. the 15 of May. 1613. And containeth a briefe Explanation, Demonstration, or Discouery of the Inventions priviledged, and the meanes, Instruments, Engins, Furnaces, &c. with the materials, things, and workes to be made by the said Fewels. The charge of an Iron-worke to worke with Sea-cole, is set downe in the latter end of this Booke. [15] leaves (lacking the first blank but with the final blank leaf). Small 4to, early 20th-cent. vellum over boards. London : Printed [by N. Okes] for Thomas Thorp, 1613. $18,500.00

First edition and an extremely rare book; "the earliest work to describe the successful smelting of iron and other metals with coal rather than with charcoal made from wood . . . Extremely rare. A milestone work on metallurgical chemistry."–Neville, II, p. 401.

"The problem of expanding the manufacture of iron in the British Isles after about 1600 came to be bound up with the replacement of wood by coal in the furnaces and the forges at which pig iron was converted into bar iron . . . How, then, did the conquest by coal of the smelting-processes in Great Britain come about? Two men claimed to have solved the problem of substituting coals for charcoal as fuel in the blast-furnaces at which iron ore was smelted and run into moulds, at the very beginning of the seventeenth century. Simon Sturtevant, who was apparently of Dutch origin, and John Rovenzon published treatises on metallurgy in 1612 and 1613 advocating the adoption of coal-burning blast furnaces, which they suggest are feasible though they fail to describe the processes that they profess to have invented to bring it about."–Singer et al., eds., *A History of Technology,* Vol. III, pp. 78-79.

Sturtevant was issued a patent in 1611 for his proposal to use coal instead of wood or charcoals in smelting iron and other metals. But in a few months, the grant was withdrawn and another issued in its place to John Rovenzon, an assistant to Sturtevant. Rovenzon's *A Treatise of Metallica* "shows that he had a true conception of the method of manufacture."–Samuel Smiles, *Industrial Biography,* Chapter 3.

A fine copy. The Huth (with bookplate) — William Augustus White (his signature dated 23 Sept. 1918) — Harrison D. Horblit (with bookplate) copy.

☾ Duveen, p. 183–(1854 reprint only). Hoover 697–(1854 reprint only). Partington, II, p. 61.

A History of Mining in the Harz

89. SCHREIBER, Thomas.

Kurtzer Historischer Bericht von Aufkunst und Anfang der Fürstlichen Braunschweig-Lüneburgischen Bergwercke an und auf dem Harz . . . 9 p.l., 62 pp. Small 4to, 18th-cent. blue limp boards (margins of title a little frayed, occasional faint dampstaining), uncut. Rudolstadt: printed by C. Fleischer for B. Fuhrmann in Osterode & Nordhausen, 1678.
$1500.00

Second, greatly enlarged, edition (1st ed.: 1670) of this very rare historical account of the mining activities in the Duchy of Braunschweig-Lüneburg and the adjoining Harz mountains. These areas were rich in minerals — chiefly silver, coal, iron, lead, copper, sulphur, alum, etc. — and had been mined for many centuries. The author has furnished much statistical information at the end and accounts of remarkable events.

Very good copy.
☾ Hoover 729.

Manuscript Working Notebook of Researches on Bovine Piroplasmoses

90. SERGENT, Edmond.

Working notebook of Edmond Sergent (1876-1969), the prominent French microbiologist concerning his research on bovine piroplasmoses and "East Coast Fever," prevalent in many parts of Africa, during the years 1905-20. 79 pp. of autograph & typed notes of experiments and references to the research of colleagues. 8vo, orig. green morocco-backed marbled boards. Algeria: 1905-20. $2500.00

Edmond Sergent, who was born in Philippeville, Algeria, studied microbiology at the Pasteur Institute in Paris. He returned home where he directed the Pasteur Institute of Algeria for over 60 years, from 1900 to 1963, devoting much of his life to the fight against malaria and other transmittable diseases in humans and stock animals common in north Africa.

The present notebook contains his researches on bovine piroplasmoses, of which five forms were known in Algeria. This was a widespread and destructive disease. Different species of ticks were designated as their vector agents. His work resulted in effective prophylactic and therapeutic rules.

Bound-in are many typed references to the work of Arnold Theiler (1867-1936), the father of veterinary medicine in South Africa. His research team developed a vaccine against rinderpest. At this period, he was also conducting important research on bovine piroplasmoses. Bound-in is a two-page typed letter, dated 2 March 1927, from Theiler to Sergent regarding East Coast fever and describing in detail his investigations.

Fine condition.

"A Man of Undoubted Genius"–Smith

91. SIMPSON, Thomas.

Mathematical Dissertations on a Variety of Physical and Analytical subjects . . . Woodcut diagrams in the text. viii, 168 pp., one leaf of errata. 4to, attractive antique panelled calf by Trevor Lloyd (foxed), spine gilt, red morocco lettering piece on spine. London: T. Woodward, 1743.$1500.00

First edition of an interesting book by Simpson. In it he discusses the figure of the earth, the force of attraction at the surface of a nearly spherical body, the theory of the tides, and the law of astronomical refraction.

Simpson (1710-61), "that strange mathematical genius" (Smith), a self-instructed mathematician, was elected professor of mathematics at the Woolwich Military Academy in 1743 and a fellow of the Royal Society in 1745. He was one of the most important of a small group of mathematicians which included John Landen and Edward Waring, who made significant advances in Newtonian calculus as an analytical tool.

A very good copy.

☾ *D.S.B.,* XII, pp. 443-45. Smith, *History of Mathematics,* I, p. 457.

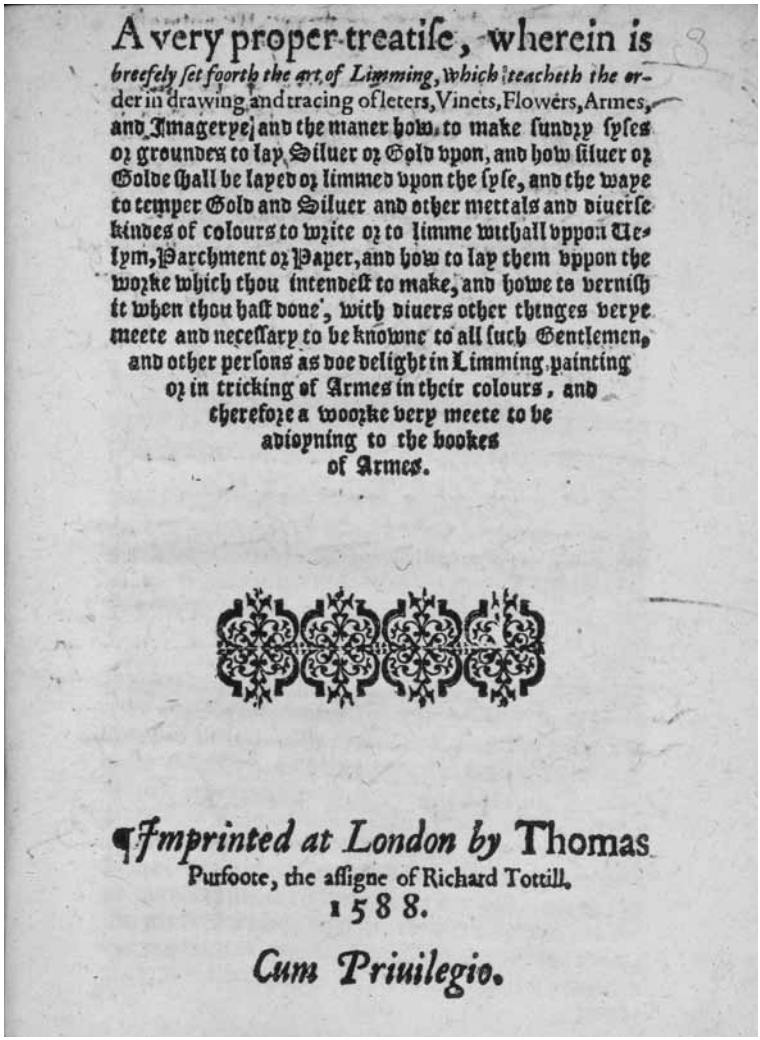
A Rare Elizabethan Book of Secrets; How to Illuminate MSS.

92. A VERY PROPER TREATISE,

wherein is breefely set foorth the art of Limming, which teacheth the order in drawing and tracing of leters, Vinets, Flowers, Armes, and Imagerye, and the maner how to make sundry syses or groundes to lay Silver or Gold upon, and how silver or Golde shall be layed or limmed upon the syse, and the waye to temper Gold and Silver and other mettals and diverse kindes of colours to write or to limme withall uppon Velym, Parchment or Paper, and how to lay them uppon the worke which thou intendest to make, and how to vernish it when thou hast

done, with divers other thinges verye meete and necessary to be knowne to all such Gentlemen, and other persons as doe delight in Limming, painting or in tricking of Armes in their colours, and therefore a woorke very meete to be adjoyning to the bookes of Armes. Typographical device on title. Printed throughout in black letter. 11, [1] leaves. Small 4to, fine modern blue morocco, dentelles gilt, a.e.g. London: T. Purfoote, the assigne of R. Tottill, 1588. $22,500.00

Fourth edition of one of the earliest English books of "secrets," or man-



A very proper treatiſe, wherein is
breefely ſet foorth the art of Limming, which teacheth the or-
der in drawing and tracing of leters, Vinets, Flowers, Armes,
and Imagerye; and the maner how to make ſundry ſyſes
or grounds to lay Siluer or Gold vpon, and how ſiluer or
Golde ſhall be layed or limned vpon the ſyſe, and the waye
to temper Gold and Siluer and other mettals and diuerſe
kindes of colours to write or to limme withall vppon Ve-
lym, Parchment or Paper, and how to lay them vppon the
woorke which thou intendeſt to make, and howe to verniſh
it when thou haſt done, with diuers other thinges verye
meete and neceſſary to be knowne to all ſuch Gentlemen,
and other perſons as doe delight in Limming, painting
or in tricking of Armes in their colours, and
therefore a woorke very meete to be
adioyning to the bookes
of Armes.

¶ *Imprinted at London by* Thomas
Purfoote, the aſſigne of Richard Tottill.
1588.

Cum Priuilegio.

ual of practical arts; this text appears to be entirely of English origins. It was first published in 1573 and reprinted in 1581 and 1583; there were also editions of 1596 and 1605. All editions are very scarce; of this printing the NSTC (24255) records five copies: L18, O; F, PN, NY Metropolitan Museum.

This is a very early English manual of instruction s for painting and illuminating ("limming," or "limning"), particularly books and manuscripts. The following recipes are characteristic: "to temper golde or silver wherewith you may write with a pen or paint with a pencil"; "to temper Brasill wherewith to write, florish, or rule bookes"; "to make a kind of colouring called vernix, wherewith you may vernish gold, silver, and other colour or paintings, be it upon velim, paper, timber, stone, leade, copper, glasse, &c." The last leaf contains on the recto "the names of all such colours and other thinges as are mentioned and contayned in this present booke of limming, and are for the moste parte to bee solde at the apothecaries," and on the verso is an index to the various recipes.

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

93. WALCHNER, Friedrich August.

Handbuch der gesammten Mineralogie in technischer Beziehung . . . 15 folding lithographed plates (three handcolored). xvi, 631, [1] pp.; xiv, 1104 pp. Two vols. 8vo, cont. half-sheep & marbled boards (lower joint of Vol. I partly cracked but strong, minor foxing), spines gilt. Karlsruhe: C.T. Groos, 1829-32. $1500.00

First edition of one of the most extensive introductions to mineralogy and geology of the period. Walchner (1799-1865), was professor at the University of Freiburg and, in 1825, was appointed professor of mineralogy, geology, and chemistry at the Polytechnic of Karlsruhe. He wrote many books and articles.

"Very scarce. A technical treatment of mineralogy designed to be sufficient for the isolated amateur to study the subject. It covers all the basic elements including crystallography, physical and chemical properties, and a lengthy descriptive portion that covers the various mineral species. One section provides a list of recently published mineralogical literature."–Schuh, *Mineralogy & Crystallography: A Biobibliography, 1469 to 1920*, 4866–(incorrectly giving the date of Vol. II as 1830).

The first volume is devoted to descriptive mineralogy and the second to geology.

Nice set. Old stamp on each title of the "Grosherz: Bad: Muenzverwaltung."

☾ *A.D.B.,* Vol. 40, pp. 656-57. Poggendorff, II, 1244-45.

94. WELPER, Eberhard.

Usus Quadrantis Astronomici Geometrici, Das ist: Beschreibung des Gebrauchs eines Astronomischen und Geometrischen Quadranten: welcher zu vielen schönen und nützlichen Sachen zugebrauchen . . . Engraved vignette on title depicting the instrument mounted on a stand & one folding engraved plate depicting the instrument. Title within ornamental type border. 40 [i.e. 38] pp., one blank leaf. Small 4to, attractive antique calf, spine gilt, red morocco letter piece on spine. Nuremberg: P. Fürst, n.d. [plate dated 1661].

$5000.00

Second edition (1st ed.: 1619). This is Welper's description of his quadrant to be used by astronomers, navigators, and engineers. The plate is oftentimes missing as it was often removed and used as an instrument.

Welper (1590-1664), studied astronomy at Tübingen and taught mathematics at the University of Strasbourg where he was also active as an instrument and calendar maker and publisher.

Fine copy and rare; WorldCat locates no copy in North America.

☾ Zinner, *Instrumente,* p. 583–(listing the German ed.).

First Modern Textbook of Descriptive Mineralogy

95. WERNER, Abraham Gottlob.

Von den äusserlichen Kennzeichen der Fossilien. Eight folding printed tables. 302 pp., 1 leaf of table of contents & errata. 8vo, 19th-cent. calf-backed marbled boards, spine gilt, black leather lettering piece on spine, outer & lower edges uncut. Leipzig: S.L. Crusius, 1774. $7500.00

First edition, and very rare, of the author's first book in which Werner developed a completely new system for the description of minerals. Werner (1749-1817), known as the "father of historical geology," was the first to understand that the correct classification of minerals should be based on their chemical composition and that minerals could be identified


Von den
äußerlichen
Kennzeichen der Foßilien,
abgefaßt
von
Abraham Gottlob Werner,
der Bergwerks-Wiſſenſchaften und Rechte Befliſſenen, auch der leipziger ökonomiſchen Geſellſchaft Ehren-Mitglied.
Leipzig,
bey Siegfried Lebrecht Crußius,
1774.

by their external characteristics. In this work, "Werner gave an unprecedented number of external characteristics with definitions, usually accompanied by homely examples which could be understood by both the layman and the natural philosopher . . . [it] continued to be an important work into the nineteenth century."–*D.S.B.*, XIV, p. 257.

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

Fine copy with the outer and lower edges uncut.

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

The Waters of Wildbad

96. WIDMANN (called MECHINGER), Johannes.

Ain nützlichs Büchlin von dem Wildpad, gelegen imm fürstenthumb Wirtenberg, gemacht von dem Berümpten Doctor Johann Mechinger. [8] leaves (the last is blank). Small 4to, modern limp vellum (light dampstaining at foot). [Tübingen: T. Anshelm, 1513]. $5000.00

First edition of this early and rare balneological work which describes the mineral baths at Wildbad and their benefits. Wildbad is a watering place in Württemberg, situated in the Enz gorge in the Black Forest. Its thermal alkaline springs have a temperature of 90-100 degrees Fahrenheit.

Widmann (1440-1524), took his master of arts degree at Heidelberg and then went to Italy where he studied medicine at Pavia, Padua, and Ferrara. He received his medical degree at Ulm. Later, Widmann held a series of posts, including physician to Margrave Christoph von Baden and Duke Eberhard von Württemberg, city physician at Basel, Strasbourg, and Ulm, and professor of medicine at Tübingen. His tract on syphilis, published in 1497, is considered to be one of the best written in the 15th century.

In this work, Widmann describes the medical uses the waters of Wildbad provide in treating gout, rheumatism, and neuralgia.

Fine copy.

☾ Durling 4728. Hirsch, V, pp. 925-26.

"Rare"

97. WOULFE, Peter.

Experiments made in Order to ascertain the Nature of some Mineral Substances; and, in particular, to see how far the Acids of Sea-Salt and of Vitriol contribute to mineralize Metallic and other Substances . . . Read at the Royal Society, June 20, 1776. 19 pp. Large 4to, later wrappers, uncut. London: 1777. $1650.00

The very uncommon separately paginated offprint of the first Bakerian lecture. Woulfe (1727?-1803), chemist and mineralogist, was an inventor of the familiar two-necked bottle generally known as a Woulfe's bottle, a standard item of equipment in chemical laboratories. He was elected to the Royal Society in 1767.

This work is a description "of 25 experiments made to determine the extent of mineralization by acid of salt (hydrochloric) and acid of vitriol (sulphuric). The conclusion reached was the silver and mercury are the

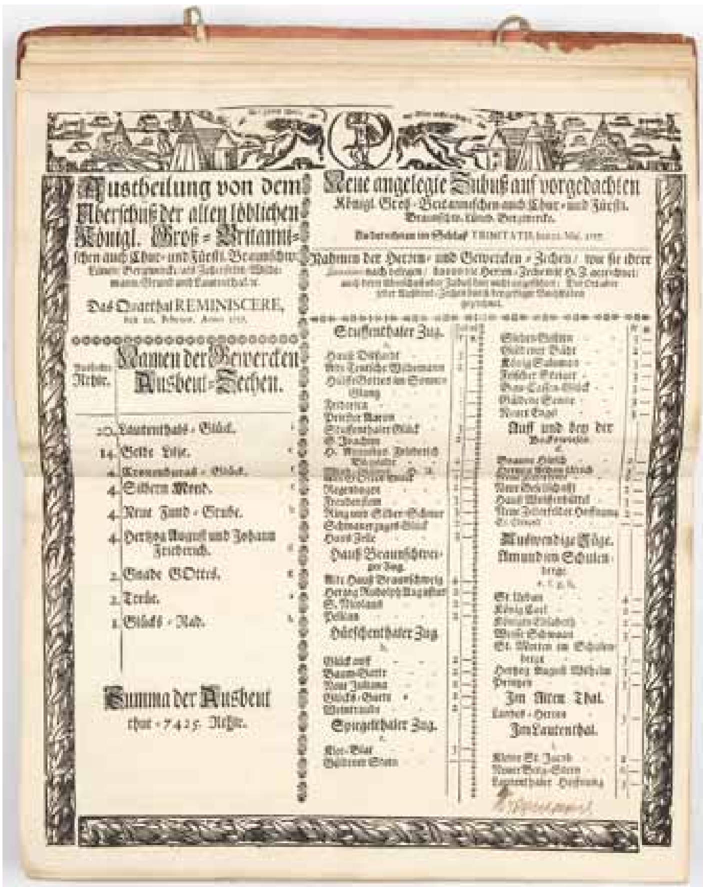
only metals mineralized by acid of salt and that the mineral formed also contains acid of vitriol."–Cole 1389.

Fine copy.

☾ *D.S.B.*, XIV, pp. 508-09. Schuh, *Mineralogy & Crystallography: A Biobibliography, 1469 to 1920,* 5085–"Rare."

98. (ZELLERFELD MINING PROFIT REPORTS).

Austheilung von dem Überschuss der alten löblichen Königl. Gross-Britannischen auch Chur- und Fürstl: Braunschw: Lüneb. Bergwercke, als Zellerfeldt, Wildemann, Grund und Lauthenthal, etc. Series of 56 printed quarterly forms from 26 August 1713 to 10 May 1727, each measuring 380 by 315 mm. & folded


Austheilung von dem Überschuß der alten löblichen Königl. Groß-Britanni-

Neue angelegte Zubuß auf vorgedachten

Namen der Gewercken Ausbeut-Zechen.

Summa der Ausbeut

horizontally. Letterpress text in three columns within a four-part woodcut border, the bottom & side borders purely ornamental, the upper part containing mining & allegorical motifs and the letterpress admonition "Wer Zubuss scheut — wird nicht erfreut" i. e. "He who avoids the deposit will derive no joy from it." Most forms have been signed by a mining clerk. Mounted on guards and bound in cont. half-sheep & pink boards, with three (of four) deerskin ties & manuscript label to upper cover "Zellfeldsche BergZettels." [Zellerfeld]: 26 August 1713-10 May 1727. $9500.00

The towns of Zellerfeld, Wildemann, Grund, and Lauthenthal were four of the most important mining centers of the Upper Harz Mountains, once one of the greatest mining regions in Germany. Mining has been carried on there since the middle of the 10th century, primarily for silver, but also for lead, gold, copper, iron, sulphur, alum, and arsenic.

In this volume, 56 printed forms have been bound together consecutively, each with a successive quarterly date (26 August 1713, 25 November 1713, etc.). The quarterly sheets record the accounts of profits or losses of the upper Harz silver mining corporations. Early mining law stipulated that shareholders (*Gewerken*) were liable for the losses incurred by their mine and had to deposit a collateral (*Zubusse*) corresponding to their share (*Kuxe*). The amount due was calculated anew for each quarterly period and recorded here on each form.

The forms also record the distribution of the surplus funds to shareholders. The columns on the right side of the sheet lists individual guilds and other shareholders including several dukes (for example, Augustus Wilhelm, Duke of Brunswick-Lüneburg).

An important and unique collection, recording the activities of these mines and the business of mining.

99. ZENKER, Jonathan Carl.

Historisch-topographisches Taschenbuch von Jena und seiner Umgebung, besonders in naturwissenschaftlicher u. medicinischer Beziehung. Herausgegeben unter Mitwirkung des Herren Brehm, Döbereiner, Fries, Göttling, Huschke, Kieser, Krause, Renner, Schmid, Schrön, Stark I, Suckow sen. et jun., Thon, Voigt, Wackenroder u. A. One folding lithographed map of the city & its environs and one folding lithographed plate of the geological strata of the region. x, 338 pp. 8vo, cont. turquoise glazed boards (joints a little worn, some foxing), uncut. Jena: F. Frommann, 1836. $1250.00

First edition of this uncommon work on the great university city of Jena in Thuringia. Since the 16th century, the city's university has traditionally been in the forefront of German universities in acceptance of new and liberal ideas.

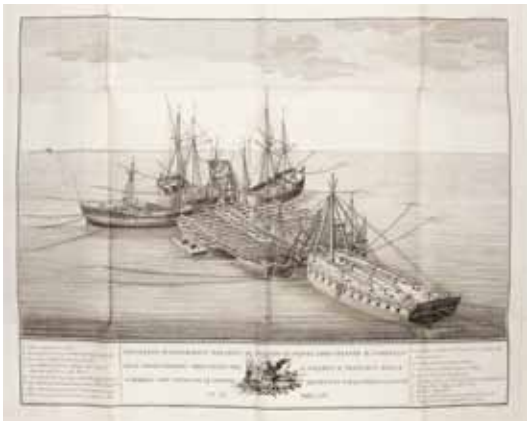
For this book, Zenker (1799-1837), professor of natural history at the University of Jena, has organized a team of colleagues to describe the various aspects of the city. As we learn from the title, the text particularly focuses on the natural history and medical resources of Jena. There are chapters on the history of the Jena, its most notable features and buildings, its scientific and cultural organizations, the climate, the mineralogy and geology of the area, the abundance and qualities of the local water sources, the vegetation and crops growing in the area, and an important section on the general health of the population with detailed accounts of the hospitals and other medical facilities.

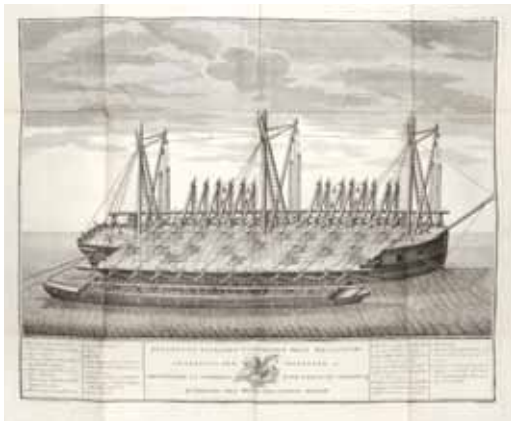
Very good copy. Old library stamp on verso of title with release stamp.

Marine Engineering

100. ZUSTO, Giovanni.

Descrizione Istorica dell'Estrazione della Pubblica Nave La Fenice dal Canale Spignon. In cui giacque circa tre anni totalmente sommersa. Engraved allegorical frontispiece by Giuseppe Daniotto and seven fine & large folding plates by Daniotto. xxxii, 90, [2] pp. Large 4to, cont. marbled boards. [Venice]: Sons of A. Pinelli, 1789. $3750.00



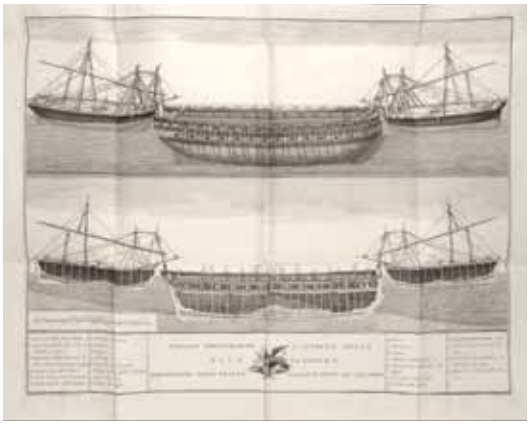


First edition of this notable engineering work which describes the raising of the sunken man-of-war *Fenice* in the Spignon channel, just inside the Porto di Malamocco, and the central access to the Venice lagoon. The ship sank in April of 1783 and rendered the channel so narrow that it caused great difficulties for large ships to pass. Work began in 1785 to remove the ship and was complete early in the following year.

The very fine plates, here in rich and dark impressions, depict the raising and clearance of the ship, employing a combination of hydraulics and an elaborate system of pulleys. This was a remarkable engineering feat. It required innovative methods that became standard practice in subsequent marine salvage operations.

A very fine and handsome copy. Frontispiece with small pale ink stain at foot beneath image.

☾ Riccardi, I, 407–"Bella ediz. . . . interessantissima per gli studiosi della meccanica applicata alla nautica."



Selective Subject Index

Printed on Munken paper. Designed by Jerry Kelly and set in his Voltaire and Rilke types.