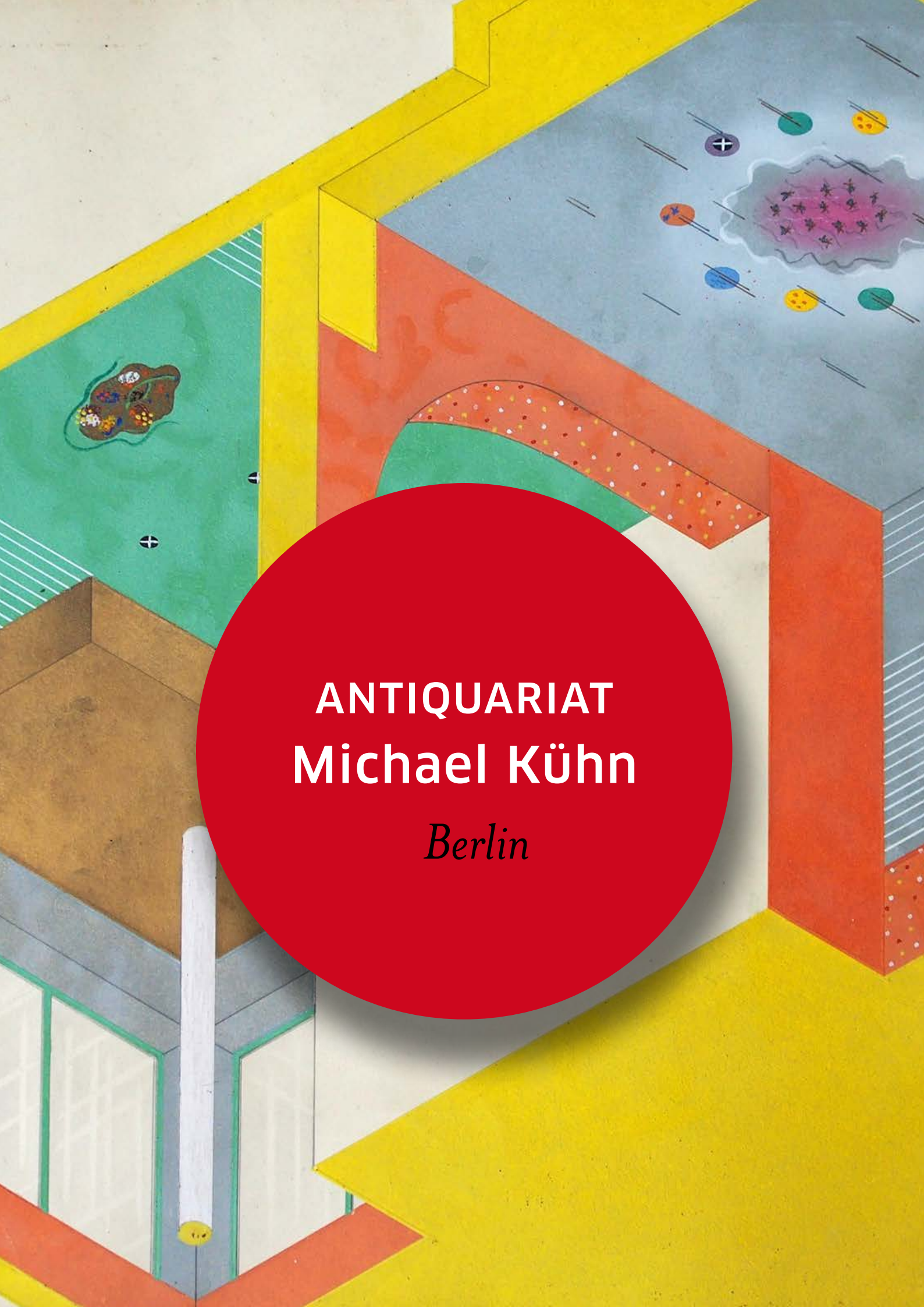
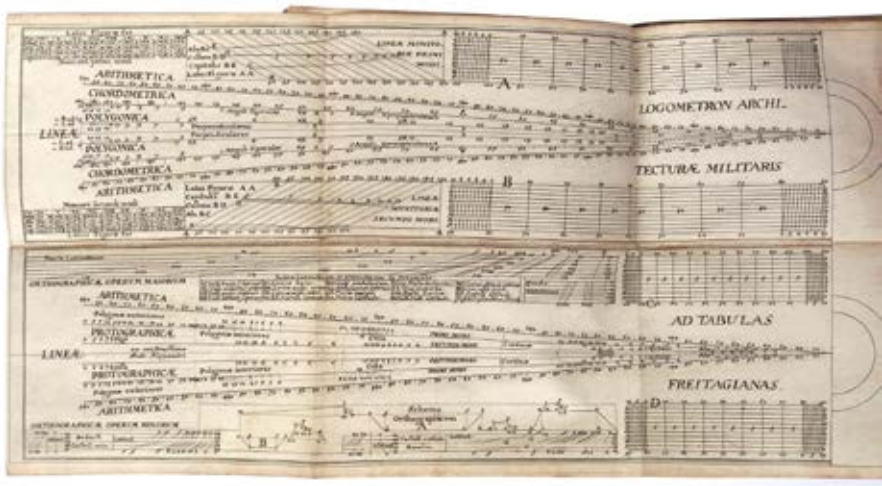


ANTIQUARIAT

Michael Kühn

Berlin

Early Calculator



ALEXANDER, Andreas

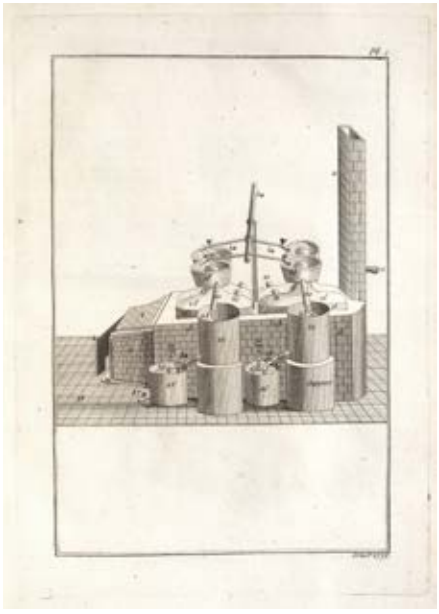
Logometron architecturae militaris, freitagianae. Kunstmäss der Freitagischen Bevestigung, mit g[e] nugsamer Erklärung des Gebrauchs, und zugehörigen Theilungs –Tafeln aussgefertiget durch Andreas Alexandern aus der Marck Brandenburg. – Arnheim: in Verlegung Joh. Friderich Haagen, 1665. oblong 8vo (95 x 155 mm) with 12 engraved plates (one double page, one fold.) Contemporary vellum, rubbed and soiled, ties missing, title stamped twice by military library, text browned due to paper quality. Plates on better paper.

EUR 3.000.-

This is the first edition of Alexander's work on the sector, which he called Logometron.

The mathematician and instrument maker Andreas Alexander came to Nuremberg around 1660, where he gave private lessons in the mathematical sciences. Johann Philipp von Wurzelbau (1651–1725) was one of his disciples. In 1662 he published a book on the proportional circle where on the title page he described himself as a native of Brandenburg. In 1665 he went to Holland, where in Arnheim he published a small book on a newly invented sector to be used in fortification, which he called Logometron. Alexander's sector seems well designed and, unlike some contemporary instruments, places useful tables and non-sector scales on the usually empty side areas of the instrument. After introducing the history of the sector and giving credit to Galileo, he describes the scales on the instrument and the elementary operations it can perform. This is followed by some simple arithmetic problems. He then quickly introduces more complex problems involving military fortification, geometry, and surveying. In addition to the large folding plate of the Logometron, laid in so that it may be more readily examined, there is a full-size diagram of a diagonal scale (which he calls a scalae pro divisone linearum). This latter is required for use with some of the examples. He is said to have died in Holland after a few years. On December 3, 1674, five of his mechanical and geographical inventions were presented at the meeting of the Royal Society in London. These included a measuring device for forces, a heavy-duty transport machine, a smoke oven optimally managing the smoke, a method of drawing maps covering large areas, and a proposal about determining longitude at sea.- Birch, History pp. 159f.; Doppelmayr, Nachricht pp. 170f.; Enestrom, Bibliotheca IV, 290-91; VD17 23:313304B, Tomash Coll. A 58 (this copy) Provenance: Erwin Tomash, Bibliothek des K.S. Artillerie Corps.

Schnaps



BAUMÉ Antoine.

Mémoire de M. Baumé du collége de pharmacie de Paris… Couronné par la Société Libre d' Emulation, établie à Paris pour l' encouragement des Arts et des Inventions Utiles, et qui a obtenu le prix de1200 livres sur cette question: Quelle est la meilleure manière de construire les Fourneaux et les Alambics propres à la distillation des Vins, pour en tirer les Eaux- de-Vie ? Extrait du Journal de Physique, Juillet 1778. (bound with:) MOLINE (Abbé). Mémoire de M. l'abbé Moline … Couronné par la société libre d' Émulation … et qui a obtenu le prix de 600 livres sur cette question : Quelle est la meilleure manière de construire les fourneaux et les alambics propres à la distillation des vins pour en tirer les Eaux-de-vie. – Paris, l' Imprimerie Clousier, 1778. 4to (250 x 200 mm) 40 pp. with two engraved plates with 13 figures of chemical apparatus and 32 pp. with two engraved plates. Period style marbled papercard boards, little spotted, but fine and clean copy.

EUR 1.200.-

Rare original edition of a prize winning work by the chemist Antoine Baumé on chemical apparatus for producing an eau de vie, a clear, colourless fruit brandy that is produced by means of fermentation and double distillation. The fruit flavor is typically very light. He had won a first prize in 1777 for an essay on the best furnaces, alembics, and other apparatus to be used in the distillation of wine described here. Quérard and Hoefer cite another edition in octavo with same date. Antoine Baumé (1728–1804) was a pupil of Geoffroy, who later became master apothecary and demonstrator in chemistry at the College de Pharmacie in Paris. He was lecture demonstrator to Macquer for twenty-five years, had a large manufacturing laboratory, and was one of the leading French chemists of his time. In 1752 he became maitre apothicaire, and opened his own dispensary in the Rue St.- Denis, Paris, the following year. In addition to its role as a local pharmacy, Baumé's dispensary supplied drugs in bulk to pharmacies and hospitals over a very wide area and manufactured drugs and other chemicals in large quantities. The work of Abbé Moline, his only publication, received a second prize for the same prize.- both not in NevilleHistorical Library; Ferchl 27; DSB I, 527; Partington III, 91; Pogg. I, 116.

‚Turning Point for Women in Science‘

Vorbereitung/
Zur grossen
OPPOSITION,
Dero
Merckwürdige Himmels-Gestalt im 1712. Jahre/ worauf im folgenden 1713. Jahre Christi/ der
Genaudreyfache
Gegen-Standt/
SATURNI und JOVIS
folget.
Woraus hier einige Anmerckungen abgefasset/ was
öffters bey dergleichen Oppositionibus hat pflegen
zu geschehen.
Zu einer Auffmunterung/ desto eher und mehr den
gestirnten Himmel zu betrachten/ ob vielleicht in die-
sem Jahre ein neuer
COMET,
Daran erscheinen möchte.
Wornächst noch/ aus natürlichen Ursachen/ vermuthet werden
schädliche
Erdbeben.
Allen und jeden zu mehrerem Nachdencken aufgesetzt/
Von
Maria Margaretha Winckelmannin/ verwitweten
Kirchinn der Astronomie und Astrologie ergebe-
nen in Berlin
Cölln an der Spree/ druckts Ulrich Liebpert/ Königl. Preuß. Hof-Buchdr.

(Astronomy) KIRCH, Maria Margaretha.

Vorbereitung, Zur grossen Opposition, Oder Merckwürdige Himmels-Gestalt im 1712. Jahre Christi, worauf im folgenden 1713. Jahre Christi, der Genaudreifache Gegen-Standt Saturni und Jovis folget Woraus hier einige Anmerckungen abgefasset, was öffters bey dergleichen Oppositionibus hat pflegen zu geschehen ; Zu einer Auffmunterung, desto eher und mehr den gestirnten Himmel zu betrachten, ob vielleicht in diesem Jahre ein neuer Comet, Daran erscheinen möchte ; Wornächst noch, aus natürlichen Ursachen, vermuthet werden schädliche Erdbeben ; Allen und ieden zu mehrerem Nachdencken aufgesetzt Von Maria Margaretha Winckelmann, verwitweten Kirchinn, der Astronomie und Astrologie ergebenen in Berlin. – Cölln an der Spree, druckts Ulrich Liebpert, Königl. Preuß. Hof – Buchdr. (no date but 1712) 4to (212 x 170 mm) 24 pp. and one fold. engraved plate. (Sign.: A – C4) Plain wrappers. Due to paper quality heavily browned. The plate in the book correspond not to the plate in the online copy, and shows the path of a comet.

EUR 1.900.-

Exceedingly rare work on the great conjunction of 1712 by one of the few women active in astronomy around 1700 (we could locate only 5 copies in institutional holdings). Expanded edition compared to the Latin text published in 1712 in Leipzig in „Acta Eruditorum anno M DCC XII“, pp. 77-79. A great conjunction is a conjunction of the planets Jupiter and Saturn, when the two planets appear closest together in the sky. Great conjunctions occur approximately every 20 years when Jupiter ‚overtakes‘ Saturn in its orbit. They are named ‚great‘ for being by far the rarest of the conjunctions between naked-eye planets.

Maria Kirch (1670-1720) was the second wife of the astronomer Gottfried Kirch, and the mother of the astronomers Christfried and Christine Kirch. While mainly engaged in calculating calendars, together with her husband and later son, Maria Margaretha Kirch born Winkelmann, also carried out astronomical and meteorological observations. She became well known as one of the discoverers of a comet in 1702.
After living at Leipzig and Guben (Saxony) for some years, the Kirch family moved in 1700 to Berlin, where Gottfried accepted the newly established position of the astronomo ordinario. His main task in Berlin was to compute and edit the new calendar, and Maria Margaretha supported him very strongly in this task. She also carried out astronomical observations, using usually small transportable instruments. Her most significant success was the independent discovery of Comet C/1702 H1.

After Gottfried Kirch's death it was clear to Maria Margaretha that she had no chance to replace her husband in the official position of the astronomo ordinario at the Berlin Academy of Sciences. In 1712, all her requests for a minor position were finally rejected, although the president of the Academy, Gottfried Leibniz, expressed explicitly his admiration for her astronomical skills. In October 1712 Maria Margaretha Kirch moved with her children to the private observatory of Baron Bernhard Friedrich von Krosigk (1656-1714) at Berlin and after his death she moved to Danzig to reorganize the observatory of Hevelius.(Roland Wielen)

This publication was probably published in low number by her to show her astronomical skills to influential persons (or the public).- BEA I, 639/40; Lalande, 1803, p. 359; Pogg. I, 1258; ADB XV, 788; DSB VII, 373-74; Schiebinger. Maria Winckelmann at the Berlin Academy: A Turning Point for women in science in: ISIS 78 (1987), 174-200. Holdings: Dt. Museum, Münster, Paris Observatoire, NL Scotland, Duke Univ.

The Fore-runner of the modern Mail-order Catalogue

BESTELMEIER, Georg Hieronimus.

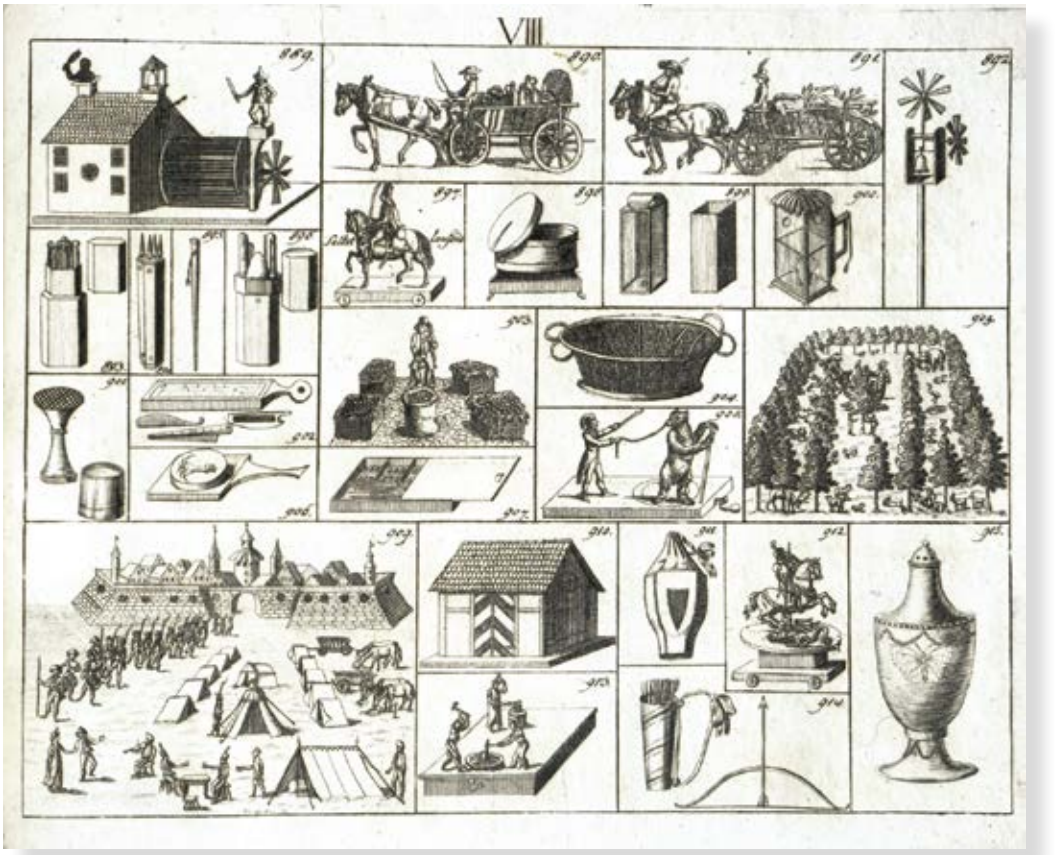
Magazin von verschiedenen Kunst- und anderen nuezlichen Sachen, zur lehrreichen und angenehmen Unterhaltung der Jugend, als auch für Liebhaber der Kuenste und Wissenschaften, welche Stuecke meistens vorraethig zu finden. Neue verbesserte Auflage. (Installments 1-9 in one volume). Nürnberg, Bestelmeier 1807 (parts 1–8) and 1805 (9th part). Oblong 4to (200 x 248 mm) 10 pp., 15 pp., 16 pp., 12 pp., 12 pp., 15 pp., 20 pp., 12 pp., 14 pages. With altogether 78 engraved plates showing 1403 (recte 1214) illustrations. Contemporary marbled boards, publisher's printed orange label to front cover with a printed date 1808. Covers rubbed, extremities worn. Contemporary ink manuscript paper label to spine. Plates bound in at the end. A few marginal spots to plates, one plate with short tear in front margin, slight browning to a few text-leaves. A nice copy and a scarce survivor.

EUR 8.500.-

Exceedingly rare second edition of the complete catalogue in nine parts. The first edition of the complete catalogue was in 1803 with only 8 parts, the ninth part being published not before 1805. Splendidly illustrated catalogue of this famous Nuremberg retail dealer and mail-order business in children's toys, games, optical and physical instruments, puppets, magic boxes, devices and games. Complete with 78 plates, as mentioned on title of the last part, variant plate numbers in other copies are due to the publishing habits of Bestelmeier. Born into a family of brewers, Georg Hieronimus Bestelmeier (1764–1829 Nuremberg) established a business selling toys and fashionable accessories in a building at the corner of the Nuremberg fruit market. Known as the Bestelmeier'ischen Laden, the shop continued to expand, and by 1793 he published his first mail order catalogue. This was successful, and he subsequently produced a run of such catalogues. Business was good, and Bestelmeier expanded his operation, receiving in 1803 permission from the Nuremberg council to establish a furniture store. This led to a year to a year-long dispute with local carpenters, who fiercely opposed Bestelmeier selling furniture made outside of the city. Although Bestelmeier was not the first person to retail using the mail order catalogue format – that honor belongs to the Berlin toy seller Peter Friedrich Catel (1747–1791) – by 1800, Bestelmeier was the only toy retailer in the world to operate its mail order business with illustrated catalogues. Price lists certainly existed as early as the 17th century, but Bestelmeier was one of the first to realize that a price list with meagre descriptions of the article was not enough. Possibly there were also disappointed customers who returned goods at that time because they couldn't see the product. Bestelmeier then added detailed descriptions and illustrations. He spared no expense and for decades remained the only one world-wide to have an illustrated catalogue of goods.

About a quarter of the inventory consisted of magic tricks, and illustration no. 739 in Magazin VI, pl. 6, appears to be one of the earliest depictions of a magic box of tricks. The catalogues also offer a substantial number of scientific instruments, as well as terrestrial and celestial globes. Department store and catalogue offered an unbelievable amount of toys, games, magic boxes etc. (approx. 1200 items)

"Bestelmeier hat seine Kataloge offenbar jeweils geändert, um neuen Bedürfnissen der Käufer gerecht zu werden" (Monschein) Starting in 1793 Bestelmeier issued 8 separate parts until 1801. Around 1800 and for more than 20 years to follow Bestelmeier's catalogues were the only illustrated toy catalogues worldwide.- Cf. Monschein, Aufklaerung p. 14; Rammensee p. 155. Stauss, Frühe Spielwelten pp. 83-108, especially pp. 87-89 for the printing history of the catalogue.- KVK: at least in Leipzig, Stuttgart, Dresden, Detmold (1795 ed.); DHM Berlin (1803); OCLC: Williamsburg, MET Museum (1803 ed); most libraries have only the 1979 reprints.



Optical Instruments

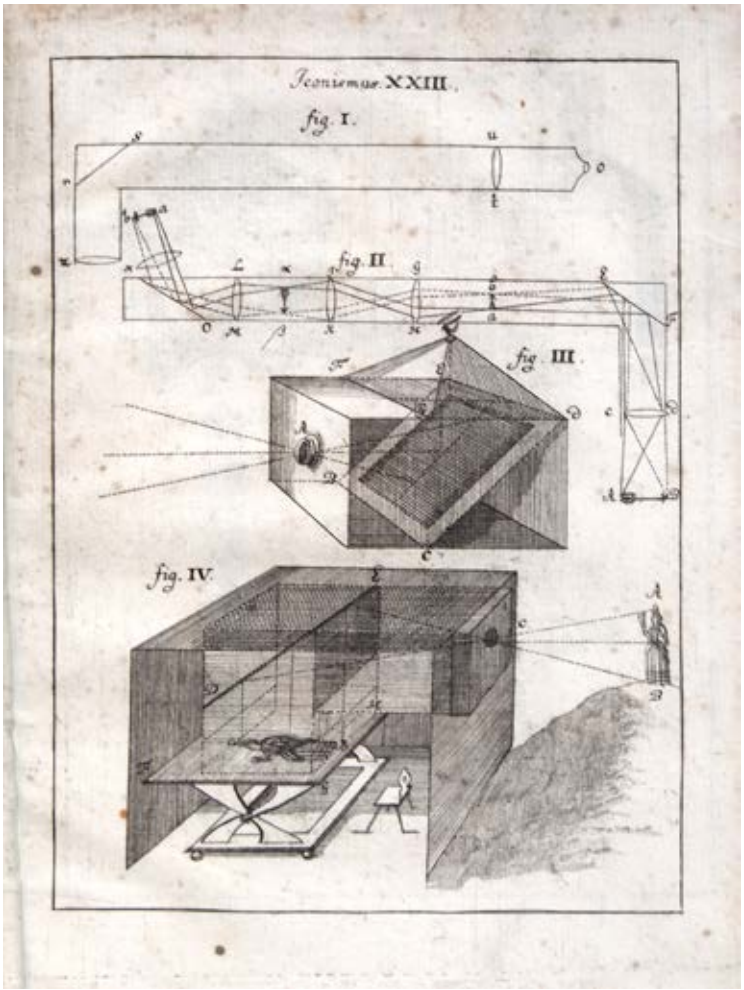
CONRADI, Johann Michael.

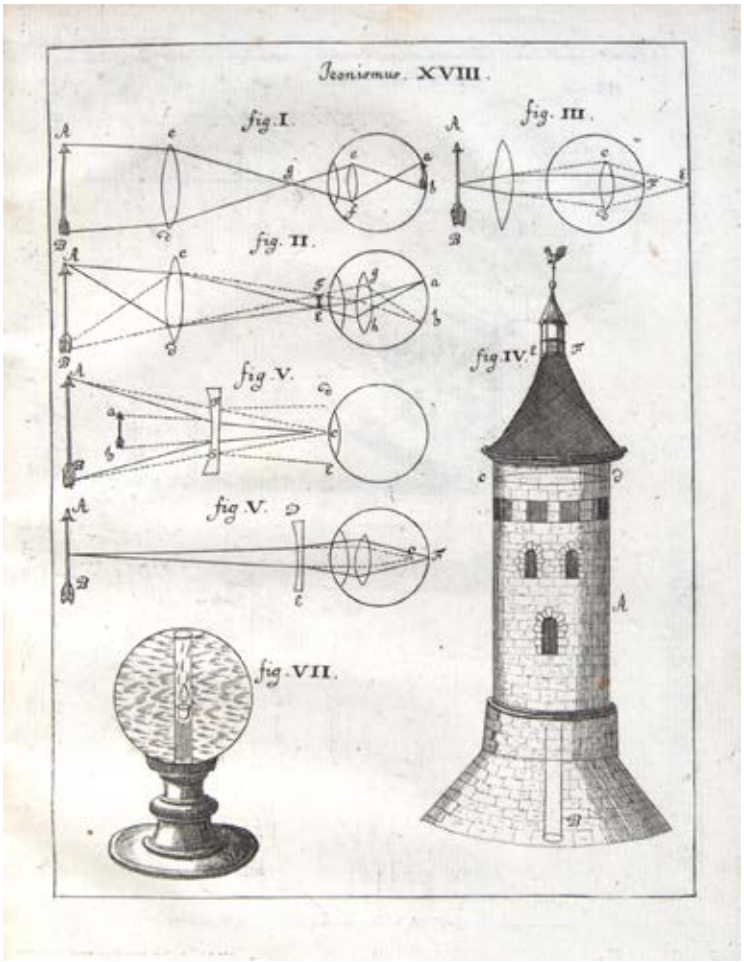
Der dreyfach geartete Sehe-Strahl in einer kurtzen doch deutlichen Anweisung zur Optica Oder Sehe-Kunst; Bey übrigen und einsamen Stunden zu Erhebung Göttlicher Weißheit und den Kunstbegierigen zur Handleitung … Coburg, In Verlegung des Autoris, Thurnau: Johann Fridrich Regelein, 1710. 4to (205 x 155 mm) [16], 120 pp. with engraved frontispiece and 24 engraved plates. Contemporary vellum, small lesion to front cover. Browning to text as always; some browning or foxing to plates, but a better than usual copy.

EUR 3.200.-

Extremely rare book on early optics, a practical optical treatise by Johann Michael Conradi (died in 1742) who was a teacher at Coburg College (Gymnasium) and later became a teacher of the French language at the Dresden Court. Conradi claims in the foreword that the newly described optical instruments were invented by him. This is a popular handbook of optics, with physiology, color theory, projection theory and art pieces, as well as descriptions and manufacturing instructions of lenses, mirrors, telescope, microscope, magic lantern, camera obscura, with corresponding illustrations.
Goethe quoted in the theory of colours (II, 493) Conradi's explanation of the blue sky.

Einzige Ausgabe. Handbuch der Optik, mit Physiologie, Farbenlehre, Projektionslehre und -kunststücken sowie Beschreibungen und Herstellungsanleitungen von Linsen, Spiegeln, Teleskopen, Mikroskopen, Camerae obscurae etc., mit entsprechenden Abbildungen. Goethe zitierte in der Farbenlehre (II, 493) Conradis Erklärung des Himmelsblaus (§16, S. 18). Johann Michael Conradi (1676-1751), Sohn eines Coburger Lehrers, war Pastor auf der Veste Coburg, später in Roßfeld. Provenance: Vorsatz mit Vermerk, dass das Buch 1725 von Franz Anton Graf Breuner v. Asparn (Breiner) an Ulrich Joseph Maurer verschenkt wurde.- Pogg. I, 472; Jöcher II, 445; Murhard III, 21; Waller 11316; de Martin 37; not in German Museum, Libri Rari, bei Roller-G., Roberts-Tr. etc.





Solar Observations with Sextant

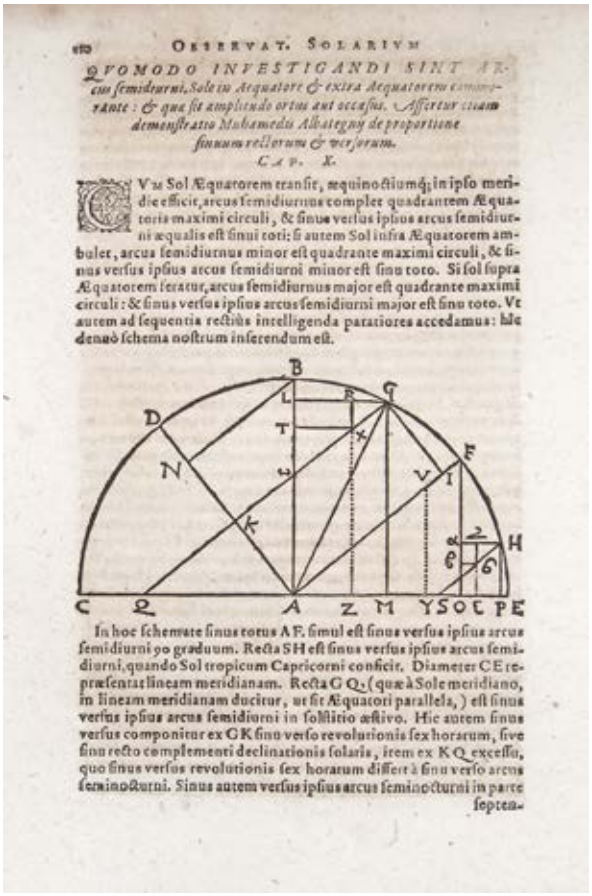
OBSERVATIONVM
SOLARIVM LI-
BRI TRES.

IN QVIBVS EXPLICATVR
VERVS MOTVS SOLIS IN ZODIA-
co: & universa doctrina Triangulorum,
ad rationes apparentium cœle-
stium accommo-
datur.

AVCTORE
M. Jacobo Christmanno Ioan-
nisbergensi, Inclytæ Academiæ Heidelber-
gensis in Logicis Professore
ordinario.

Index Capitum, in singulis libris comprehensorum,
post Epistolam dedicationis
exhibetur.

BASILEAE,
Impensis Lazari Zetzneri.
cIↃ IↃ cI.



Observat. Solarium

Quomodo investigandi sint ar-
cus semidiurni, Sole in Æquatore & extra Æquatorem existen-
te: & quæ sit amplitudo ortus aut occasus. Affertur etiam
demonstratio Mahamedis Alhategny de proportione
sinuum rectorum & versorum.
Cap. X.

Vbi Sol Æquatorem transit, æquinoctiumq; in ipso meridie efficit, arcus semidiurnus complet quadrantem Æquatoris maximi circuli, & sinus versus ipsius arcus semidiurni æqualis est sinui toti: si autem Sol infra Æquatorem ambulet, arcus semidiurnus minor est quadrante maximi circuli, & sinus versus ipsius arcus semidiurni minor est sinu toto. Si Sol supra Æquatorem feratur, arcus semidiurnus major est quadrante maximi circuli: & sinus versus ipsius arcus semidiurni major est sinu toto. Vt autem ad sequentia rectius intelligenda parationes accedamus: hic denuò schema nostrum inserendum est.

In hoc schemate sinus totus AF. simul est sinus versus ipsius arcus semidiurni 90 graduum. Recta SH est sinus versus ipsius arcus semidiurni, quando Sol tropicum Capricorni conficit. Diameter CE repræsentat lineam meridianam. Recta GQ, (quæ à Sole meridiano, in lineam meridianam ducitur, ut sit Æquatori parallela,) est sinus versus ipsius arcus semidiurni in solstitio æstivo. Hic autem sinus versus componitur ex GK sinu verso revolutionis sex horarum, sive sinu recto complementi declinationis solaris, item ex KQ excessu, quo sinus versus revolutionis sex horarum differt à sinu verso arcus seminocturni. Sinus autem versus ipsius arcus seminocturni in parte septem-

CHRISTMANN, Jacob.

Observationum solarium libri tres. In quibus explicatur verus motus Solis in Zodiaco: & universa doctrina Triangulorum, ad rationes apparentium coelestium accomodatur … Basel, impensis Lazarus Zetzner, 1601. 4to (225 x 165 mm) [4] Bll., 227 pp., (1, blank) with one large folding table and several tables and a few diagrams in the text; very lightly browned; two leaves with marginal paper flaws; a fine copy in period style half vellum over marbled boards with morocco lettering piece on spine, red edges.

EUR 6.800.-

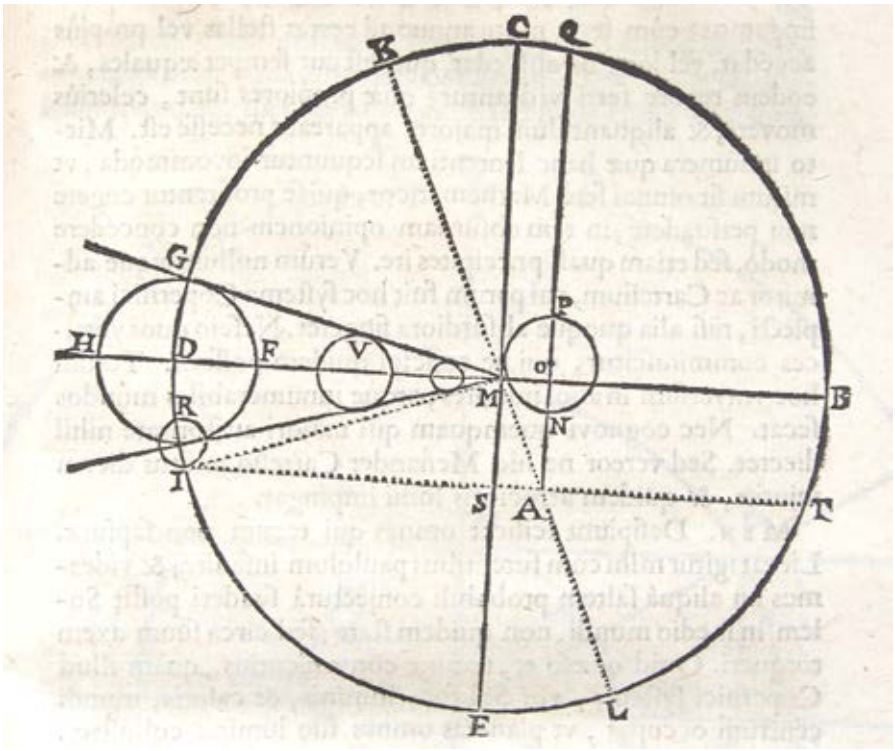
First edition of Christmann's rare work on spherical geometry as applied to solar observations, executed with a sextant of his own design over a period of several years. Even before publication of Kepler's Dioptrice, Jakob Christmann mounted a (Galilean) telescope on the alidade of his sextant, thereby turning it into a viewfinder for that instrument. (Ludendorff).

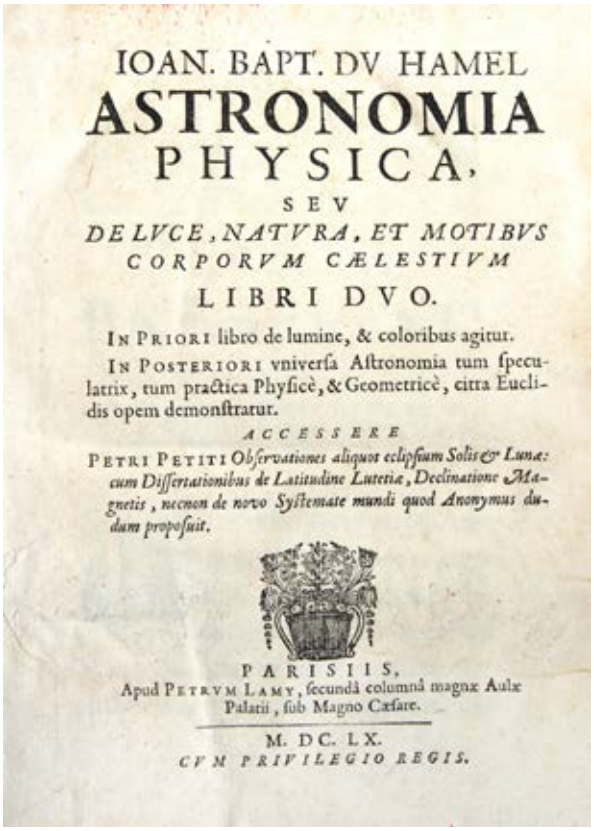
The work opens with chapters on the construction and use of astronomical instruments, principally the sextant and triangle, and a discussion of solar parallax and observational problems. This is followed by a history of the solar observations of Tycho Brahe and Johannes Kepler, and prints a solar ephemeris for 1597 based on Brahe but corrected with Copernicus' observations. Christmann then presents his own solar tables. An extensive chapter discusses various errors in Lansberge's trigonometric presentations, which earned him a rebuttal from the Dutch physician and philosopher and friend of Lansberge's, Daniel Miverius, published at Middelburg as Aplogia pro P. Lansbergio in 1602. The work concludes with several chapters on prostaphaeresis, the best method of calculating trigonometric tables to be developed before the invention of logarithms, which he based on such formulas as 2 sin A sin B = cos (A - B) - cos (A + B).

Jacob Christmann (1554-1613) was a professor of oriental languages in Heidelberg, and the second teacher of Arabic in Europe.

'From 1591 onwards, he taught Aristotelian logic. He was a coworker of the mathematician Valentin Otho who had been a pupil of Rheticus' (Pierre Gassendi & Olivier Thill, The Life of Copernicus (1473-1543) p. 329). 'On the death of Valentin Otho, Christmann inherited the entire library of G. J. Rheticus, which had been in Otho's keeping. This collection contained trigonometric tables more extensive than those that Rheticus had published in the Opus Palatinum of 1596 … as well as the original manuscript of Copernicus' De revolutionibus orbium coelestium. The inclusion of instruments in the bequest stimulated Christmann to begin making astronomical observations. In 1604 he proposed to Kepler that they should exchange the results of their researches. Christman was the first to use the telescope in conjunction with such instruments as the sextant or Jacob's staff …' (DSB). The work is dedicated to Tycho Brahe's nephew, Otho.

Houzeau and Lancaster 2883; Zinner 3884; OCLC locates six copies in North America, at Harvard, Yale, Texas, Brigham Young, Oklahoma, and Lafayette College.




IOAN. BAPT. DV HAMEL

ASTRONOMIA PHYSICA,

SEV

DE LVCE, NATVRA, ET MOTIBVS CORPORVM CÆLESTIVM

LIBRI DVO.

In Priori libro de lumine, & coloribus agitur.

In Posteriori vniversa Astronomia tum speculatrix, tum practica Physicè, & Geometricè, citra Euclidis opem demonstratur.

ACCESSERE

Petri Petiti *Observationes aliquot eclipsium Solis & Lunæ: cum Dissertationibus de Latitudine Lutetiæ, Declinatione Magnetis, necnon de novo Systemate mundi quod Anonymus dudum proposuit.*

PARISIIS,
Apud Petrvm Lamy, secundâ columnâ magnæ Aulæ Palatii, sub Magno Cæsare.

M. DC. LX.
CVM PRIVILEGIO REGIS.

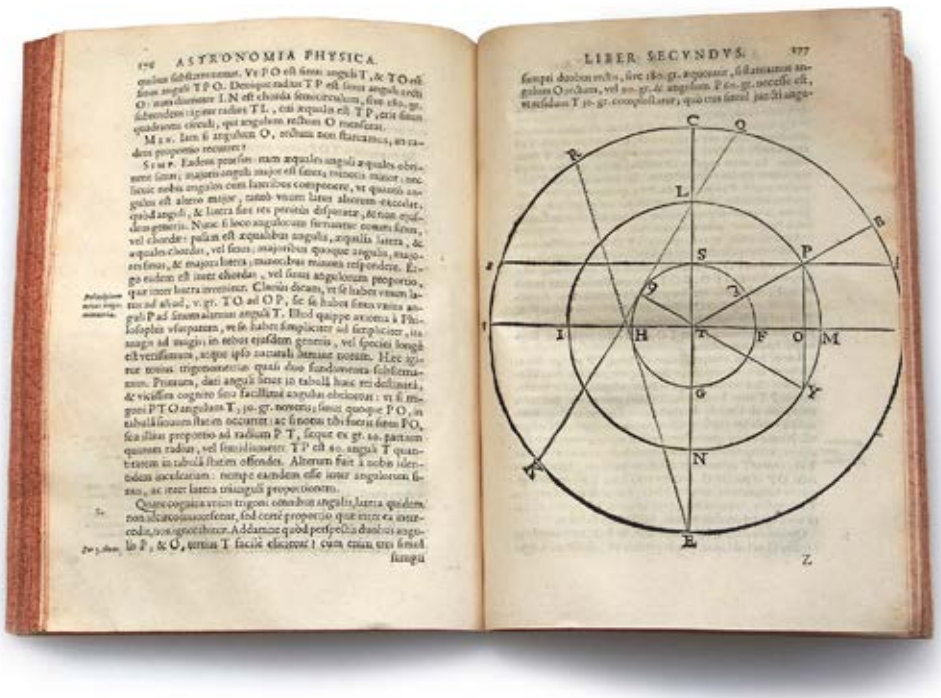
DU HAMEL, Jean-Baptiste.

Astronomia physica, seu De luce, natura, et motibus corporum caelestium libri duo. In priori libro de lumine, & coloribus agitur; in posteriori universa Astronomia tum speculatrix, tum practica physice, & geometrice, citra euclidis opem demonstratur. Accessere Petri Petiti observationes aliquot eclipsium solis & lunae: cum dissertationibus de latitudine Lutetiae, declinatione magnetis, necnon de novo systemate mundi quod anonymus dudum proposuit. 2 parts in 1. – Paris: apud Petrum Lamy,... 1660. 4to (225 x 165 mm) (24), 224 pp., (4), (20), 61 pp., (1) with geometrical woodcuts within text, in all a very good copy in contemporary style half vellum, red edges, clean and fresh.

EUR 3.000.-

First edition. „A la fin se trouvent plusieurs articles de P. Petit sur l'eclipse de Soleil du 14 nov. 1639" (H.-L.).

Jean-Baptiste Du Hamel (1624 – 1706) was a French cleric and natural philosopher of the late seventeenth century, and the first secretary of the Academie Royale des Sciences. As its first secretary, he influenced the initial work of the Académie, but his legacy and influence on the Académie and the growth of science in France is mixed. It is while in Paris that he published two of his works, the Astronomia Physica and De Meteoris et Fossibilus in 1660, both of which analyze and compare ancient theories with Cartesianism. This combination of theoretical and scientific analysis made many of Du Hamel's contemporaries see him and his work as a link between theology and the new ideas of science.- Houzeau-L. 8755; Roller-G. I, 339; DSB IV, 221 f.



First Photographs of the Sun Surface

JANSSEN, Jules.

Annales de l' Observatoire d' Astronomie physique de Paris sis Parc de Meudon, publié par M. J. Janssen. Tome I. – Paris: Gauthier – Villars et fils, 1896. 4to (280 x 220 mm) (4), 122 pp., (2) with 9 photogravure plates (hel. Dujardin) showing the observatory and 12 original mounted photographs (230 x 170 mm) showing the grainy surface of the sun. Original publisher's printed paper–card boards, little rubbed & dust–soiled, little spotted inside, handwritten dedication on title, else a fine association copy.

EUR 12.000.-

First photographs of the sun surface made by Pierre M. Arents and Louis Pasteur under the direction of Jules Jannsen.

Description of the observatory of Meudon and an essay on the photography of the sun: „Mémoire sur la photographie solaire" with spectacular original mounted photographs (photoglyptie) of the grainy surface of the sun which were also partly later issued in his famous „Atlas de photographies solaires" of 1904.

With handwritten dedication by Janssen: „à Mon cher et éminent confrère le Dr. Potain souvenir affectueux, J. Janssen".

The French solar astronomer, Pierre Jules César Janssen (1824–1907) discovered that it is possible to see prominences beyond the limb of the sun without waiting for an eclipse and demonstrated that some features in the solar spectrum are actually caused by gases in the Earth's atmosphere. Janssen's device for imaging solar prominences was a prototype of the spectrohelioscope. It was left to George Hale to add photographic plates to produce the first spectroheliograph, but Janssen invented other photographic devices, including an „astronomical revolver" permitting many short images to be taken in quick succession.

The french government agreed to Janssen choice of Meudon (an old royal domain that otherwise would have been divided up for housing) as a site for a new solar observatory in 1874. At the physical observatory of astronomy of Meudon, the celestial service of photography created by Jules Janssen in 1876 undertook a systematic study of the solar surface. Those principal results were published between 1896 and 1910 and in the astonishing Atlas de photographies solaires (1904), which illustrated the precise granulations of the surface of the sun.

The quality of the images, which resolved granulation as fine as 1'' was not bettered until the 1950's. (Raymonde Barthalot) With the 5.5-inch solar telescope of the Meudon Observatory made by Adam Prazmowski, Janssen and his collaborators made some 6.000 photos of the sun during the period of 1876 to 1903. These photos are the base of Janssen' monumental work: L' Atlas de photographies solaire, published in 1904.

Of the 6000 glass plates only seven (!) survived (Launay, 2012. pp. 119).

In 1877 Janssen used this telescope to take a photograph of the solar photosphere which for the first time showed clearly the granular nature of the sun's surface. „Janssen travaille alors beaucoup avec son photographe Pierre Marie Arents (et Louis Pasteur) pour utilisier au mieux la si précieuse photographie." (Francoise Launay).

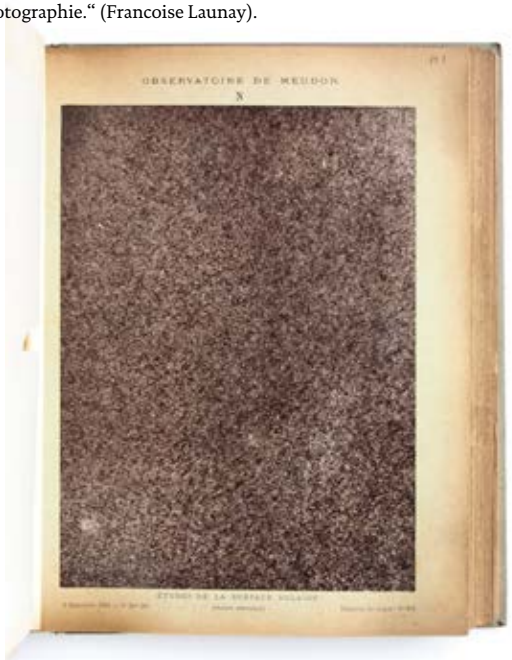
Belle publication qui offre 12 clichés de la surface du Soleil réalisés par Jules Janssen entre le 23 juin 1877 et le 18 mai 1894, reproduits en photoglyptie. En outre, elle comprend 9 planches en héliogravure montrant différentes vues de l' Observatoire d' astrophysique de Meudon, fondé par Janssen en 1876.

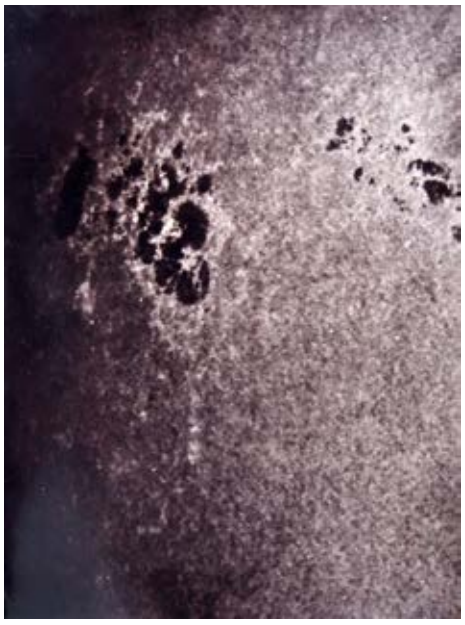
Janssen est le premier à être parvenu à prendre des clichés convaincants de la surface du Soleil: les images qu'il réalise figent en effet la granulation générale qui recouvre sa surface, ce qui n'était pas le cas du daguerréotype de Fizeau et Foucault (1845), ni des photographies de Reade, de Porro ou de De La Rue, effectuées dans les années 1850–1860.

Les enregistrement de routine du Soleil à Meudon débutent en 1877.

Les clichés obtenus par Janssen lui permettent, d'une part, de relever l'importance des séries en montrant l'apparition d'une tache sur le Soleil d'un jour à l'autre, d'autre part de constater que la surface solaire est divisée en régions de calme et d'activité relatives, d'où résulte la production du réseau photosphérique. Le premier cliché qu'il publie est celui de la surface du Soleil prise le Le 10 octobre 1877, la photographie est largement admirée et diffusée (voir également n° 6). Pour la première fois, la structure photosphérique de l'astre est ainsi fixée et mise en évidence. Pour la reproduction de ces photographies, Janssen préfère les photoglypties car avec ce procédé « la main humaine n'a aucune part à leur production ».

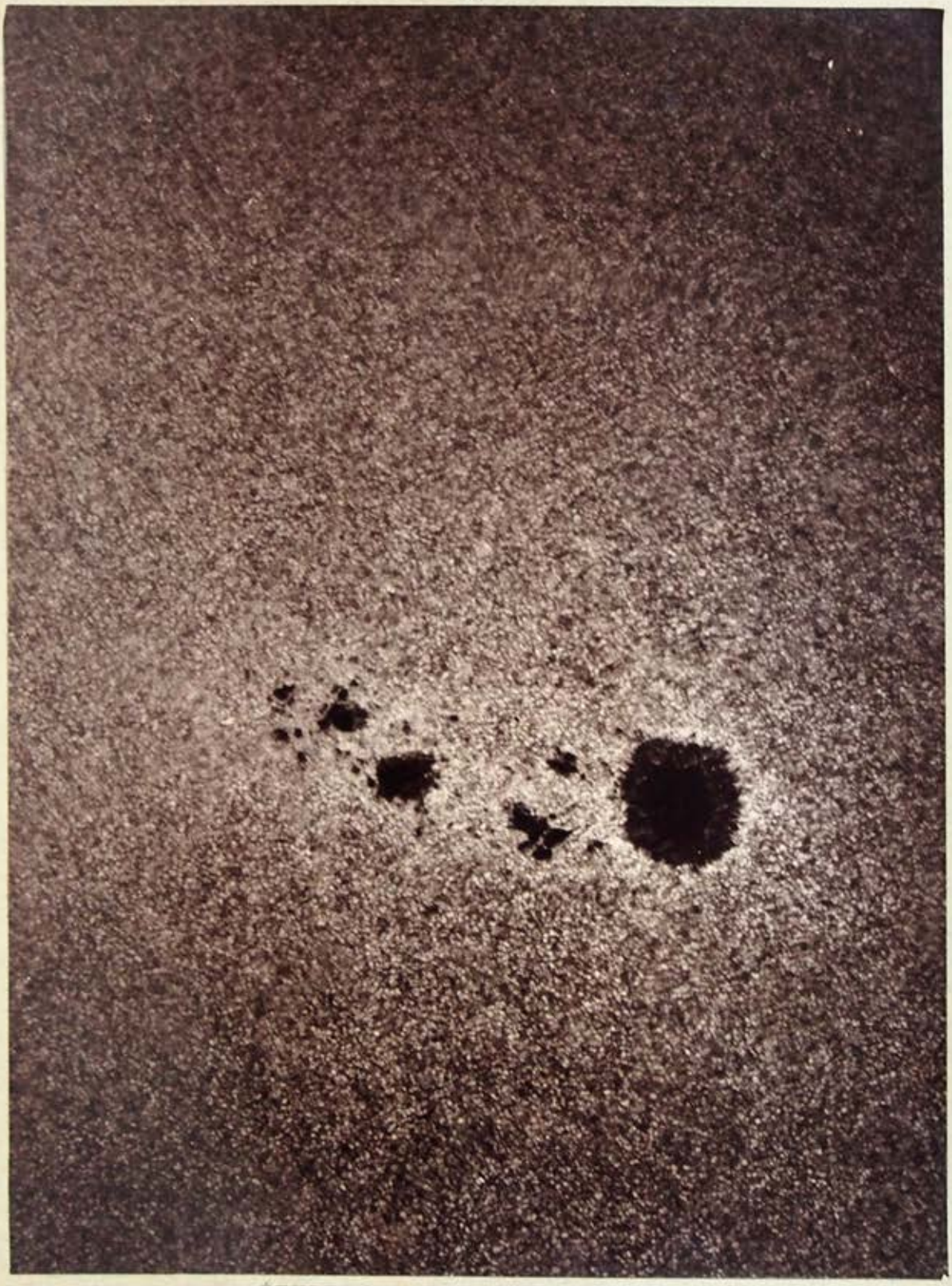
Grâce à ces images, l'astronome ouvre la voie à l'étude de ce réseau, à sa constitution et à l'activité solaire. Il place ainsi la photographie solaire comme un outil essentiel, pouvant révéler les faits les plus importants sur la constitution du Soleil : il s'agit sans doute de la première découverte scientifique dûe exclusivement à l'intervention de la photographie. C'est ce qui lui fit dire, sans doute dès 1877, que «la plaque photographique sera bientôt la véritable rétine du savant». Les clichés obtenus par Janssen sont d'une telle qualité qu'ils feront, pour les meilleurs d'entre eux, référence jusque dans les années 1940.- Lit.: Jules Janssen et la photographie; in: Dans le champ des étoiles, pp. 26); Canguilhem. Le merveilleux scientifique. Photographies... 1844-1918. photo 58 (pp. 76), Dans le champ des étoiles. Les photographes et le ciel, 1850-2000. photo 47a+b, 48a+b; Encyclopedia of Nineteenth-Century Photography edited by John Hannavy, pp. 91; Stefan Hughes. Catchers of the Light. III. 3.6., 3.7. pp. 269 ff. BEA I, 588-89; DSB VII, 73-78.





OBSERVATOIRE DE MEUDON

N



ÉTUDES DE LA SURFACE SOLAIRE

1er Avril 1894 — 9h 51m 17s — Diamètre du disque : 0m837

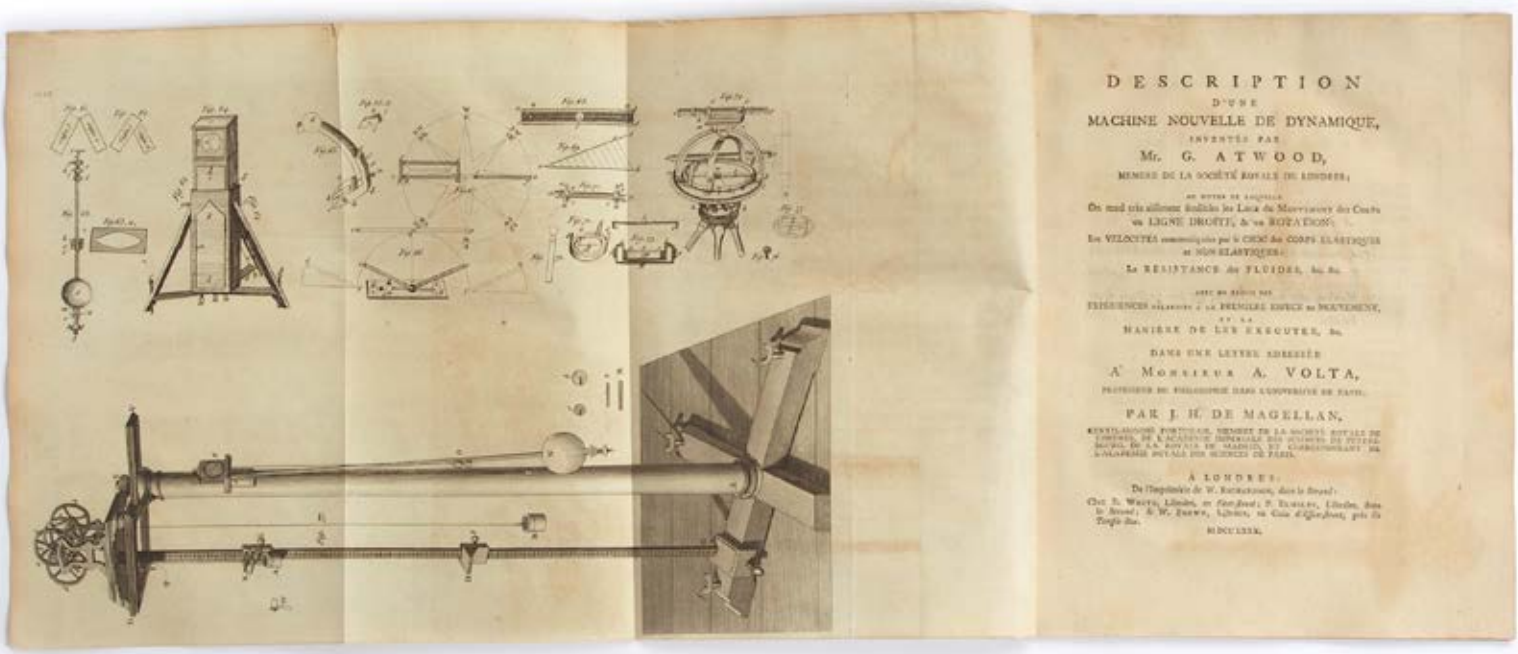
Tache : lat. 9°45 Nord (RÉGION CENTRALE)

Atwood's Machine

MAGALHAES, Joao Jacinto de.

Description d'une machine nouvelle de dynamique, Inventée par Mr. G. Atwood, membre de la Société royale de Londres; au moyen de laquelle On rend très aisement sensibles les Loix du Mouvement des Corps en ligne droite, & en rotation: Les velocités communiquées par le choc des corps elastiques et non-elastiques: La resistance des fluides, &c. &c. avec un Précis des Expériences Rélatives à la premiere espece de mouvement, et la maniere de les executer, &c. dans une lettre Adressée à monsieur A. Volta, professeur de philosophie dans l' université de Pavie, par J. H. de Magellan, gentil-homme Portugais, membre de la societe royale de Londres, de l' Academie imperiale des sciences de Petersbourg, de la royale de Madrid, et correspondant de l' Academie royale des sciences de Paris ... A Londres : de l' imprimérie de W. Richard-son, dans le Strand: chez B. White, Libraire, en Fleet-Street; P. Elmsley, Libraire, dans le Strand; & W. Brown, Libraire, au Coin D' Essex-Street, près de Temple-Bar, 1780. 4to (245 x 200 mm) pp. 255 - 288 with one folding plate. 19th cent. marbled boards. Fine

EUR 1.400.-



A note on the verso of the title leaf explains: „Ce cahier étant destiné à faire part de la collection des derniers traités de l'auteur, on a jugé à-propos de suivre, les mêmes numéros, tant pour les articles, que pour les pages de ces feuilles."

Born in Lisbon, a descendant of the Portuguese explorer Magalhaes, the chemist, physicist and inventor of scientific instrumentation Magellan (1722–1790) was an Augustine prior who emigrated to England and Protestantism in 1764. Although a fellow of the Royal Society and a member of several European academies of science, „Magellan produced no scientific work of serious consequence. He did, however, find ways to meet or to write to everyone whose activities interested him, and, as a result, is known chiefly for his wide circle of acquaintances and for acting as an intermediary in disseminating new information. He introduced English scientific instruments into France and informed the French chemists of Priestley's work. ... Industrial spy, indefatigable learner of languages, shameless borrower from others' writings, Magellan nevertheless showed little of that malice usually associated with the gossip or the hanger-on. A curious mixture of unoriginality and independence, he had no great ambitions for himself." (Stuart Pierson in DSB). The work for which Atwood is best known and which bears his name – Atwood's machine – was designed to demonstrate the laws of uniformly accelerated motion due to gravity and was constructed with pulleys, so that a weight suspended from one of the pulleys descends more slowly than a body falling freely in air but still accelerates uniformly. Most of Atwood's other published works consisted of the mathematical analysis of practical problems: on the stability of ships or the construction and properties of arches. George Atwood (1745–1807) became a fellow and tutor at Trinity College, Cambridge in 1772. His lectures were well attended and well received because of their delivery and their experimental demonstrations. These experiments consisted of simple demonstrations to illustrate electricity, optics and mechanics. His admirer William Pitt employed him at the treasury at GBP 500 a year, to devote a large portion of his time to financial calculation in which he was apparently employed to great advantage of revenue.- DSB I, 326; Roberts/Trent 16; Gunter, Early Science 80; English Short Title Catalog, T32338 (Atwood); DSB IX, 6 (not this); Partington III, 248; Pogg. II, 10-11; Ferchl 333; not in Neville Historical Library (Magellan).

MAGALHAES (Magellan), Jean-Hyacinthe (João Jacinto) de. LAVOISIER, Antoine Laurent.

Nouvelle construction d' Alambic pour faire toute sorte de distillation en grand, avec le plus d' économie dans l'opération, et le plus d' avantage dans le resultat, en deux parties; la premiere contenant son application à la distillation des Eaux-de-Vie; et la seconde celle à la dessalaison de l' Eau de la mer à bord des vaisseaux; avec des figures. (no place, no printer; 1781) 4to (245 x 200 mm) 43 pp., (1) with four engraved fold. plates: ‚dessinés et gravés par de la Gardette'. Title-vignette, head- and tailpieces. Later marbled boards period style, fine.

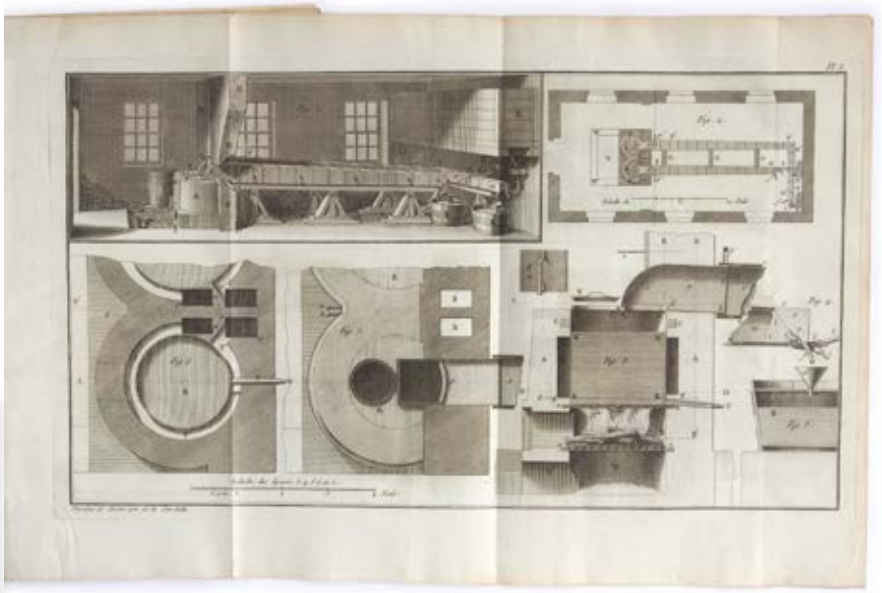
EUR 1.400.-

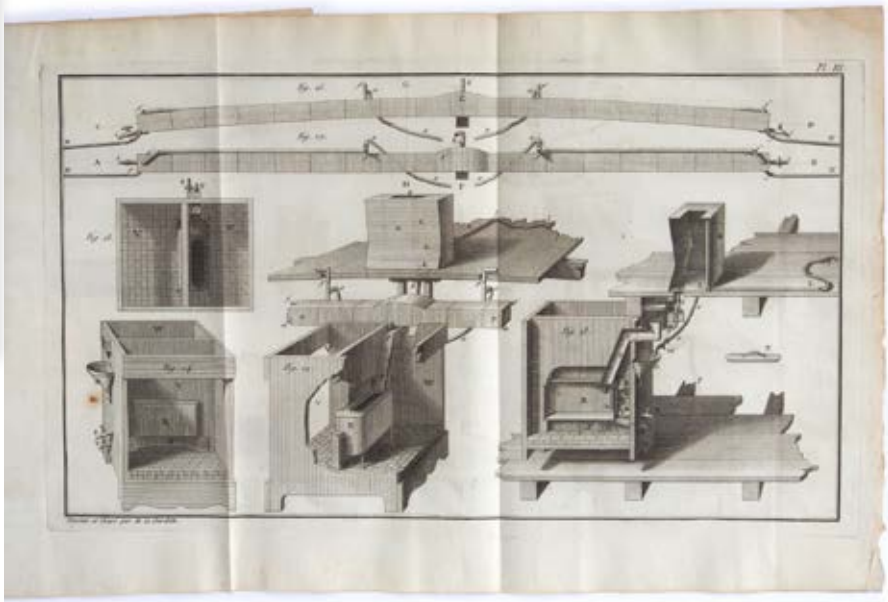
Very rare first separate edition, as the title said privately distributed for free in France: „Première edition, destinée à être distribuée gratis, dans les provinces de France. La seconde edition sera destinée à être vendue au bénéfice des hôpitaux." About the authorship is some confusion. In 1773 the Portuguese scientist Magellan drew Trudaine's attention to the fact that he had seen on a British naval vessel an ingenious still for rendering sea water potable. A commission was appointed by the Académie des Sciences to investigate the question. Lavoisier was a member of this commission, and he wrote the report (dated 1775) which appeared in two parts in Rozier's Observations sur la Physique (1781) without indication of its authorship or source. The four folding plates illustrating the article were drawn and engraved by Lavoisier's engraver, de la Gardette. In the same year of its appearance in Rozier, the entire report was published separately under the same title, also anonymously.

Dumas first drew attention to its authorship when he found the original corrected manuscript in Lavoisier's hand among the latter's papers. Although Lavoisier, no doubt, carried out much of the practical work involved in the report, Dumas is not justified in accrediting Lavoisier with the invention of the process of continuous distillation.

DSB IX, 6 (not this); Partington III, 248; Pogg. II, 10-11; Ferchl 333; not in Neville Historical Library; Duveen & Klickstein. Lavoisier 219; OCLC: Stanford, Huntington.

NOUVELLE
CONSTRUCTION D'ALAMBIC
POUR FAIRE TOUTE SORTE
DE DISTILLATION EN GRAND,
AVEC
LE PLUS D'ÉCONOMIE DANS L'OPÉRATION,
ET
LE PLUS D'AVANTAGE DANS LE RÉSULTAT,
EN DEUX PARTIES;
La première contenant son application à la distillation des Eaux-de-Vie;
Et la seconde celle à la dessalaison de l'Eau de la Mer à bord des Vaisseaux;
Avec des Figures en taille-douce.
1781.



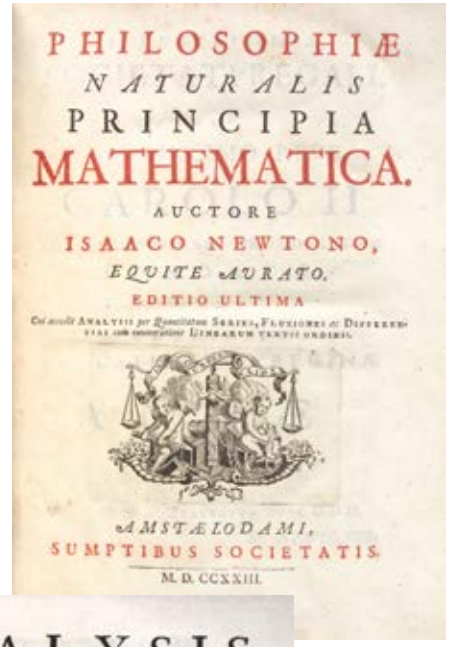


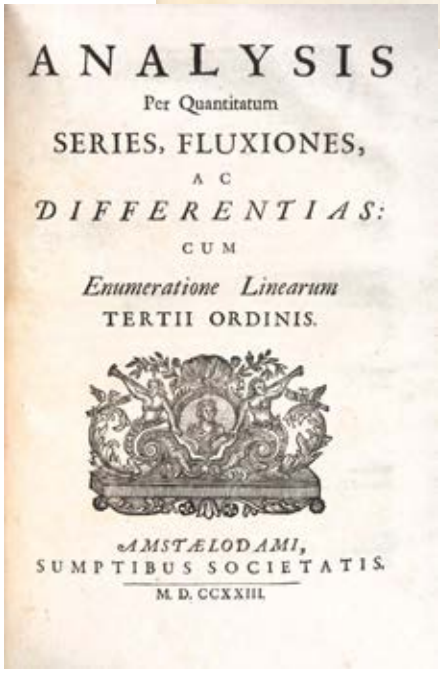
Newton on the Continent

NEWTON, Isaac.

Philosophia naturalis principia mathematica. Auctore Isaaco Newtono, Equite Aurato. Editio Ultima. Cui accedit. Analysis per Quantitatum Series, Fluxiones ac Differentias cum enumeratione Linearum tertii ordinis. 2 parts in 1 vol. – Amstalodami: Sumptibus Societatis, 1723. 4to (248 x 193 mm) [26], 484, [8]; [12], 107, [1] pp. Title pages with vignettes (of the first part printed in red and black), 3 engraved folding plates, many tables in the text. Contemporary half calf, very fine copy.

EUR 5.000.-


PHILOSOPHIÆ
NATURALIS
PRINCIPIA
MATHEMATICA.
AUCTORE
ISAACO NEWTONO,
EQUITE AURATO.
EDITIO ULTIMA
AMSTÆLODAMI,
SUMPTIBUS SOCIETATIS.
M. D. CCXXIII.


ANALYSIS
Per Quantitatum
SERIES, FLUXIONES,
AC
DIFFERENTIAS:
CUM
Enumeratione Linearum
TERTII ORDINIS.
AMSTÆLODAMI,
SUMPTIBUS SOCIETATIS.
M. D. CCXXIII.

Second pirated Amsterdam edition of the 1713 Cambridge version of Newton's Principia and the only edition to contain (with a separate title and separate pagination) the Analysis, which was the wish of Newton himself but was never realized in England. The editor was most probably 's Gravesande, then still lawyer. This edition had a new typeface and re-engraved plates.

The real triumph of Newton on the Continent started with the second edition of the Principia. The Cambridge edition was published in May 1713. In contrast to the second edition of the Principia, which contained the famous General Scholium and Roger Cotes' (1682–1716) lengthy editorial introduction in which he emphasized that Newton's Principia 'will stand as a mighty fortress against the attacks of atheists' and that 'nowhere you will find more effective ammunition against that impious crowd', the physico - theological implications of the Principia were hardly spelled out in its first edition. Newton now was seen on the Continent as an anti-atheistic and trustworthy guide to a new handling and study of nature.

„The first Amsterdam edition was published in 1714 by a company of booksellers and the announcement said that it would be based on the second edition of the Principia which had just been published in England. It was a joint venture of at least ten Amsterdam booksellers and printers, using the device: Vis unita major (the united force is greater). This company was actually founded in 1711 in response to an agreement between 54 book publishers from Amsterdam, Leiden, The Hague, Rotterdam and Utrecht, in an attempt to regulate the book trade. The pirating of foreign books was also discussed in this compact, which in some cases would be an enterprise only to be tolerated if it was a concerted action, with a shared profit. In regard to the Principia the obvious question is: why would such a large group of booksellers expect a profit from the illegal issue of a just-reprinted difficult book, the sales of whose first edition of 250–400 copies had been notoriously poor? Why did they expect profit from this investment … - with the costs of an estimated print run of 750 copies." (Newton and the Netherlands, pp. 28)

The printing of the pirated edition coincided with a Newtonian offensive, a collective effort of Jean Le Clerc, Nieuwentijt and 's Gravesande, Ten Kate and others, in the Dutch Republic and on the Continent. Thanks to their efforts the study of nature appeared to be liberated from the dangers of atheism, simply by arguing that Newton and his epigones had restored by their philosophical principles the possibility of a „Divine Providence" - this Newtonian message was very welcomed in the Protestant Dutch Republic. The message was clear and simple: the laws of nature could be attributed to the reliability of God's Providence alone. During the Dutch Golden Age in the 17th and early 18th century, Amsterdam was one of the wealthiest cities in the world, one of the most important centers of (transit) trade, a site of information exchange and conspicuous consumption, and an important centre for the production of luxury goods and books in Europe, 'boasting over 270 booksellers and printers in the period between 1675 and 1699'. The principal seat of the Dutch East India Company, which was founded in 1602, was in Amsterdam. Although during the second half of the seventeenth century the Amsterdam trade continued to grow, it did so to a lesser degree than it had done during the first half. And even in Amsterdam, one of Holland's most tolerant cities, there were clear limits to what could be uttered and published.

PER ÆQUATIONES INFINITAS.

Longitudines Curvarum invenire.

Invenire præcedentium conversum.

A. N. L. Mundy, 'The distribution of the first edition of Newton's Principia', Notes Rec. R. Soc. Lond.10, 28–39 (1952), at pp. 33–34; Gray 12; Wallis 12, Sotheran, Second Supplement I, 5672.

To speed up the Work of Calculating

(NAPIER's rods)

Neperische Rechnungstäfelein No. 951 a (manuscript title on lid). No place, publisher and date (maybe Nuremberg, G. H. Bestelmeier ca 1800). A complete set containing 33 engraved and hand-coloured narrow lengthy cardboard strips (94 x 27 mm) and a four-page folded manual with printed text. Loosely contained in original wooden box covered with stone marbled paper on sides and lid, bottom with a block printed paper with a blue veined ground and a repetitive pattern made of black triangles, the movable lid with a mounted, cut-out and hand-colored engraved label with manuscript title and numbering. Size: 110 x 120 x 25 mm. Slightly rubbed. Very fine complete set.

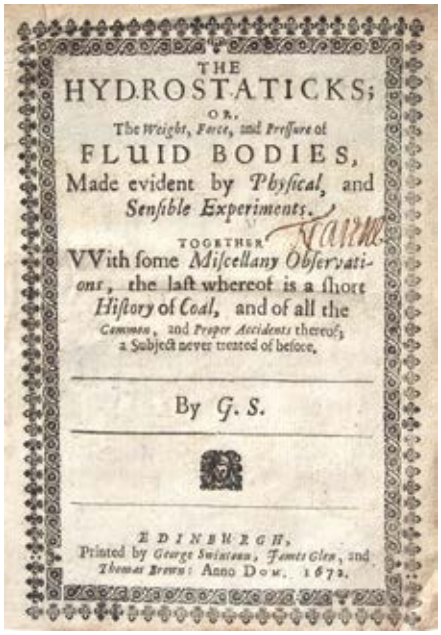
EUR 5.400.-

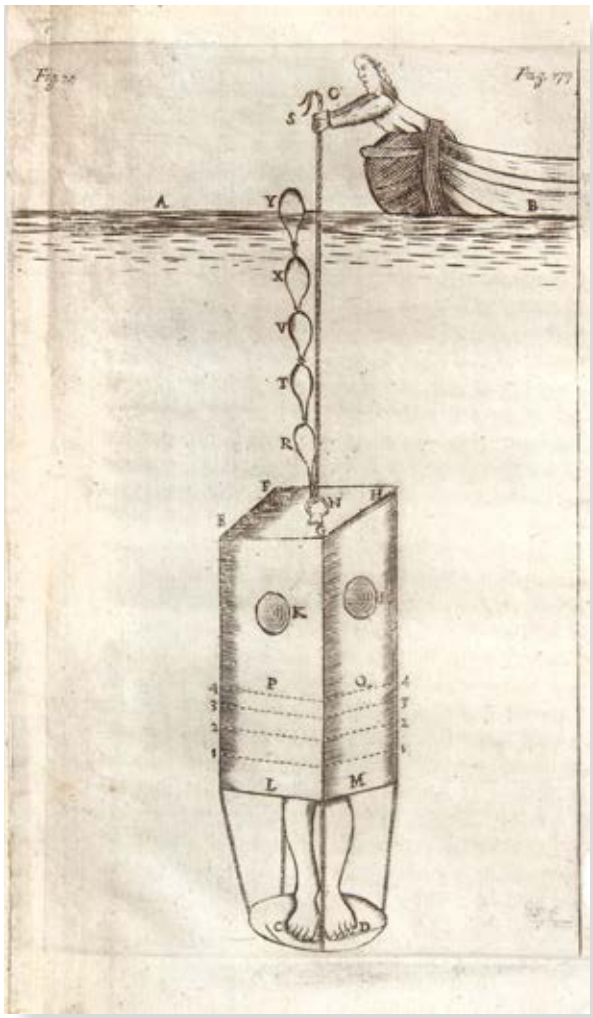
Very rare German set of Napier's rods by a German manufacturer as described in G. H. Bestelmeier: Magazin von verschiedenen Kunst- und andern nuezlichen Sachen zur lehrreichen und angenehmen Unterhaltung der Jugend, als auch für Liebhaber der Kuenste und Wissenschaften, ... Nuremberg, Bestelmeier 1807. Nr. 951 a. "Neperische Rechnungstaefelein, deren sind in einem Kästchen 33 Stück beisammmen; diese sind wegen ihrer Grösse von bequemern Gebrauch, als die gewöhnlichen Rechnungsstaebe. 36 kr."

Napier's bones or rods were manually-operated calculating device created by John Napier in the early 17th cent. for the calculation of products and quotients of numbers. Looking to ease his own difficulties in calculating logarithmic tables, and impatient with the tedious and error-prone process of working with large numbers, Napier invented several mechanical methods of simplifying and speeding up multiplication, the most famous being special rods, later known as Napier's bones / rods. He published in 1617 a description of these in his Rabdologiae, the title of which Napier derived from the Greek ραβδος (rod) and λόγος (word). The reason for publishing the work is given by Napier in the dedication, where he says that so many of his friends, to whom he had shown the numbering rods, were so pleased with them that they were already becoming widely used, even beginning to be used in foreign countries.

In the next centuries a lot of inventors tried to improve and facilitate the work with Napier's rods, starting with Wilhelm Schickard in the early 1620s up to the late 1650's when the famous German scientist Athanasius Kircher (1602-1680) developed his Organum Mathematicum, Mathematische Orgel or cista which was later described by his pupil Gaspar Schott (1608–1666). The Napier's rods were in use in mathematics until the midth 19th century. Charles Babbage (1791–1871), the computer pioneer, was directly inspired by John Napier's logarithms and other number tables. Such tables took years to calculate and check. Despite this effort there were often errors in the printed versions which resulted in wrong answers to calculations. Babbage's 'difference engine' was intended to solve these problems, by calculating the numbers and producing printing plates automatically. He also experimented with different coloured papers and inks to make the tables as clear to read as possible.

A Practitioners Approach to Hydrostatics


THE
HYDROSTATICKS;
OR,
The Weight, Force, and Preſſure of
FLUID BODIES,
Made evident by Phyſical, and
Senſible Experiments.
TOGETHER
With ſome Miſcellany Obſervati-
ons, the laſt whereof is a ſhort
Hiſtory of Coal, and of all the
Common, and Proper Accidents thereof;
a Subject never treated of before.
By G. S.
EDINBURGH,
Printed by George Swinton, James Glen, and
Thomas Brown: Anno Dom. 1672.



G. S. (SINCLAIR, George)

The Hydrostaticks; or, the weight, force and pressure of fluid bodies, made evident by Physical, and sensible experiments. Together with some miscellany observations, the last whereof is a short history of coal, and of the common, and proper accidents thereof; a subject never treated of before. – Edinburgh, printed by George Swinton, James Glen, and Thomas Brown, anno Dom. 1672. 4to (185 x 135 mm) Engraved coat-of-arms, engraved title, (20), 319 (i.e. 317) pp., 7 leaves of engraved plates. Contemporary unlettered mottled calf, some wear to ends, inner cover with Ex Libris: Downfield, ownership inscript. on title in ink (T. Naunes ?) and ownership inscription on last blank leaf: Anno Dom. Joannos Anderson libri professor…"

EUR 6.000.-

First edition included his detailed account and critique of Robert Boyle's doll experiment.

Sinclair claimed as many who opposed Toricelli's interpretation of the barometric experiment did, that „water does not weigh on water". Here, Sinclair took issue with one of Boyle's experiments with glass bubbles from which Boyle concluded that water weighs „very near … as much in water, as the self same portion of liquor would weigh in the air." Sinclair criticized Boyle and devoted many pages to it and to set forth his own interpretation of the experiment, from which he concluded that „water cannot weigh in water". His critics claimed that Sinclair's results were already in Archimedes and Stevin or could be easily deduced from them. In answer, Sinclair described his hydrostatics as „the weight, force and pressure of fluid bodies, made evident by Physical, and sensible experiments" and he appeals to Boyle's authority both to point to recent novelties in pneumatics, and more importantly, to oppose his „practical" approach to hydrostatics to the mathematician's „speculative" one. Sinclair opposed his „physical" demonstrations to the „geometrical" ones.

George Sinclair (ca. 1630–1696) was appointed regent at the University of Glasgow in 1654, a position he was to resign in 1666 because of his Presbyterianism. From then up to 1689 he made a living as a civil engineer and mathematical practitioner. At different times he was variously supported by the Edinburgh Town Council, which employed him to improve the town's water supply and granted him a pension in 1683. In about 1670 he was employed to superintend the laying of pipes for the first water supply into Edinburgh. He seems to have been instrumental in making barometers widely known in Scotland, in pioneering their use as a weather instrument there, and in promoting their construction and trade. He was one of the first in Scotland who devoted attention to the study of physics. He was interested in mining and the design of diving engines for recovering valuables from shipwrecks. He made a survey of Scottish coalfields and is credited with being the first person to suggest the proper method of draining water from the numerous mines in the southwest of Scotland. After the 1689 revolution he regained his post at the University of Glasgow in become its first Professor of Mathematics in 1691. Besides introductory books in mathematics, astronomy, and natural philosophy he published: Satan's invisible world discovered (1685), a book meant to prove the existence of devils, witches and spirits.- Wing S3854; Lit.: A. Malet. in: Sophie Roux, Dan Garber (ed.) The Mechanization of Natural Philosophy. (2012), 180; Phillips. Diving and Underwater Technology 1405-1830 Vol. I, 230 f. and 250 ff.

How to construct Trigonometric Tables

ROOMEN (ROMANUS), Adriaan van.

Adriani Romani Canon Triangulorum Sphaericorum, Brevissimus simul ac facilimus quamplurimisq(ue) exemplis opticae proiectis illustratus, in gratiam Astronomiae, Cosmographiae, Geographiae, Horologiographiae, &c. studiosorum iam primum editus accessere plenioris usus ergo. Tabulae Sinuum, Tangentium, et Secantium, ex opere Rdi. … Moguntiae: Albinus, 1609. Quarto (225 x 165 mm) 3 Bll., (6), 9-315 pp. gatherings with some browning due to the paper, also little waterstained, else fine and clean, in all a very good copy in contemporary half vellum, spine restored, red edges.

EUR 5.000.-

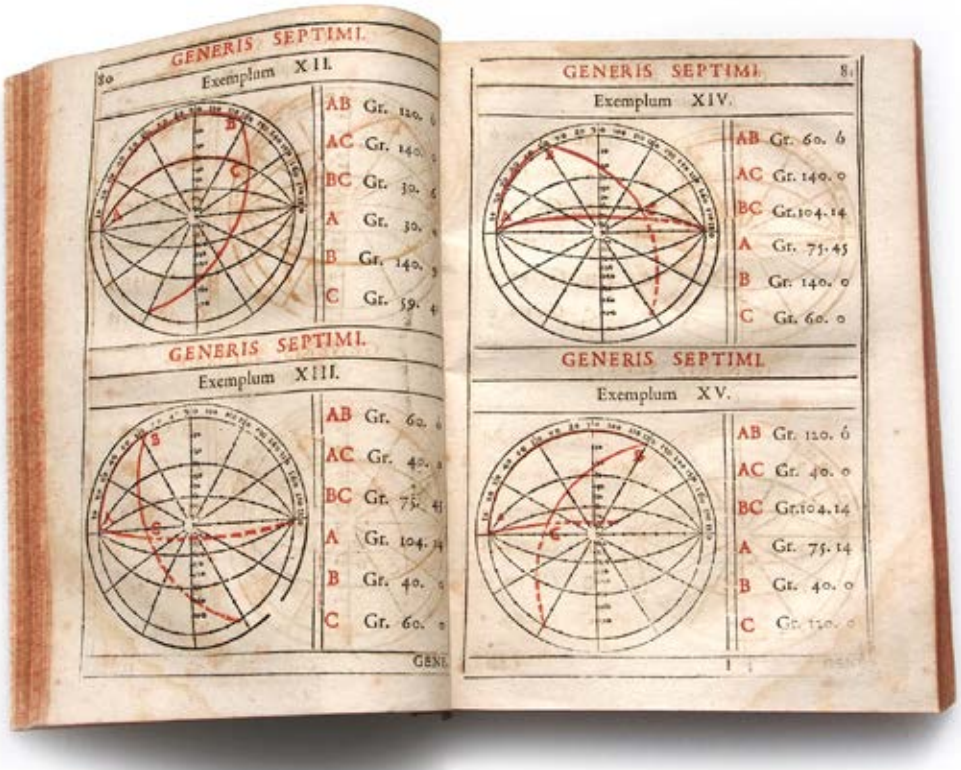
First edition of this very rare work on spherical trigonometry, containing the first systematic use of a trigonometric notation, and in which the author speaks of François Viète's recent use of analysis. This copy without the 91 pp. of the reprint of Clavius' tables published already in 1607 and partly bound with as second part.

Van Roomen is most commonly known for having proposed a problem in 1593 which involved solving an equation of degree 45. It was the solution of this problem in 1595 that established François Viète as one of the most important mathematicians of his day, as he showed the relevance of trigonometry to solving algebraic equations. As a result of this a friendship grew up between Viète and Roomen. Viète proposed the problem of drawing a circle to touch 3 given circles to Roomen (the Apollonian Problem) and Roomen solved it using hyperbolas, publishing the result in 1596. In the preface (‚De operis praesentis ordine') the author speaks of Viete's recent use of analysis (‚Hisce incommondis ante paucos annos Franciscus Vieta … medelam attulit, novis propositis praxibus…'). „In his terminology van Roomen imitated Viète, using the expressions ‚prosinus' and ‚transinuosa' for tangent and secant, respectively." (Busard).

In the course of the sixteenth century, several mathematicians assiduously embarked on the calculation of trigonometric tables. Some, like Georg Joachim Rheticus, were ultimately successful; others like Adrianus Romanus (1561–1615) and Christoph Grienberger left their work unfinished. At the beginning of 1593, Romanus' Ideae Mathematicae pars prima, sive methodus polygonorum was published in Leuven, a work in which he calculated the sides of the regular 3-, 4-, 5-, and 15-sided polygon and of polygons generated from them by the doubling of the number of sides, for a radius of 1032 parts or units. It was the start of a chord table, from which a sine table can be derived. This book contained the first four chapters from the total of twelve that he had planned. Although some of his later publications contained sections that might have been intended as part of the remaining eight chapters; he never completed his grand plan. Romanus dedicated his book to Christoph Clavius and mentioned to him that he wanted to treat primarily those areas of mathematics that hitherto had been studied little or not at all. To them belong in particular the doctrina polygonorum, the theory of regular polygons, and the problem of squaring the circle. As the point of departure for the calculation of chords and sines, the doctrina polygonorum is fundamental for all mathematics and essentially for astronomy. In the spring of 1593, Romanus left Leuven in order to teach medicine at the newly founded university in Würzburg. For the time being, he had little time for his mathematical studies.

A year later Romanus learned that Otho's edition of Rheticus' Opus triangulorum was finally in press. At his death in 1574, Rheticus had entrusted his papers to his student Otho, who took it upon himself to complete the „labor of Hercules" (Rheticus' twelve years of work) of his master. When the book of Rheticus appeared in 1596, Romanus criticized the tables for being wrong in the tangents and secants. In the fall of 1600, Romanus visited Prague and met several scholars, including Kepler, to discuss the problems of Rheticus' trigonometric tables (Opus Palatinum) and his worries about the methods employed. Romanus was certainly one of the first who emphasized the errors in Rheticus' tangent and secant tables, which were corrected in 1607 by Pitiscus, who took over Otho's papers.

ABPC lists just one copy auctioned the past 30 years: Macclesfield (17th calf, browned, head of title torn away affecting line border). The Macclesfield description mentions that the work is in two parts but the ‚second' is actually a separate printing from 1607 of sines, tangents, and secants, taken from Clavius.- VD17 39:121632N; DSB XI, 532-34; not in Tomash, not in BEA. Lit.: Paul Bockstaele. Adrianus Romanus and the trigonometric tables of Georg Joachim Rheticus, in: Amphora. Festschrift für Hans Wussing… pp. 55 ff. KVK: Amberg, Stabi München (with Clavius); UB Giessen (without Clavius); 5 copies in Italy (partly without Clavius); Solothurn only Clavius; BL London (2 parts); Copenhagen (one part and two parts) et al.



Colors of the Rainbow

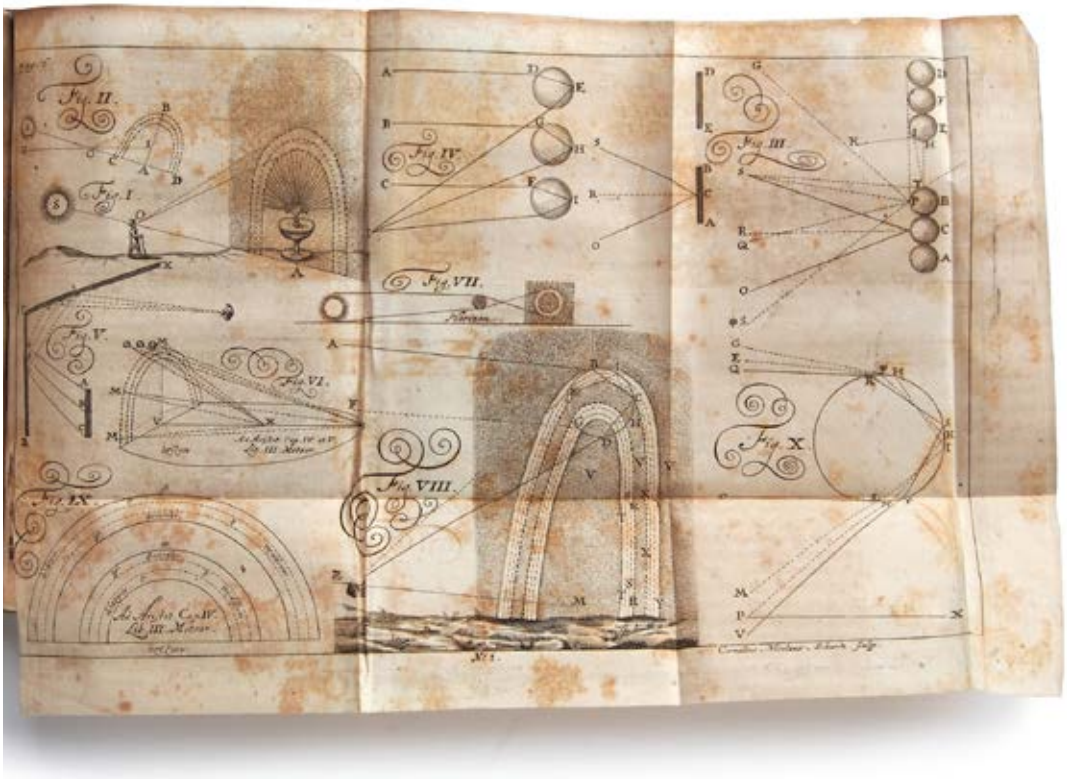
STURM, Johann Christoph; Christoph Theophil Volckamer (resp.)

Thaumantiados thaumasia (graece) sive Iridis Admiranda Sub Rationis accuratius examen revocata Eruditorumq[ue] ventilationi publicae in Alma Altdorffina Universitate exposita Sub Praesidio M. Joh. Christophori Sturmii, Mathem. & Phil. Nat. PP. a Christophoro Theophilo Volcamero. P. N. – Noribergae (Nuremberg): Wolfgang Moritz Endter, 1699. 4to (205 x 160 mm) (2), 185 pp., (1, blank) with 4 fold. engraved plates and three further engraved plates, sometimes bound with, incl. the plate of a microscope. Contemporary floral paper, gilt partly stamped edges, fine copy with only minor spotting and browning as usual. The plates to pages 6, 70, 112 und 140, engraved by Cornelius Nicolaus Schurtz (Fig. 1–34). The additional plates are sometimes found with this book. Plate to page 70 little shaved at lower edge with slight loss.

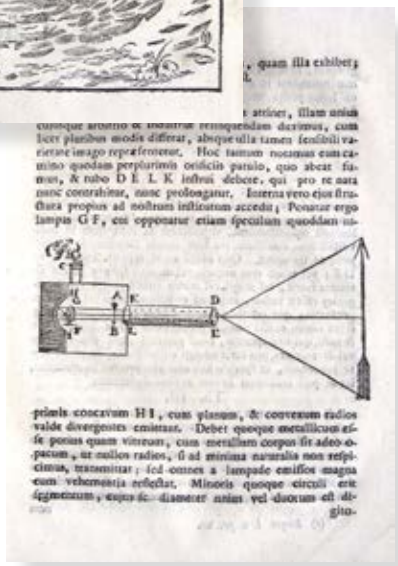
EUR 2.900.-

A discussion of the rainbow and in particular of Honoré Fabri's and Mariotte's views on light and color, this work also mentions the views of Descartes and Newton, as well as many others, both contemporary and earlier.

A thesis presented at Altdorf University (near Nuremberg) by C(hristoph).T(heophil). Volckamer under the presidy of Johann Christoph Sturm who was responsible for the content. It deals with the formation of the rainbow, with references to Newton, Mariotte, Gassendi, Boyle, et al. Topics include discussions of distillation (47), colored glasses (78), cause of iridescene (102), and the generation of colors in matter (111). A description of Newton's spectrum and the composition of white light is given on page 123. A copy in poor condition, from the library of the Earl of Bute, was in the Honeyman collection (Sotheby 3069). Unknown to usual bibliographic authorities. Johann Christoph Sturm (1635 – 1703) was an eclectic German natural philosopher, professor at the University of Altdorf, one of the first experimental physicists, a mathematician, astronomer and Lutheran priest. He was a correspondent of Robert Boyle (1627–1691) and Gottfried Leibniz (1646–1716), among others. Sturm's thought mirrors the complex interplay between debates in metaphysics, natural philosophy, and theology that characterize the second half of the seventeenth century. In his numerous academic works, Sturm forcefully defends the use of the experimental method in natural philosophy. He advocates an inclusive and open-minded examination of old and new philosophical theories in order to find the best explanations for observed phenomena. In metaphysics, Sturm is one of the most outspoken supporters of occasionalism, the theory according to which finite beings lack genuine causal powers and work only as occasions for God's causal intervention in nature. While occasionalism was developed before Sturm by a number of other authors, Sturm gives his own original twist to it by making it the foundation of his system of natural philosophy.- VD 17 39:120086P; Macclesfield sale no. 1966; Sotheran Cat. 795, no. 9110; Neville Historical II, 593.



Camera obscura



VALLERIUS, Harald the elder. (praes.).

Dissertatio physico – mathematica de camera obscura., quam ad d. XXXI. octob. anno MDCC ad publicam examen modeste defert Haraldus Vallerius filius. – Uppsala, Keyser, (1700). 4to (190 x 155 mm). 3 Bll., 31 pp., (1, blank) with 6 text woodcuts, incl. one full-page image of the camera obscura. Backstrip. Some old underlines and marginalia and little stained.

EUR 1.800.-

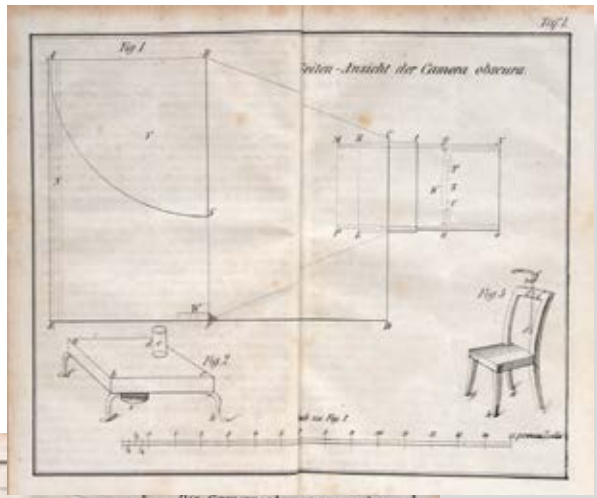
Early work on the camera obscura by the Swedish mathematician, composer and organist Harald Vallerius the elder (1646–1716) who is today mainly known through his musical-mathematical theoretical work published in three dissertations. The full-page woodcut show the ray path in a landscape. In 1716 another Swedish scientist, E. Swedenborg intended to 'make reflexions on the perspective art by the taking of a number of vuer [views] and prospecter' with a camera obscura. The camera would be a source of pleasure. As Swedenborg wrote on 12 June, 'I have already learned the drawing of perspective, to my pleasure. I have exercitium [practice] from churches, houses, etc.; were I up at the works in Fhalun or elsewhere, I would draw them as well as any one, ope hujus instrumenti [by the help of this instrument].' The vertiginous depths of the mine shaft, all the parts of the mine machinery would come in the proper relationships to each other, and with the art of perspective they could be exactly depicted in full agreement with the rules of geometry. No drawings from these early summer days are preserved, however, and no writings on the art of perspective by Swedenborg.

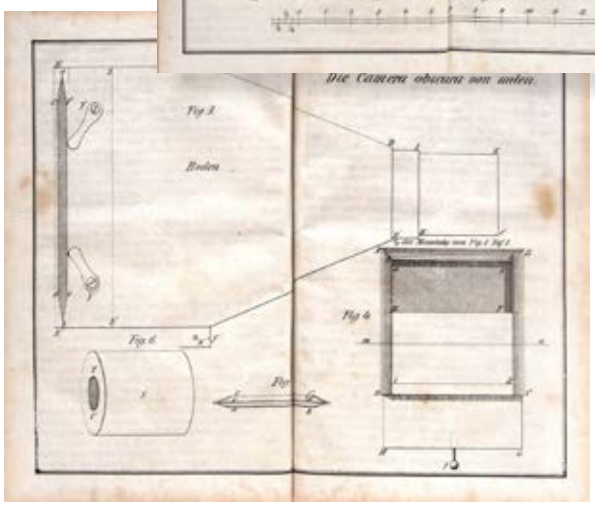
Vallerius' many-sided talents and humility attracted the attention of Olof Rudbeck, whose foremost pupil he became. In 1675 he was appointed director of music and in 1676 organist of the university; he held both posts until 1691. He graduated MA in 1679 and was appointed lecturer in mathematics in 1680 and professor in 1690. He retired in 1711. Vallerius also periodically lectured on music, and musical events took place regularly at his house. Through his theoretical works Disputatio physico-musica de sono (1674), Disputatio physico-musica de modis (1686) and Disputatio de tactu musico (1698) which were based on Athanasius Kircher, Marin Mersenne and René Descartes he inaugurated a tradition of writing music dissertations that continued through the first half of the following century.- Poggendorff II, 1168.

NETTO, Friedrich August Wilhelm.

Die kalotypische Portraitirkunst. Oder: Anweisung, nicht nur die Portraits von Personen, sondern überhaupt Gegenstände aller Art, Gegenden, Bauwerke u. s. w. in wenigen Minuten, selbst ohne alle Kenntnisse des Zeichnens und Malens, höchst naturgetreu … abzubilden. Zweite Auflage. Quedlinburg und Leipzig, Basse, 1845. (175 x 110 mm). 31 pp. with three lithogr. plates. Blue plain wrappers, little stained, title somewhat dusty, with old note that the third edition 1847 is „completely identical" with this one.

EUR 2.600.-





First published in 1842, this second edition is as rare as the first edition. A manual on portrait calotype showing and describing the construction and use of the camera developed by Netto (1783–after 1840), who came from a family of art and drawing teachers working at different institutions.

Calotype is an early photographic process introduced in 1841 by Wilhelm Henry Fox Talbot, using paper coated with silver iodide. The term calotype comes from the greek (kalos, beautiful) and (tupos, impression). Talbot made his first successful camera photographs in 1835 using paper sensitised with silver chloride, which darkened in proportion to its exposure to light. This early photogenic drawing process was a printing-out process, i.e., the paper had to be exposed in the camera until the image was fully visible. A very long exposure – typically an hour or more – was required to produce an acceptable negative. Friedrich August Wilhelm Netto (1783–after 1840) was Prof. of technical drawing („militairisches Zeichnen") at the war college in Berlin, lecturing also for young officers at the „Cadettenhaus". He later worked in the same position in Saxony, lecturing on mathematics, technical drawing & economy (Gewerbekunde). He wrote some practical book on engineering, surveying and technical drawing, like: Lehrbuch des Aufnehmens mit dem Meßtisch (1821); Anweisung zur orthographischen Horizontalprojection … u. zum Bergzeichnen (1822); Das Aufnehmen zu Pferde etc. (1826); Lehrbuch der Geostereoplastik etc. (1826); Praktische Anweisung zur ökonomischen Meßkunst (1826).- Heidtmann 7967; Engelmann, Bibl. mech.-techn., Suppl. 84 (3rd ed.1847), Gernsheim, History 185 and Baier, Gesch. d. Fotografie 104.

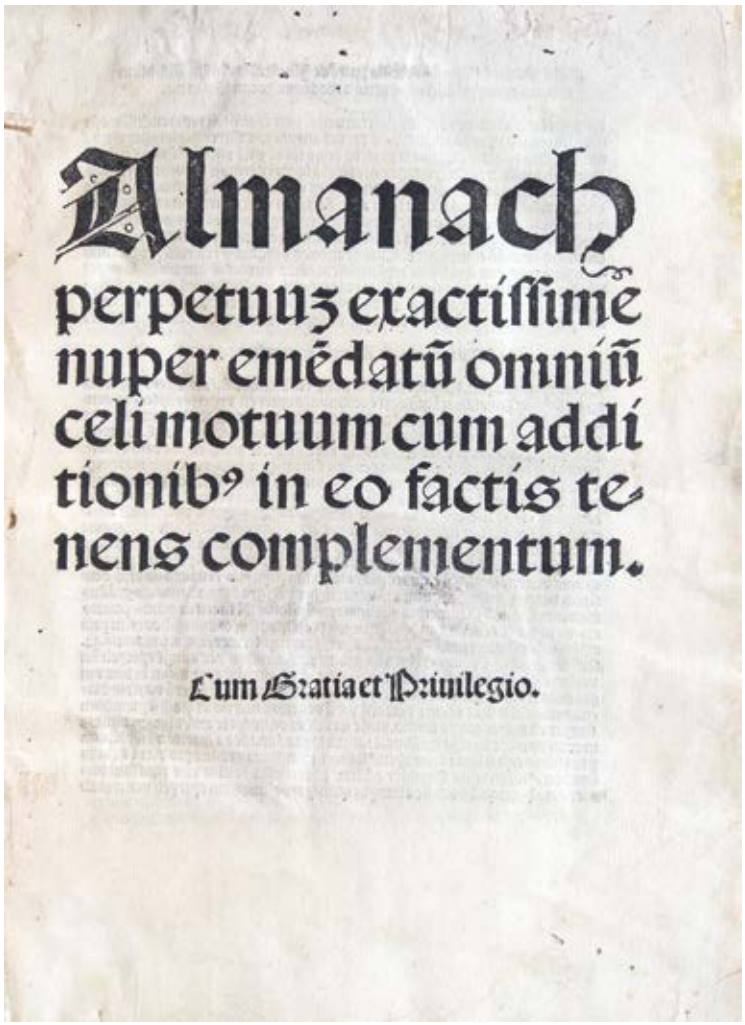
The Book that Columbus' and Vasco da Gama used on their Voyages

ZACUTO or ZACUT, Abraham ben Samuel.

Almanach perpetuu[m] exactissime nuper eme(n)datu(m) omniu(m) celi motuum cum additionib(us) in eo factis tenens complementum. Venice: Petrus Liechenstein, 1502. (colophon: ... Jmpressum est ac absolutu[m] Venetijs q[uam] accuratissima fide ... charactere Per Petru[m] Liechtenstein Coloniensem Anno Salutifere incarnationis 1502. Die 15 Julij.) Quarto (215 x 160 mm) ff. 243, 1 blank leaf. Contemporary blind – tooled pigskin over wooden boards, with single middle clasp, handwritten lettering piece on upper cover, ample margins with deckled edges, some water-staining to first leaves, some worming to title and final blank, traces of removal of owners' entries in ink on title and fol. 3, slight wear and soiling, lower spine end damaged by worming, ms. paste-downs removed. Fine copy in first appearance.

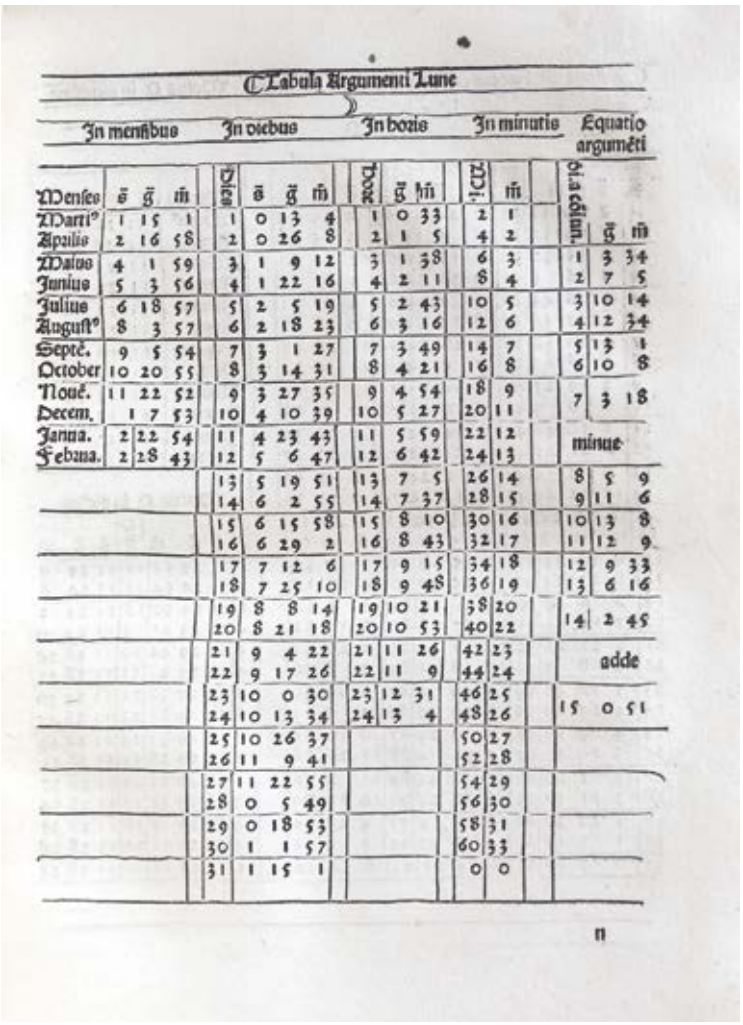
EUR 28.000.-

Exceedingly rare third latin edition of Zacuto's „Almanach" (or Ephemerides) that revolutionized ocean navigation and was used by Columbus and Vasco da Gama while traveling. The latin translation of La Compilacion Magna (known as Almanach perpetuum / „Book of Tables on the celestial motions or the Perpetual Almanac" which was begun around 1470 and completed in 1478) was made by Zacuto's disciple, José Vizinho and first published in Leira in 1496, one of the first books published in Portugal with a movable type printing press. The first Castilian translation was undertaken in 1481 by Juan de Salaya with the help of the author. The first latin edition was reprinted 1502 from Peter Liechtenstein in Venice adding to the text annotations, correc-tions and a few tables among them a list of stars by Alfonso de Cordoba, a physician in the service of Cardinal Borgia in Rome. These are not present in the Leira edition. Peter Liechtenstein, a German printer who established a press in Venice towards the end of the 15th century, was from Cologne, an early centre for printing (where the first printer in England, William Caxton, learned the trade) and had printed other works of astronomy and astrology: for instance the first latin edition of Ptolemy's Almagest (1515). Zacuto's work became important for the contemporary explorers. The Almanach was composed of 65 detailed astronomical tables (ephemerides), with radix set in year 1473 and the meridian at Salamanca, charting the positions of the Sun, Moon and five planets. The calculations were based on the Alfonsine Tables and the works of earlier astronomers (notably of the 14th-century Majorcan school). Zacuto set out the data in a simple „almanac" format, with the positions of a planet easily interpolated between entries, making it quite easy to use at voyages. Zacuto's Almanach perpetuum helped immediately revolutionize ocean navigation. Prior to the Almanach, navigators seeking to determine their position in the high seas had to correct for „compass error" (the deviation of the magnetic north from the true north) by recourse to the quadrant and the Pole Star. But this proved less useful as they approached the equator and the Pole Star began to disappear into the horizon. Zacuto's Almanach supplied the first accurate table of solar declination, allowing navigators to use the sun instead. As the quadrant could not be used to look directly at the sun, Portuguese navigators began using



Almanach
perpetuuz exactíssime
nuper emẽdatũ omniũ
celi motuum cum addí
tionib⁹ in eo factis te-
nens complementum.

Cum Gratia et Priuilegio.



Tabula Argumenti Lune

In mensibus | In diebus | In horis | In minutis | Equatio argumẽti

Menses	ē	ḡ	m̃	Dies	ē	ḡ	m̃	hore	ḡ	m̃	Mi.	m̃	ol.a cõiun.	ḡ	m̃
Martius / Aprilis	1	15	1	1	0	13	4	1	0	33	2	1			
	2	16	58	2	0	26	8	2	1	5	4	2			
Maius / Junius	4	1	59	3	1	9	12	3	1	38	6	3	1	3	34
	5	3	56	4	1	22	16	4	2	11	8	4	2	7	5
Julius / Augustus	6	18	57	5	2	5	19	5	2	43	10	5	3	10	14
	8	3	57	6	2	18	23	6	3	16	12	6	4	12	34
Septẽ. / October	9	5	54	7	3	1	27	7	3	49	14	7	5	13	1
	10	20	55	8	3	14	31	8	4	21	16	8	6	10	8
Nouẽ. / Decem.	11	22	52	9	3	27	35	9	4	54	18	9	7	3	18
	1	7	53	10	4	10	39	10	5	27	20	11			
Ianua. / Febua.	2	22	54	11	4	23	43	11	5	59	22	12	minue		
	2	28	43	12	5	6	47	12	6	42	24	13			
				13	5	19	51	13	7	5	26	14	8	5	9
				14	6	2	55	14	7	37	28	15	9	11	6
				15	6	15	58	15	8	10	30	16	10	13	8
				16	6	29	2	16	8	43	32	17	11	12	9
				17	7	12	6	17	9	15	34	18	12	9	33
				18	7	25	10	18	9	48	36	19	13	6	16
				19	8	8	14	19	10	21	38	20	14	2	45
				20	8	21	18	20	10	53	40	22			
				21	9	4	22	21	11	26	42	23	adde		
				22	9	17	26	22	11	9	44	24			
				23	10	0	30	23	12	31	46	25	15	0	51
				24	10	13	34	24	13	4	48	26			
				25	10	26	37				50	27			
				26	11	9	41				52	28			
				27	11	22	55				54	29			
				28	0	5	49				56	30			
				29	0	18	53				58	31			
				30	1	1	57				60	33			
				31	1	15	1				0	0			

n

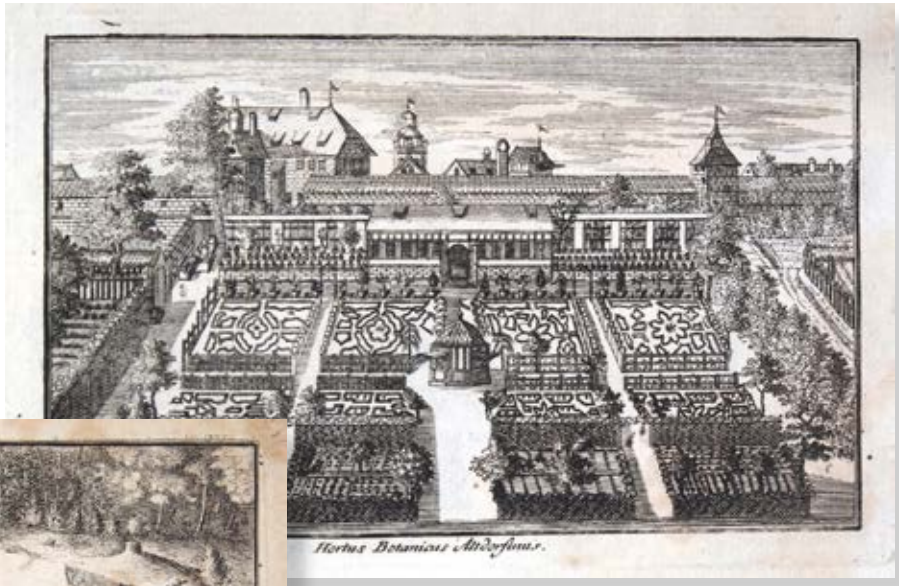
the astrolabe on board (an old land-based instrument to measure the height of the sun indirectly). Zacuto's tables in conjunction with the new metal nautical astrolabe allowed navigators to take accurate readings anywhere. Already in 1497, Vasco da Gama took Zacuto's tables and the astrolabe with him on the maiden trip to India. It would continue to be used by Portuguese ships thereafter to reach far destinations such as Brazil and India. Vasco da Gama and his crew underwent a thorough briefing and preparation by Zacuto, in addition to learning to use the new instruments which he had developed for their trip before setting on the voyage to India in 1496. Prior to that, Zacuto had again improved on the existing astronomical tables, mostly those prepared under King Alfonso X. of Castille. Already Columbus had used Zacuto's tables. „The story is that on one of his voyages, when attacked by the natives, Columbus noted that Zacuto had predicted an eclipse for that day, and used this information to threaten the natives and convince them that he could extinguish the Sun and Moon and deprive them of all light. Zacuto's work thus saved the Admiral's life and that of his crew.“ Abraham Zacut (ca. 1452–ca. 1515) was an important Jewish astronomer who contributed to observational astronomy and astronomical tables who served as Royal Astronomer to King Joao II. of Portugal. With the general expulsion of the Jews from Spain in 1492, Zacuto took refuge in Lisbon. Already famous in academic circles, he was invited to court and nominated Royal Astronomer and Historian by King Joao II., a position which he held until the early reign of Manuel II.. He was consulted by the king on the possibility of a sea route to India, a project which he supported and encouraged. Zacuto would be one of the few who managed to flee Portugal during the forced conversions and prohibitions of departure that Manuel I enacted, in order to keep the Jews in Portugal as nominal Christians for foreign policy reasons. He fled first to Tunis, and later moved to Jerusalem. He died probably in 1515 in Jerusalem, however, other reports indicate his final home was the Hebrew community of Damascus and the death occurred in 1520.- Bedini (ed.) The Christopher Columbus Encyclopedia, I, 753 f.; Hockey (ed) BEA II, 1255/56; Chabas/Goldstein. Astronomy in the Iberian Peninsula: Abraham Zacut and the transition from manuscript to print. 2000. Adams A44; Fürst III, 201; Houzeau/ Lanc. 14174; Panzer VIII, 356; Proctor/Isaac 12987; STC 740; EDIT 16 CNCE 35569 (a Venice edition of 1499 is apokryph).

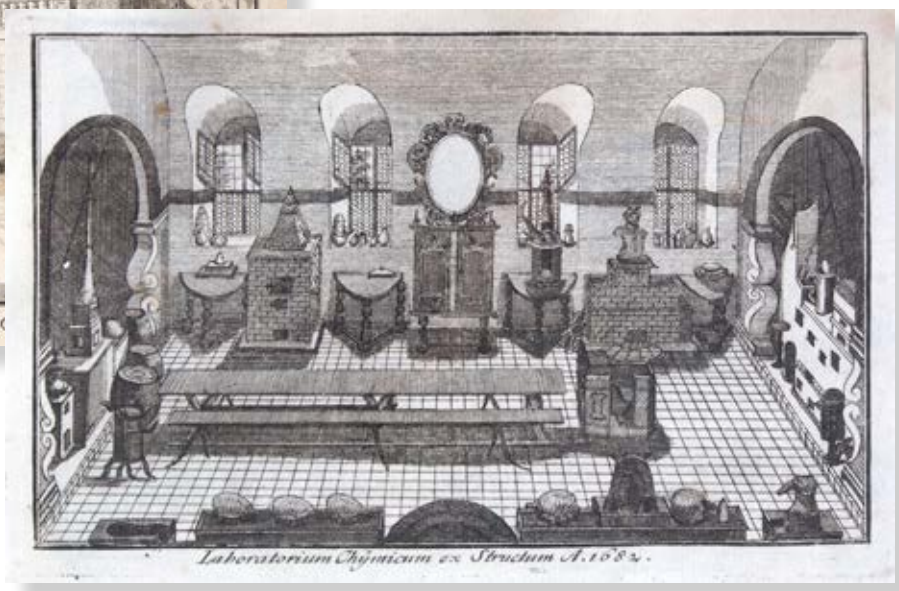
(ALTDORF University)

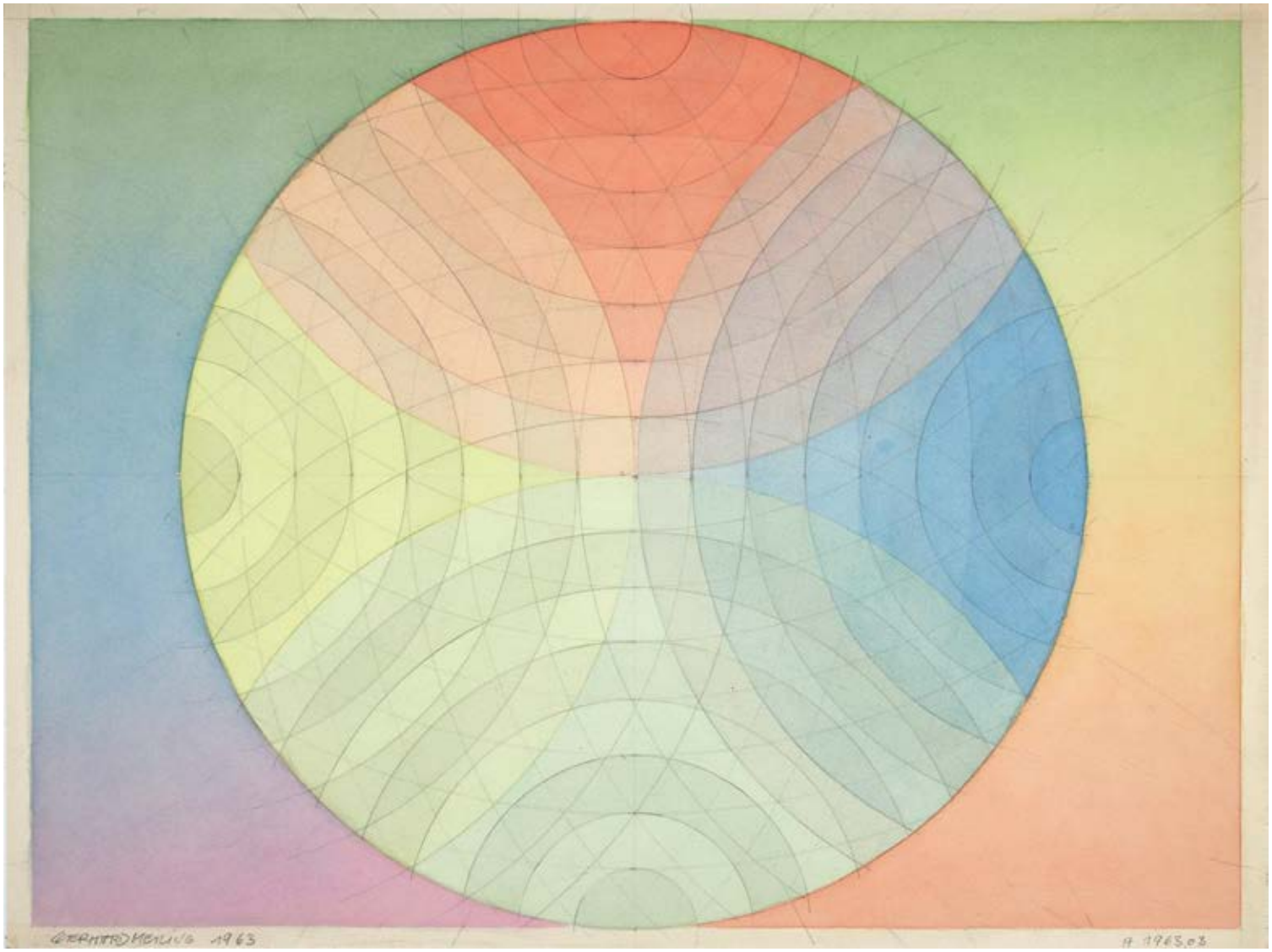
Eigentliche Abbildung der löblichen Nürnbergischen Universität Altdorf, darinnen das Schloß, die Kirche, insonderheit das Collegium mit seinen fürnehmsten Merkwürdigkeiten … welchen zugleich der Hortus Medicus nebst der Sophien-Quelle zu Grünsperg beygefüget ist. (Altdorf), zu finden bey Lorenz Schüpfel, (ca. 1742 ?). oblong 8vo (120 x185 mm). 1 leave with title and content, 13 engraved plates. Period style paper card binding. Traces of use, browned and spotted, one plate with small marginal tear into the border and tear in one corner, overall very fine.

EUR 2.400.-

Very rare pictorial album showing the University of Altdorf with its institutions, being a fine example of any University in continental Europe at that time. The engravings show the main university building, the library with wunderkammer objects, the auditorium, the anatomical theatre, the chemical laboratory, the botanical garden, and a mineral water source. The images were published similar in an earlier publication by Mikovinys in 1723. The University of Altdorf, a small town outside the Free Imperial City of Nuremberg, was founded in 1578 and received university privileges in 1622. In the period 1614–1617 Altdorf was briefly the centre of Socinianism in Germany. Encouraged by the connections of German Antitrinitarians to the Racovian Academy in Poland, German and Polish Socinians attempted to establish in Altdorf a similar Academy. Among the notable Socinian students was the 26-year-old Samuel Przypkowski. Notable instructors include Hugues Doneau, Scipione Gentili and the mathematician Daniel Schwenter. Notable students include later imperial field marshals Albrecht von Wallenstein (1583–1634) and Gottfried Heinrich zu Pappenheim (1594–1632); the polymath Johann Schrenck (1576–1630); the composers Wolfgang Carl Briegel (1626–1712) and Johann Pachelbel (1653–1706); and the polymath Gottfried Wilhelm Leibniz (1646–1716), perhaps most famous for co-discovering calculus, received his Ph. D. from the University of Altdorf for his habilitation thesis in philosophy, on the art of combinations. However, he only submitted this thesis to Altdorf after the University of Leipzig did not guarantee him a position teaching law upon graduation. The University Altdorf was closed in 1809.- Müller I, 56; Erman- H. II, 31: Variante mit „fürnehmsten"; nicht bei Pfeiffer.







(Colour) MEILING, Gerhard.

(Color Circle). A 1963.03. Watercolor and pencil on velin. Signed and dated in lower left corner and titled in lower right corner. Size: 340 x 455 mm. Mounted within passe-partout (450 x 600 mm). Fine.

EUR 3.600.-

Interesting modern approach (1963) to color theory and on the color circle by the Berlin artist Gerhard Meiling (*1935) who also takes up elements of Suprematism in his constructivist drawings, watercolors and collages.- Jörg-Uwe Kuhtz. Geometrische Ordnungsprinzipien in der Kunst. Eine Annäherung an das Werk Gerhard Meilings. (2001)

Precursor of the ‚Farbenlehre'

GOETHE, Johann Wolfgang von.

Beyträge zur Optik. Erstes Stück mit XXVII Tafeln (und) Zweytes Stück mit einer großen colorierten Tafel und einem Kupfer. 2 parts in 1 Vol. – Weimar, im Verlag des Industrie-Comptoirs, 1791 – 1792. 8° (180 x 110 mm) Title, 62 pp., (1) Bl. „Druckfehler" not yet bound with; Title, 30 pp. and one engraved plate. With 27 separate, partly colored playing cards (of which two might be a reproduction, no. 4, no 26) as on little heavier cartonage. Contemporary greyish – blue plain wrappers, handwritten label on spine, rubbed and soiled, leaves nearly uncut, a few pages lightly browned. Front-fly with old ownership inscription.

EUR 12.000.-

The extremely rare first edition of Goethe's first work on optics and on color theory, the precursor to the great Farbenlehre, which he regarded as „his best work" (DSB).

As with Zur Farbenlehre Goethe here begins with a fierce attack on Newton's optical theory, that is on the composite nature of white light. He then follows his detailed experiments with the prism. The illustrated cards are included so that the reader can make his own experiments with the prism, which is depicted on the folding plate in the second part, accompanied by instructions for its construction. The illustrations are a form of color block printing, and are printed on blue patterned playing-card stock, with number slips. The title of the second volume states: „mit einer grossen colorirten Tafel…" However, the work was issued without this plate, which, possibly was not published at the time. It remained unknown until the discovery of a single example (on its own) in 1928 (see Julius Schuster, Goethe. Grosse Tafel zu der Beyträge zur Optik Zweyten Stück 1792. Originalgetreu herausgegeben). The work is unknown to several bibliographers.

Erste Ausgabe wie immer ohne die „große colorirte Tafel", die als verschollen bzw. ungedruckt galt, bis J. Schuster 1928 ein Exemplar entdeckte und reproduzieren ließ, aber mit den "zum Teil aus Spielkarten hergestellten, stets fehlenden Tafeln" (Blank 50,11), die zusammen mit den Tafeln zur Farbenlehre 1842 als Supplement zu den bis dahin erschienenen Werkausgaben neu gedruckt wurden. Sehr selten mit den 27 Tafeln auf Spielkartenkarton zum ersten Stück, von denen hier leider nur 25 im Original vorliegen (die Karten 4 u. 26 wohl in Faksimile). Wie stets ohne die große kolorierte Tafel zum zweiten Stück.

„Die Nähe einer Kartenfabrik veranlaßte mich, das Format von Spielkarten zu wählen … (die) Tafel, viel mehr noch als die Karten, war unbequem zu packen und zu versenden, so daß selbst einige aufmerksam gewordene Liebhaber sich beklagten, die Beiträge nebst dem Apparat durch den Buchhandel nicht erhalten zu können" (Goethe nach Kippenberg). Tatsächlich wurde ein Exemplar der großen kolorierten Tafel, von der es bei Kippenberg noch heißt, sie könne „heute als verschollen gelten", erst 1928 aufgefunden – gleich zwei Exemplare – und publiziert.

Die Druckfehler wurden von Goethe zuerst im Journal des Luxus und der Moden veröffentlicht (Goed. 23a). Erst den später ausgegebenen Exemplaren des „Ersten Stücks" wurde vom Verlag das Erratablatt beigegeben.

„Die freigelegenste Wohnung, in welcher eine geräumige dunkle Kammer einzurichten war, auch die anstoßenden Gärten, woselbst im Freien Versuche jeder Art angestellt werden konnten, veranlaßten mich, den chromatischen Untersuchungen ernstlich nachzuhängen. Ich bearbeitete vorzüglich die prismatischen Erscheinungen, und indem ich die subjektiven derselben ins Unendlich vermannigfaltigte, ward ich fähig, das erste Stück optischer Beiträge herauszugeben, die mit schlechtem Dank und hohlen Redensarten der Schule beiseite geschoben wurden. Das Frühjahr belebte meine chromatischen Arbeiten, ich verfaßte das zweite Stück der optischen Beiträge …" (Tag- und Jahreshefte, 1791, 1792). Goethe nahm die Beyträge zur Optik in seine Farbenlehre an den Anfang der Abteilung Vorarbeiten unter dem Titel Beiträge zur Chromatik auf. Er wählte 1810 im Titel Chromatik statt Optik, weil „niemand habe begreifen können noch wollen, wie man ohne Mathematik Beiträge zur Optik bringen oder wohl gar die Hauptlehrsätze derselben bezweifeln und bekämpfen dürfe." - Goed. IV/3, 580, 23 u. 23b; Kippenberg 369 u. 371; Hagen 215; Schmid 23; Becker Collection 156 (1964 reprint only); British Optical Association Library and Museum Catalogue I, p. 78 (1928 reprint only); Hagen, Die Drucke von Goethes Werken 215; Schmid 22 & 23; NUC records only two locations, Harvard, and Yale, although the Yale copy appears to be a fotostatic reprint only (see Faber Birren Collection on Colour p. 36).- Provenance: Interlibrum, Vaduz.

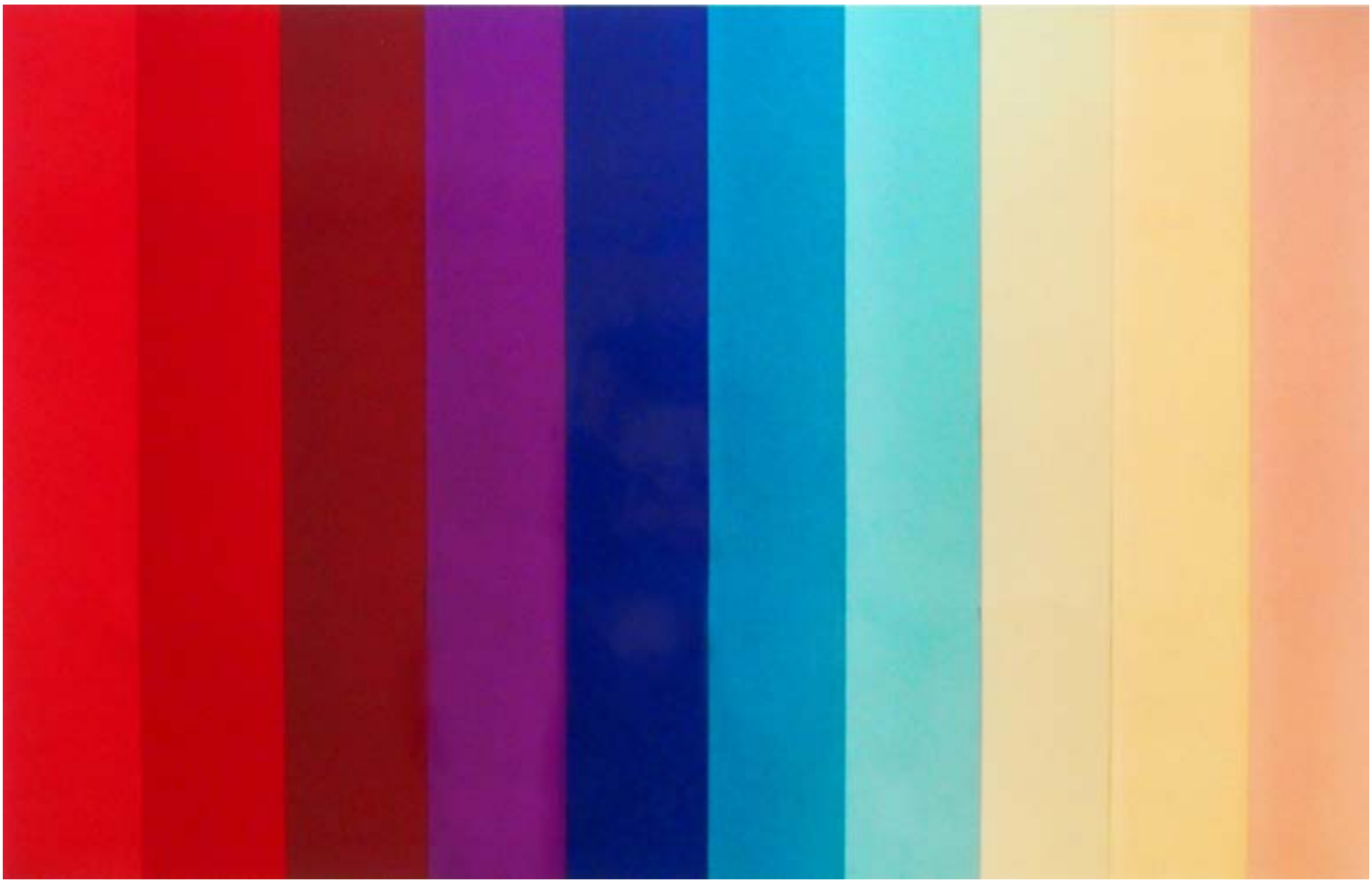
„Was bin ich?“

DEMAND, Thomas.

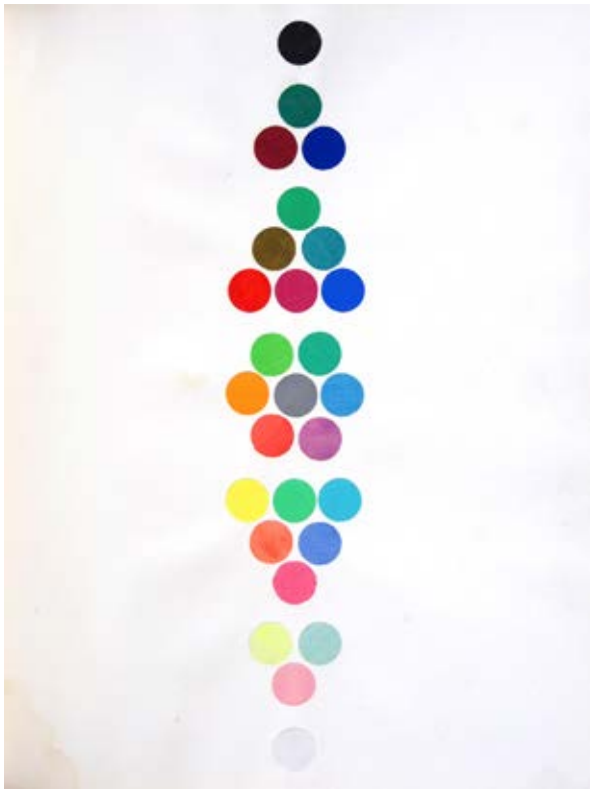
Untitled. (Studio) Original Photograph. C-Print on Fujicolor Crystal Archive Paper, signed and dated at the back by the artist, „AP IV“ (artist print IV). (2001). oblong folio. Size: 390 x 600 mm

EUR 3.500.-

Very rare photograph of the artist, probably from the Studio Serie of 1997. One of only10 copies printed, but not distributed. The work was intended for the art portfolio „westwärts“ (westward) on the occasion of an exhibition at the Kunstmuseum Bonn. 4 other German DAAD scholarship holders beside Demand (Franz Ackermann, Karin Sander, Anke Doberauer and Heiner Schilling) should deliver works, however Heiner Schilling didn't deliver his contribution, so the portfolio was never printed. Thomas Demand (*1964) is known for making photographs of three-dimensional models that look like real images of rooms and other spaces, often sites loaded with social and political meanings. He thus describes himself not as a photographer, but as a conceptual artist for whom photography is an intrinsic part of his creative process. In 1993, he began to use photography to record his elaborate, life-sized paper-and-cardboard constructions of actually or formerly existing environments and interior spaces, and soon started to create constructions for the sole purpose of photographing them. The photograph he takes of this model with a large-format-camera is the final stage of his work, and it is only this image, most often executed in an edition of six, that is exhibited unframed behind Plexiglas, not the models. On the contrary, Demand destroys his “life-size environments” after he has photographed them. While the works' titles – Studio (1997), Zimmer (Room) (1996), Treppenhaus (Staircase) (1995) – are studiously devoid of superfluous information, the subjects represented in Demand's photographs often relate to pre-existing press images showing scenes of cultural or political relevance. Studio (1997) derives from a photograph of the 1970s television set for the German game show „Was bin ich ?“ by Robert Lembcke.



Damien Hirst like



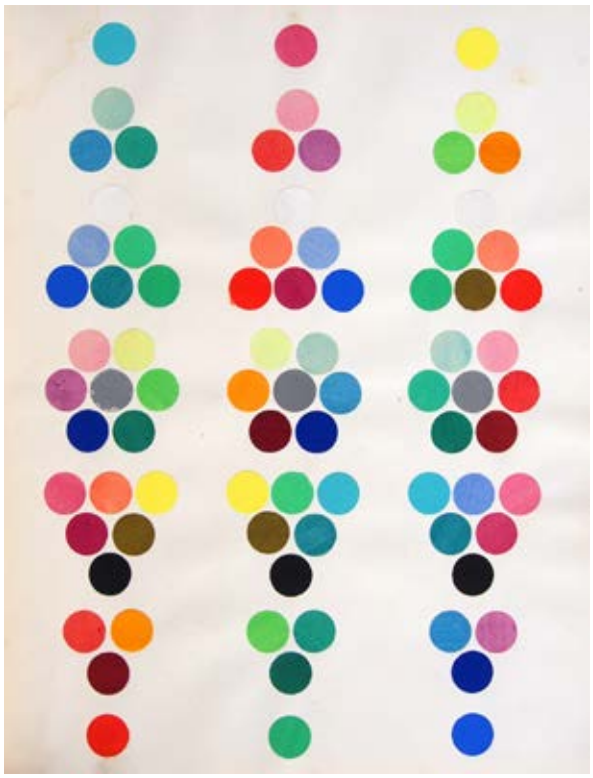
BENSON, William.

Principles of the Science of Colour concisely stated to aid and promote their useful application in the decorative arts. – London, Chapman & Hall 1868. 4to (276 x 215 mm) VI, [4], 48 pages with num. tables and illustrations in the text (incl. two hand colored), 6 lithogr. and 5 plates with round color patterns, all colored by hand. Contemporary publ. half calf., rubbed and soiled, marbled endpapers, inner cover with West London School of Art prize label for a Jane Chanel, the year another Chanel with first name of Coco was born. Otherwise fine copy.

EUR 2.200.-

First edition of this wonderful book on color theory pointing to works of Damien Hirst.

The architect William Benson published his cuboid system in 1868, in London. The first color - system to be based on a cube after ideas of the physicist James Maxwell. William Benson attempted to master both the additive and subtractive mixing systems. The cube stands on its black corner, and three edges extend outwards to the basic colors of red, green and blue. From the white tip, the edges lead to a yellow, a "sea-green" and a pink corner. Benson preferred the unusual pink to the violet one would normally expect; this, in his opinion, was too dark. The English architect William Benson developed a color system for practical application in the decorative arts. He kept well informed on the scientific findings in the color field. With experience in pigment mixture as well as his own experiments with a prism and mixtures, Benson fully understood the difference between light and colorant mixture. In 1868, Benson published 'Principles of the Science of Color', which describes this cubic color system. Based on this system, he derived rules of color harmony for color-design use. Later editions appeared in 1872, 1876, and 1886. Benson attempted to cover the totality of color sensation in appropriate geometric model named the Natural System of Cours. Benson's system is a conceptually additive one. He considered spectral colors to best approximate pure color sensations: In their binary mixtures, the primary colors red, green and blue form the secondaries, taken to complement the primaries, as determined with the help of edge spectra.The cube stands on its black corner, and three edges extend outwards to the basic colors of red, green and blue.



Neo-Impressionist

HENRY, Charles.

(Cercle chromatique; cover title). Éléments d'une théorie générala de la dynamogénie autrement dit du contraste, du rythme et de la mesure avec applications spéciales aux sensations visuelle et auditive. – Paris: Verdin, (1889). Imperial Folio (600 x 490 mm) VI, 56 pp. and one chromolithogr. color plate. Publ. half cloth with ties, text and plate loosely inserted, rubbed and soiled, little spotted, else fine.

EUR 7.400.-

Important color theory by the French „psychobiophysicist" Charles Henry (1859–1926) that influenced the Neoimpressionists, especially the divisionist style of painting of Georges Seurat and Paul Signac greatly.

Henry developed a scientific aesthetic of both color and form; his continuous color circle based on the spectrum was related to Chevreul's basis plane. It can be interpreted as an infinite number of tint/shade scales with white in the center, the full colors in the middle ring and black at the periphery. Color circles for the primary purpose of demonstrating rules of color harmony have been developed by the German painter Matthias Klotz (1748-1821) in 1816, the English colorant producer and dealer George Field (1777-1854) in 1817, the French chemist Michel-Eugene Chevreul (1786-1889) in 1839 and Friedrich Wilhelm Unger and Ernst Brücke.

Charles Henry, a physiologist, mathematician, inventor, esthetician, and intimate friend of the Symbolist writers Felix Fénéon and Gustave Kahn, met Georges Seurat, Paul Signac and Camille Pissarro during the last Impressionist exhibition in 1886. Henry would take the final step in bringing emotional associational theory into the world of artistic sensation: something that would influence greatly the Neo-Impressionists. Henry and Seurat were in agreement that the basic elements of art – the line, particle of color, like words – could be treated autonomously, each possessing an abstract value independent of one another, if so chose the artist. In 1889 Fénéon noted that Seurat knew that the line, independent of its topographical role, possesses an assessable abstract value, in addition, to the individual pieces of color, and the relation of both to the observer's emotion.

The Neo-Impressionists established what was accepted as an objective scientific basis for their painting in the domain of color. The underlying theory behind Neo-Impressionism would have a lasting effect on the works produced in the coming years by the likes of Robert Delaunay. The Cubists were to do so in both form and dynamics, and the Orphists would do so with color too. The decomposition of spectral light expressed in Neo-Impressionist color theory of Paul Signac and Charles Henry played an important role in the formulation of Orphism. Robert Delaunay, Albert Gleizes, and Gino Severini, all knew Henry personally. Henry is also credited with the invention of several ingenious devices and instruments used in psychophysiological laboratories.

KVK: TH Köln, BL London, Oxford, Yale, NY Public, Princeton, Bryn Mawr, National Gallery Art, Newberry, Virginia, Stanford.

(HESSELGREN, Sven)

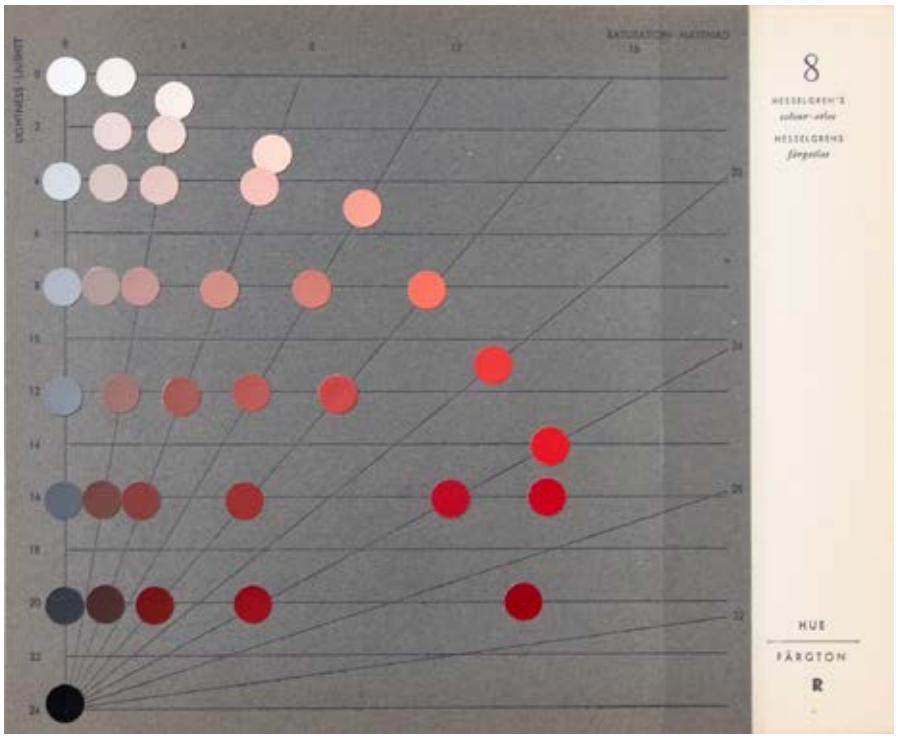
Hesselgrens färgatlas. Kortfattad Färglära. – Stockholm: T. Palmer AB, (1953 - 1963) oblong 4to (235 x 180 mm) title, 7 pp., (1), 20 pp., and 26 plates with color hues. Publisher's terminal folder, little used. (with:) Färgblock till Hesselgrens färgatlas. Blanka, Graskala. 1-4 (GY18-YR16: Gult, YR20-RB12: Rött, RB15-BG6: Blätt, BG12-GY12: Grönt). 4 color blocks and a grayscale in 1.— Stockholm: Palmer, (1953–1963) 4 blocks in Original publisher folder.

EUR 1.000.-

Rare color atlas by Sven Hesselgren, maybe incomplete or a later edition, as there should be according to Yale: [1] Colour manuals, [2] Colour blocks. 2 vol. [3] Colour samples. 2 vol. Most libraries have only the color manual (1).

The colour manual includes 507 painted color sample dots (diameter of 9 mm) and rectangles (1.5 x 1.8 cm) on 26 charts.The colour-blocks volume contains four bundles of a total of 507 color samples (5 x 10 cm), each secured by a brass fastener in the top left corner so that the color samples can be fanned out, with a black embossed paper front cover, housed together in a drop-back box. The four bundles are captioned: 1. GY18-YR16, the hues around yellow; 2. YR20-RB 12, the hues around red; 3. RB15-BG6, the hues around blue; and 4. BG12-GY12, the hues around green [and] the greyscale. Not present here: The colour - samples volume contains 507 color rectangles (5 x 10 cm) arranged in booklets made up of 5 sheets, of which 3 are glossy and 2 are matte. The samples are housed in two cardboard boxes according to hues, with guide cards describing the colors and their respective hues.

In 1953, the Swede Sven Hesselgren published his Colour Atlas with the intention of giving tangible forms to Tryggve Johansson's colour-solid. In Hesselgren's Colour Atlas, 507 standard colours are specified, arranged in planes of equal hue according to brightness and saturation. The purpose of these colours is to provide the structure for a phenomenologically based system. Hesselgren's observations do not only contribute to the future NCS system; they also assist in the development of colour charts which are intended for use by architects and other professional groups involved in interior and exterior design. The Swedish architect Sven Hesselgren (1907–1993) was an associate professor at the Technical University of Stockholm. After graduating, Hesselgren began his architectural education at KTH in 1928 and graduated in 1932. After working at an architectural office in Stockholm during the 1930s, he was commissioned to design military restaurants after the outbreak of World War II within the State Armaments Board, but as early as 1938 he also began his own business. collaboration with Carl-Axel Acking. The collaboration with Acking led to many architectural competitions for both private homes and public buildings. In parallel with his practical architectural work, he also conducted research focusing on phenomenological analysis. In 1952, Hesselgren published a color atlas in which he presented a color systematics related to Tryggve Johansson's color research, and which became one of the starting points for the color system NCS. He has also authored several architectural theoretical works, such as his doctoral dissertation, The Means of Expression of Architecture (1954), and Environmental Perception (1966). Later Hesselgren was a professor at the University of Addis Ababa in 1962-65, with the special task of organizing the Department of Architecture at the university. In 1975, Hesselgren was awarded IVA's Gold Medal for the development of a color atlas. A 24-part full-colour-circle forms the basis of the Hesselgren atlas. Its full colours have been selected to contain the four basic colours – yellow, red, blue and green – attributable to Ewald Hering which, more that any other colours, are perceived as being psychologically independent. Accordingly, yellow appears neither reddish nor greenish, red neither yellowish nor blueish, blue neither reddish nor greenish and green neither blueish nor yellowish. These four basic colours divide the circle into four quadrants, and these quadrants are in turn subdivided into gradations which are perceived as being equal.



Important German Woodcut Book

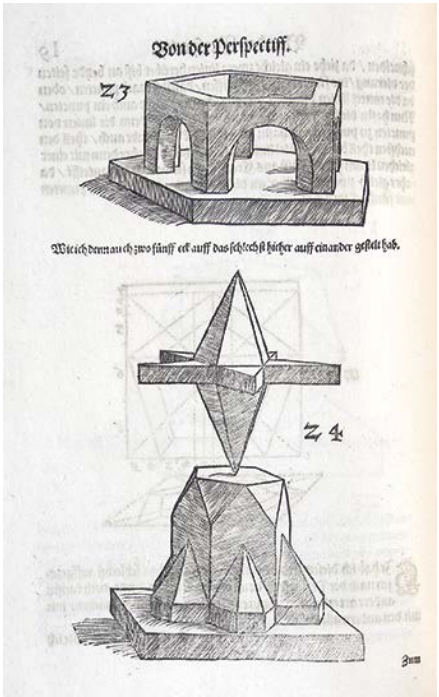
LAUTENSACK, Heinrich.

Desz Circkelsz und Richtscheyts, auch Perspectiva, und Proportion der Menschen und Rosse, kurtze, doch gruendtliche underweisung desz rechten gebrauchs. – Francfort: Egenolff Emmel for Simon Schamberger, 1618. In-folio (303 x 192 mm) (8), 54 Bll., with title in black and red, 107 text woodcuts incl. 3 folding plates. Later red maroquin in style of Duseuil, gilt edges, carefully washed and newly bound copy (Devauchelle).

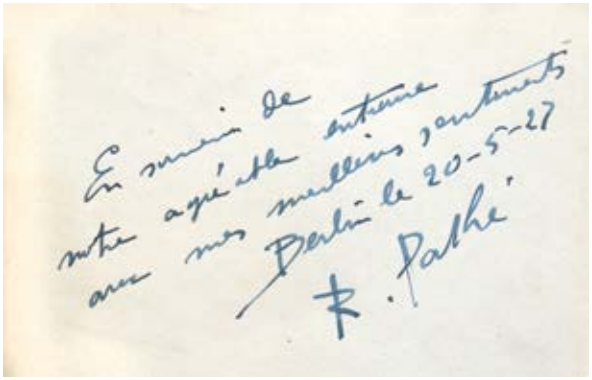
EUR 6.000,-

Very fine second edition with the same collation as the first edition of 1564 (Vagnetti mentions an edition of 1616 which we could not trace), richly and beautifully illustrated, of a highly important drawing book: based on Albrecht Dürer's work on human anatomy, Vier Bücher von menschlicher Proportion, and his treatise on perspective, Vnderweysung der Messung dem Zirkel, with an added chapter on the anatomy of the horse with three woodcuts.

German woodcut book presenting linear geometry, perspective and human proportion; the last section includes unusual woodcuts illustrating the human body with lines and cubes. The fine 107 woodcuts (including three folding plates) include simple design of polyhedrons, perspective of architectural details including facades, wells, arches, and elaborate human figures (infants and adults) in various positions as well as horses. The goldsmith and painter Heinrich Lautensack (1522-1590) followed Hirschvogel's style of making perspective images in his 1564 work: Des Circkels unnd Richtscheyts, auch der Perspectiva, und Proportion der Menschen und der Rosse,… (= Brief yet thorough introduction to the correct use of compass and ruler, and of perspective, and proportions in human and horses). Lautensack stressed the importance of knowing geometry and illustrated its use in, among other things, perspective constructions. He applied a simple method similar to Hirschvogel's. He also illustrated how the image of a pavement of square tiles can be used as (to apply a modern term) a coordinate system in the picture plane (Andersen. the Geometry of an Art, 222).- Vagnetti, EIIb19; Kat. Berlin 4691 (1564 ed.); Adams, L-290; Rosenwald, 702; Choulant/Frank 358.- KVK: Harvard Medical School, NLM Bethesda, et al.



Hand-colored Film



(PATHÉ, Early Cinema)

Le film vierge Pathé. Manuel de Développement et de Tirage. Edité par les etablissements Pathé-Cinema. (Paris, Boulevard Haussmann 117), 1926. sm4to (250 x 170 mm). XII, 155 pp. with three (num. I-VI) fold. plates with 107 small images on colored film footage. Contemporary publisher half calf over marbled boards, rubbed and soiled, spine sun-faded, otherwise fine. Printed on better paper with numerous text images. Front-fly with a multi-line dedication in French, signed „R. Pathé" and dated Berlin, May 20, 1927.

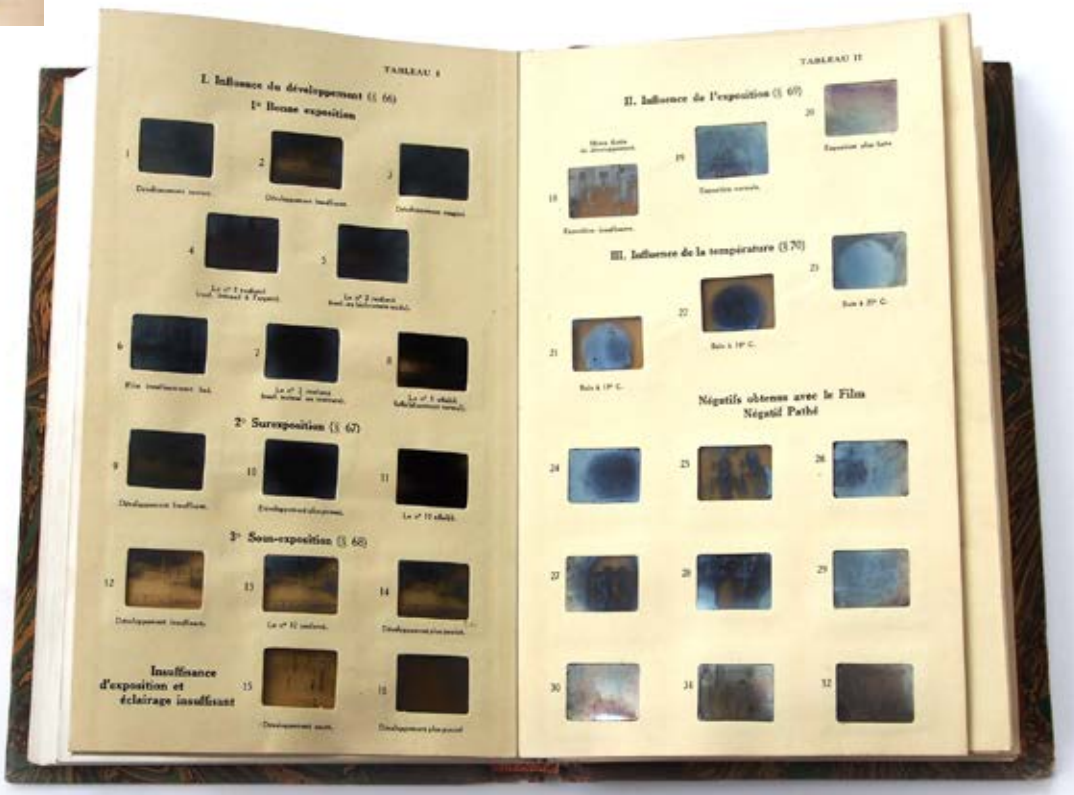
EUR 1.600.-

Detailed technical manual for the development of Pathé films for the film industry. Numerous examples documented the different methods of producing films on colored film footage. Pathé or Pathé Frères, founded and originally run by the Pathé Brothers, started business in 1896. In the early 1900s, Pathé became the world's largest film equipment and production company, as well as a major producer of phonograph records.

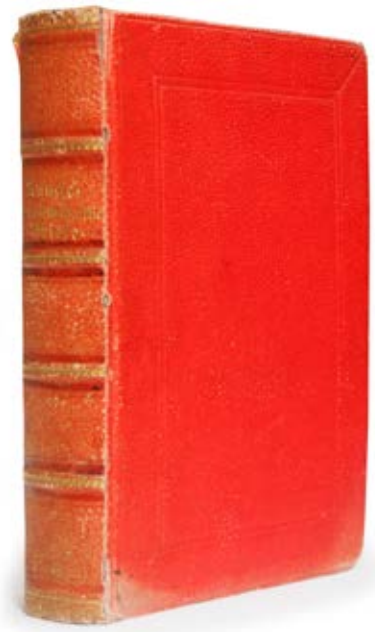
In 1907, Pathé acquired the Lumiere brothers' patents and then set about to design an improved studio camera and to make their own film stock. Their technologically advanced equipment, new processing facilities built at Vincennes, and aggressive merchandising combined with efficient distribution systems allowed them to capture a huge share of the international market. By 1909, Pathé had built more than 200 movie theatres in France and Belgium and by the following year they had facilities in Madrid, Moscow, Rome and New York City plus Australia and Japan.

Prior to the outbreak of World War I., Pathé dominated Europe's market in motion picture cameras and projectors. It has been estimated that at one time, 60 percent of all films were shot with Pathé equipment.

Worldwide, the company emphasized research, investing in such experiments as hand- colored film and the synchronisation of film and gramophone recordings. In 1908, Pathé invented the newsreel that was shown in theatres prior to the feature film. 1922 saw the introduction of the Pathé Baby home film system using a new 9.5 mm film stock which became popular over the next few decades.- KVK: only Dresden, Wolfen; OCLC: Yale, George Eastman Museum; Princeton; National Gallery Art; and five other USA libraries.



Paper Chromatography



RUNGE, Ferdinand Friedlieb.

Hauswirthschaftliche Briefe. Von Dr. F. F. Runge. Erstes (bis) Drittes Dutzend. – Berlin: G. A. Koenig's Verlag, 1866. 8vo. (160 x 115 mm) [4], 166 pp., (2); [4], 168 pp.; [2], 168 pp. with two mounted original paper chromatography's („chemisches Wappen") by the author. Contemporary red cloth with gilt-printed title on spine, spine sun-faded, rubbed and soiled, due to paper quality paper very weak

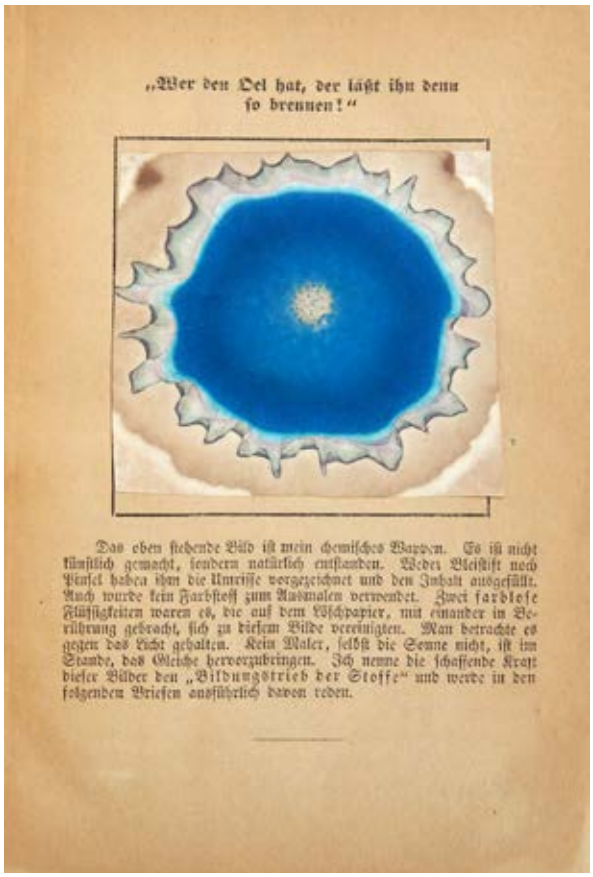
EUR 1.800.-

Exceedingly rare book on „science in the kitchen" or „chemistry for housewives" by the German chemist Ferdinand Friedlieb Runge (1794–1867) who describes in the 14th letter of his book how he discovered synthetic blue dye. This book is a known rarity (see foreword of the Reprint). With chapters on air, steam, water, coal, chlorine, sulfur, soda, vinegar, et al. Friedlieb Ferdinand Runge was one of the most remarkable German chemists in the first half of the 19th century. After several years as professor for technical chemistry at the University of Breslau he joined chemical industry at Oranienburg in Prussia, owned by the Royal Maritime Society (Preuss. Seehandlung). In this industrial research laboratory he carried out his important study of synthetic dyes. In 1852 he was dismissed at the age of 58 when the company was privatized and he lost his pension and company flat in 1855 due to a dispute over intellectual property with the new management of the company. He died twelve years later in Oranienburg.

He isolated phenol and aniline from coal tar as well as caffeine from coffee beans. Nowadays he is broadly acknowledged as one of the predecessors of paper chromatography. His publications in scientific journals were relatively rare but he published some popular scientific books in which he wanted to explain the chemistry to everyone.

Runge was adherent to the romantic German Naturphilosophie and the chemical-dynamic theory which refused the atomic model. Runge focussed strongly on the visualization of chemical processes. Therefore he illustrated his books with real examples of chemical compounds which were suspended in a solution of rubber in mineral tar oil. He also developed graphical methods for the demonstration of the interrelation of different oxidation states for a given element.

Runge wrote important treatises on the preparation, properties and uses of inorganic pigments and dyes and is a co-discoverer of aniline dyes made from compounds isolated from coal tar. In 1855, he was the first to notice the phenomenon of Liesegang rings, observing them in the course of experiments on the precipitation of reagents in blotting paper. Runge placed drops of reactant solutions on blotting paper and then added a drop of a second reactant solution on top of the first drop. The solutions would react as they spread through the blotting paper, often producing colored patterns. His results were published in two, now famous and expansive, books, „Farbenchemie. Musterbilder für Freunde des Schönen und zum Gebrauch für Zeichner, Maler, Verzierer und Zeugdrucker, dargestellt durch chemische Wechselwirkung" and „Der Bildungstrieb der Stoffe, veranschaulicht in selbstständig gewachsenen Bilder." Partington IV, 184; DSB XI, 615; Hein & Schwarz. Deutsche Apotheker-Biographie II, 549; Pogg. II, 722; Ferchl 460. Bussemas, H.H., Harsch, G. & Ettre, L.S. Friedlieb Ferdinand Runge (1794–1867): "Self-grown pictures" as precursors of paper chromatography. Chromatographia 38, 243–254 (1994).
KVK: Kreismuseum Oranienburg; Augsburg (only part 1/2); BL London; not in OCLC.


„Wer den Oel hat, der läßt ihn denn so brennen!"

Das eben stehende Bild ist mein chemisches Wappen. Es ist nicht künstlich gemacht, sondern natürlich entstanden. Weder Bleistift noch Pinsel haben ihm die Umrisse vorgezeichnet und den Inhalt ausgefüllt. Auch wurde kein Farbstoff zum Ausmalen verwendet. Zwei farblose Flüssigkeiten waren es, die auf dem Löschpapier, mit einander in Berührung gebracht, sich zu diesem Bilde vereinigten. Man betrachte es gegen das Licht gehalten. Kein Maler, selbst die Sonne nicht, ist im Stande, das Gleiche hervorzubringen. Ich nenne die schaffende Kraft dieser Bilder den „Bildungstrieb der Stoffe" und werde in den folgenden Briefen ausführlich davon reden.

„Wer den Oel hat, der läßt ihn denn so brennen!"

Das ist nicht künstlich ist noch Pinsel haben ihm die Umrisse vorgezeichnet und den Inhalt ausgefüllt. Auch wurde kein Farbstoff zum Ausmalen verwendet. Zwei farblose Flüssigkeiten waren es, die, auf dem Löschpapier mit einander in Berührung gebracht, sich zu diesem Bilde vereinigten. Man betrachte es gegen das Licht gehalten. Kein Maler, selbst die Sonne nicht, ist im Stande, das Gleiche hervorzubringen. Ich nenne die schaffende Kraft dieser Bilder den „Bildungstrieb der Stoffe" und werde in den später folgenden Briefen ausführlich davon reden. Hier werden jedoch noch einige Worte nicht überflüssig sein. — Allen Malereien fehlt die Körperlichkeit. So auch den Lichtbildern. Das Ganze liegt auf der Oberfläche. Obiges Bild dagegen ist eine wirkliche körperliche Gestaltung. Bei durchfallendem Lichte erscheinen Malereien und Drucke stets heller, unser Bild dagegen dunkler; denn es hat, wie gesagt, einen Körper, eingeschlossen von zwei gleichfarbigen Seiten. Die Einseitigkeit der Gemälde und Drucke schließt daher jede körperliche Fülle aus. Sie sind in Wirklichkeit nur Erscheinungen.

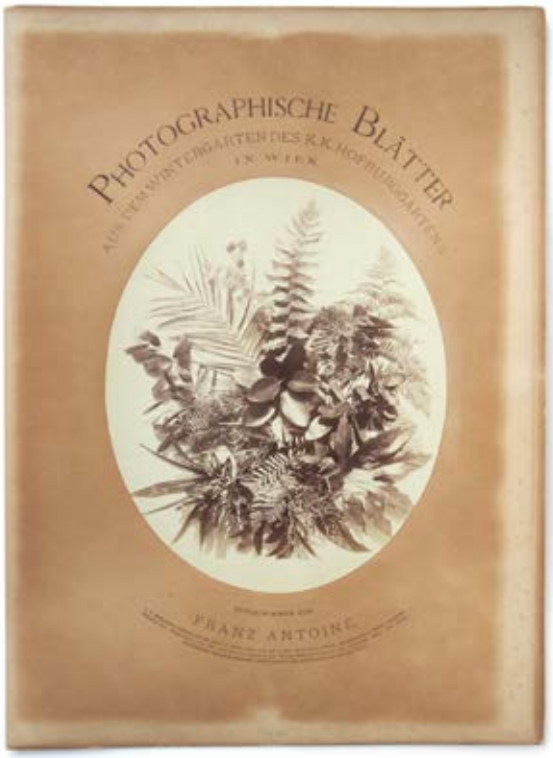
In diesen Bildern liegt das Geheimniß zur Darstellung unnachahmbarer Staatspapiere. —

Greenhouse Garden

ANTOINE, Franz de Paula.

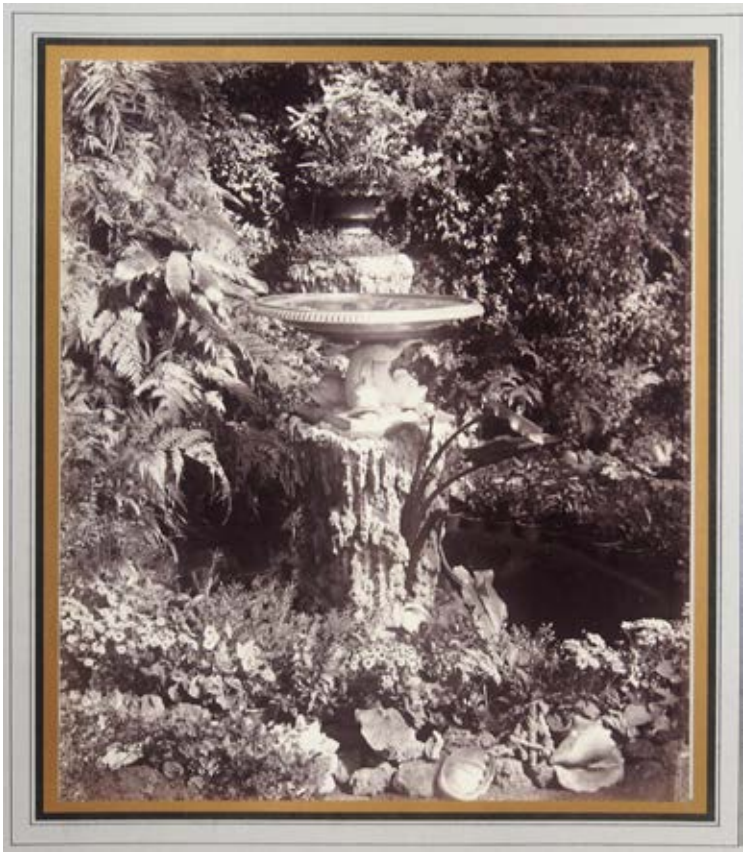
Photographische Blätter aus dem Wintergarten des k.k. Hofburggartens in Wien Aufgenommen von Franz Antoine, … (Wien, ca. 1875) Folio (440 x 325 mm) Title-Page with mounted photograph and 20 boards with mounted albumin photographs (235 x 200 mm). Mounted within gilt and black ruled frame on heavy boards preserved within original cloth folder with title: Photographische Blätter Franz Antoine. Enclosed a handwritten letter of appreciation for this album with the award of the golden medal for art and science written by the Chief Chamberlain of the Royal Habsburg House.

EUR 18.000.-



Exceedingly rare album with early photographical plant still life's of a famous greenhouse & botanical garden in Vienna. The Austrian Horticulturist, gardener and amateur photographer Franz Antoine the younger (1815–1886) had studied botany in the botanical gardens of Vienna under Joseph Franz von Jacquin. For some years he had travelled through Europe to study modern developments in gardening. From 1847 onwards he worked as a court gardener. He received international reputation for his "Wintergarten…", and was honored by the kings of Bavaria and Prussia. From 1865 he was director of royal gardens to the Austrian/Austro - Hungarian monarchy. He was an authority on the botanical family of Bromeliaceae, and was also an avid photographer.

His photographs of still life's, plants and scenes of Vienna were presented at photography exhibitions in Vienna (1864, 1873) and Paris (1867). Also the Albertina in Vienna has a large stock of photographs of plants by Franz Antoine, which belong to the earliest and best of this genre.
The original, classical greenhouse was built from 1823 to 1826 after designs by Ludwig von Remy. The back wall of the building was part of the then Vienna city wall. After the greenhouse had been demolished at the turn of the century, in 1902–1906 a new green house influenced in its ornamentation by Art Nouveau was built after designs by the court architect Friedrich Ohmann.- Starl. Lexikon Fotografie Österreich, 1839-1945; Hannavy. Encyclopedia of Nineteenth-Century Photography 1287. For his method of photography: Franz Antoine. Ueber die Methode, Pflanzen photographisch darzustellen und zu vergrößern, in: Zeitschrift für Fotografie und Stereoskopie 5, 1862; For a printed work on the Wintergarten by Antoine (1852) see Pritzel 196. Nissen BBI 44; Czeike I, 605. Cf. Bobins 1024 and Mayer, Bibliotheca Viennensis 948 (normal edition in half cloth or cloth bindings).- KVK: We could locate only three copies world-wide: Utrecht (16 plates, dating 1875); ÖNB Vienna (17 plates, dating 1880); Univ. Vienna (17 plates)



Paper Exhibition of Plants

(Zürich Botanical Garden)

Collection of 170 smaller botanical wall-maps (charts) in gouache and different water-colors over pen and ink drawing by various artists or students. (Zürich, ca. 1930) Each plate ca. 490 x 325 mm, stored in a modern, cloth-covered case. The boards partly very slightly browned, most of the plates with small holes in the mounting and consequently with small traces in the corners (but practically always outside the pen-and-ink frame). The illustrations in fresh coloring, overall in excellent condition.

EUR 10.000.-

In extent and execution an unique painted ‚tour' through the flowers and plants at the Botanical Garden of Zurich.

Students or all staff members came together to compile a kind of compendium of the flowering plants and have drawn in similar style botanical poster.

Stylistically, all the artists are committed to late Art Deco or New Objectivity and name themselves under the illustration. The style is similar to the flower book of the german calligrapher and type-designer Rudolf Koch (1876–1834), a major influence on decorative arts in early 20th-century German speaking world. Koch designed a three-volume book of wildflower illustrations, Das Blumenbuch (1929–30), which was printed from woodcuts made by Kredel.
All flowers are here set in a black frame: the species in full bloom is shown as a whole plant with foliage and inflorescence as well as with some physiological details (in style of Eichler's diagrams of flowers) in secondary illustrations below the plant. The Latin species name according to Linné serves as the title, followed by the genus and usually also the German name, e.g. „Tropaeolum lobbianum - Tropaeolaceae - Kapuziner-Kresse". Information on the size ratio of plant and illustration, diagrammatic plant cross-sections, details with capsules and stamens, longitudinal sections and much more complete sometimes the illustrations.

The plates are numbered continuously, but with gaps, suggesting that up to 500 plates may have existed. The present collection, however, is by no means the remainder of a collection separated for whatever purpose, since it contains very numerous sought-after plant genres (sunflower, roses, foxglove, cannabis) and the artistic level is extraordinarily high for otherwise little-known artists and despite slight fluctuations. We therefore assume that the production of these plates was part of botanical examinations and that a large part of the ‚missing numbers' simply did not meet the requirements of the expert.

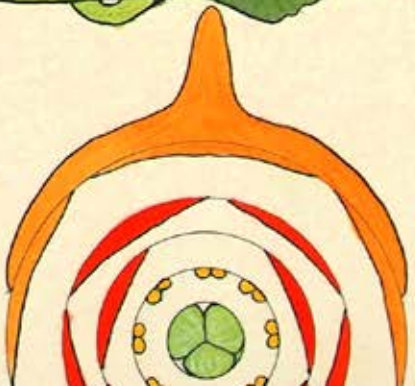
Tropaeolum majus.

Kapuziner Tropaeolaceae.

5 fache Vergrösserung.

Staubgefäss.

Diagramm



Seaweed for tissue Design

BALLEYDIER, Augustin.

Album Jacquard. Flore des dessinateurs. Dédié à Monsieur le Marquis de La Rochejaquelein. – Paris: Imprimerie Marie (Susse freres), 1856. Folio (353 x 270 mm) Printed title in blue, one page of dedication, 100 lithographed plates printed in color after nature prints mounted on stubs. Period style half calf, fine and fresh copy.

EUR 5.900.-

Very rare color printed seaweed album after nature printed specimens, done as a 12-year project to serve as a source for the Jacquard weaving factory. They were also used in designs for other manufactured products displayed at the Universal Exposition under the patronage of the Emperor and the Empress at the time.

The 100 color lithographed plates are each printed in a different tone and represent as many species of seaweed, each designated by its scientific name and origin. A handwritten table of the seaweeds has been bound to the title page.

It is an album of motifs elaborated by the amateur botanist Augustin Balleydier de Hell who, having developed a passion for marine plants, collected specimens in the Mediterranean, on the shores of the Atlantic, the English Channel and the North Sea: he recognized in them a source of renewal for the decoration of fabrics and industrial products. In this way, he collected seaweed herbariums that he offered to French manufacturers as models for their designers; one of them had been offered to Emperor Napoleon III in 1853, on the occasion of the Exhibition of the Imperial and Central Horticultural Society (today in the Library of Decorative Arts). The present „Album Jacquard“ uses the process of lithography in order to „popularize the knowledge of the infinite resources that God puts in our hands“: it is dedicated to the Marquis de la Rochejacquelin, under whose auspices Balleydier had presented, in the context of the Universal Exhibition of 1855, a project for a „Universal, historical, chronological and comparative museum of manufactured fabrics“ in the Louvre.

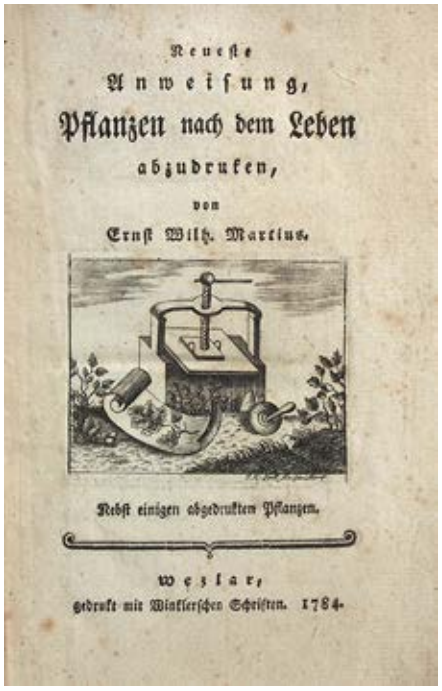
FUCUS PALMATUS (Espagne Ile des Faisans)

A. Balleydier (Hélio) inv. & L. Bernou del.

Imprimé par Marie, Faub. St Denis, 61, Paris

Dédié à Monsieur le Marquis de la Rochejaquelein

Prints from life: Bittersweet, Club Moss, Lilly of the Valley, and Belladonna.


Neueste
Anweisung,
Pflanzen nach dem Leben
abzudrucken,
von
Ernst Wilh. Martius.
Nebst einigen abgedruktem Pflanzen.
wezlar,
gedruckt mit Winklerschen Schriften. 1784.

MARTIUS, Ernst Wilhelm.

Neueste Anweisung, Pflanzen nach dem Leben abzudrucken von Ernst Wilh. Martius. Nebst einigen abgedrukten Pflanzen. – Wetzlar: gedrukt mit Winklerschen Schriften, 1784. 8vo (175 x 120 mm) (8), (8, Subscribers list), 80 pp. with 4 instead of two or three nature prints, and an engraved title vignette and some head-pieces. Gray plain wrappers, partly uncut copy, very fine in original state.

EUR 5.800.-

Exceedingly rare first edition of this famous manual how to make nature prints, with more than usual plates.

Compared to most botanical illustrations of the period (and even modern ones) this example is exceptionally detailed – you can see tiny veins in the leaves, the texture of the stem, and areas where the edges of the leaves have folded over on themselves, as if a living plant was preserved between the book's pages.

The earliest surviving European nature print was made by the German physician Conrad von Butzbach during his travels in Italy in 1425, and Leonardo da Vinci described the process of making prints from plants, including his own leaf print, in the Codex Atlanticus (fol. 72v-a) in 1508 (see Cave, pp. 21-24). But the European tradition of nature printing really took off during the latter half of the sixteenth century, as part of a growing interest in cataloguing and studying natural specimens, particularly medicinal plants. From Italy the art spread to other parts of Europe and flourished during the 17th and 18th centuries. Regensburg, in Germany, became a centre of high quality nature printing, where several practitioners made contributions to its development.

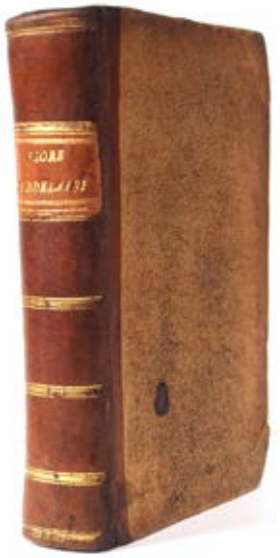
„A problem when inking plates in the old manner... had been the difficulty of ensuring that the inking was even, and many prints certainly show heavier inking on one part of the leaf than another. One who sought a better way to deal with this was Ernst Wilhelm Martius (1756–1849), a Regensburg pharmacist who devised a better way of inking leaves on a polished copper plate: the copper shining through made it easy to see whether any areas were underinked" (Cave, p. 52).

Martius published two books containing nature prints, the largest being Icones Plantarum Originales ('Original Images of Plants'), issued in 1780. The second, Neueste Anweisung, Pflanzen nach dem Leben abzudrucken ('New Instructions on Taking Prints from Fresh Plants'), was published in 1784 and contains an explanation of his method, along with a short history of nature printing. The title page, shown below, depicts the press he devised for making these prints. Even with these and other advances, nature printing was still tricky. Unlike metal plates or woodcuts, which can withstand thousands of impressions, plants can only be used to make ten or twenty prints. It is probably for this reason that most known copies of Neueste Anweisung contain only one or two plates with a different selection in each copy, as different plants were substituted into the press.The copy here is unusual in that it contains four plates: bittersweet, club moss, lilly of the valley, and belladonna. Our copy is also interesting because it retains its original paper wrappers, rather than having been rebound in leather. Up to the 19th century books were often sold in cheap paper or board bindings because it made them less expensive, and purchasers generally had them rebound in something sturdier. The tradition of nature printing, not just with plants but also animals and fish, has carried on to the present day, and is popular among artists as well as scientists and nature enthusiasts.

Convallaria maialis Linn.

Atropa Belladonna Linn.

With 15 Nature Prints of unknown Printing Process



LATERRADE, Jean-François; BONNET, Marcellin - Éloi et J. E.(ill.)

Flore bordelaise ou description caractéristique des plantes qui croissent naturellement aux environs de Bordeaux, avec l'étymologie, le site, l'époque de la floraison, etc. ; leurs propriétés et leurs principaux usages ; précédée de notions élémentaires sur la botanique. Dédiée à M. le Comte de Lynch, Pair de France, Grand Cordon de la Légion d'honneur, maire honoraire de Bordeaux. Seconde édition, entièrement refondue et augmentée d'un essai de la flore de la Gironde. – Bordeaux, André Brossier, 1821. 8vo (178 x 113 mm) 516 pp., (3), (1) and15 leaves with colored „nature – prints" by the process of Bonnet. Contemporary half calf with morocco label, little spotted also on the plates, front-fly with commentary in ball-pen (not so nice), but fine copy overall.

EUR 4.900.-

Untrouvable of „Nature-printing". Only one copy known.

Exceedingly rare copy with the „nature printed" plates, normally missing although announced verso title.

Marcellin Eloi Bonnet was an eye surgeon and pharmacist, born at Limoux in 1766. He worked in collaboration with his son of whom nothing is known. He still appears on the lists of the pharmacists of Carcassonne in 1821 but the fact that the present work was carried out by his son alone suggests that he must have died the same year or at least that he was not able to take part in it. The Bonnets participated in a total of three works, the copies of each of which can hardly be counted on the fingers of one hand. The first book to have illustrations by Marcellin Bonnet and his son was published by the distinguished Parisian scientist and botanist Nicaise Auguste Desvaux (1784-1856): Phyllographie, ou histoire naturelle des feuilles (1809) of which only the first two issues appeared accompanied by 32 plates.
The second, their masterpiece, the Facies plantarum contains a number of plates that varies according to the edition (from 45 to more than 300 for the copy of BnF). And finally, the present work of which the 15 plates made by Bonnet fils can only be found in a few copies of this second edition of La Flore bordelaise. The details of their process were kept secret, but seem to have involved printing in intaglio with careful colouring of the image of the leaves before printing - a method usually associated with developments forty years later.

„Phyllographie is a somewhat mysterious book. The only text reference to its plates is on page xii and xiii of Desvauxs introduction, in which he says simply that the book called for a large number of figures, coloured by a new process developed by the Bonnets, and unique to them. The quality of the prints, Desvaux said, was impossible to achive by any process prviously known, and their work procured a perfect correspondence between the leaf in nature and as printed by them. … The technique seems very like those developed in the middle of the 19th cent. - but could not be, since the latter processes were absolutely dependent on electrochemical processes and materials unknown before the 1840s. … It seems very probable the Bonnets had developed a method by which they could etch a copy of a leaf on an intaglio plate, using a soft ground - or perhaps a method like the Autotypography process patented by George Wallis in 1860." (Cave, Impressions 73/74)
Rarissime ouvrage imprimé par 'impression naturelle' dont on ne connaît que un autre exemplaire. C'est un des très rares ouvrages a avoir été imprimé de cette manière en France. Marcellin Bonnet, (1766- après 1822) né à Limoux était chirugien oculiste et pharmacien. Il a été reçu pharmacien par la jurande de cette ville en 1784. Il a commencé l'autre ouvrage „Facies plantarum" vers 1809 à Carcassonne. Le procédé employé pour imprimer ces belles planches nous est aujourd'hui complètement inconnu. 'Par quel procédé Bonnet a-t-il pu reproduire si fidèlement les plantes qui y sont représentées, si ce n'est par la plante elle-même. En retournant les feuillets on peut voir au verso de chacun d'eux, la trace en relief de la plante, ce qui prouve que le dessin de la nervuration des feuilles, la silhouette et les teintes ont été décalquées simultanément sur le vélin et par pression. Par quel moyen l'auteur a-t-il pu faire de chaque planche une aquarelle inimitable et absolument fidèle, nous l'ignorons.' (L. Chartier, Bulletin de la Société d'études scientifiques de l'Aude, 1892).

Pritzel 5576 without plates; not in „Botanica in originali" by BnF (1993), not in Cave. Lit.: P. Julien. Un mystere: le Facies Plantarum; in: Revue d' Histoire de la pharmacie 285 (1990), pp. 156-158.

KVK: only one other copy found (BnF FRBNF30747317) which has the plates. The page pagination would corres-pond with a first edition of the text. No plate count given.

PROVENANCE: René GUYOT (1874-1970), membre fondateur de la Société d'Étude et de Vulgarisation de la Zoologie agricole qu'il présida en 1933 et 1934.

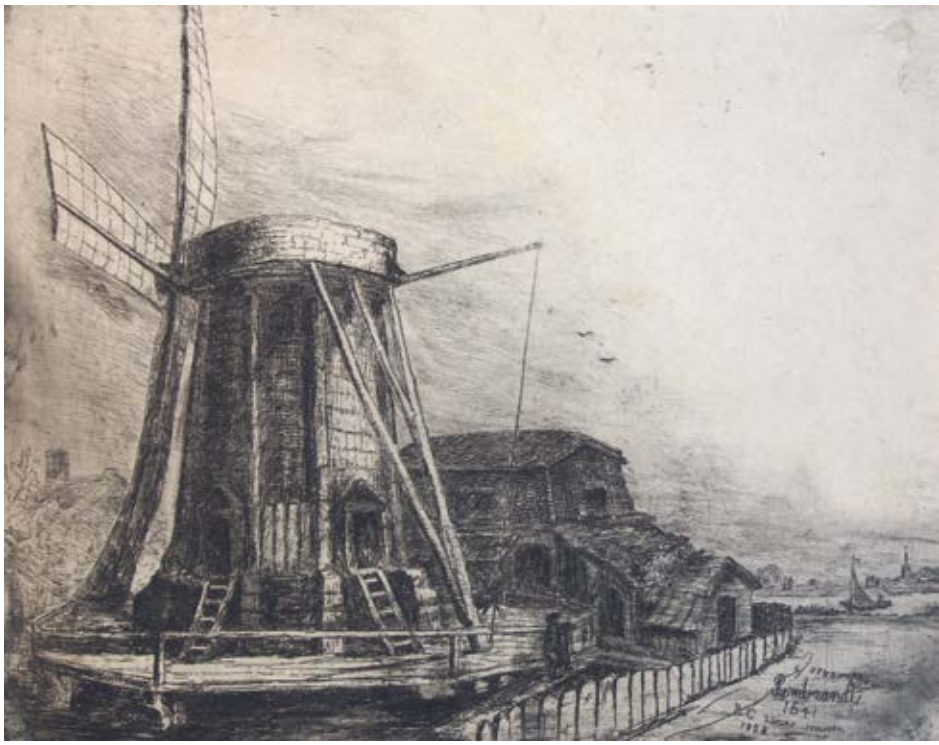
Artistic Nature-Printing – wild and passionate

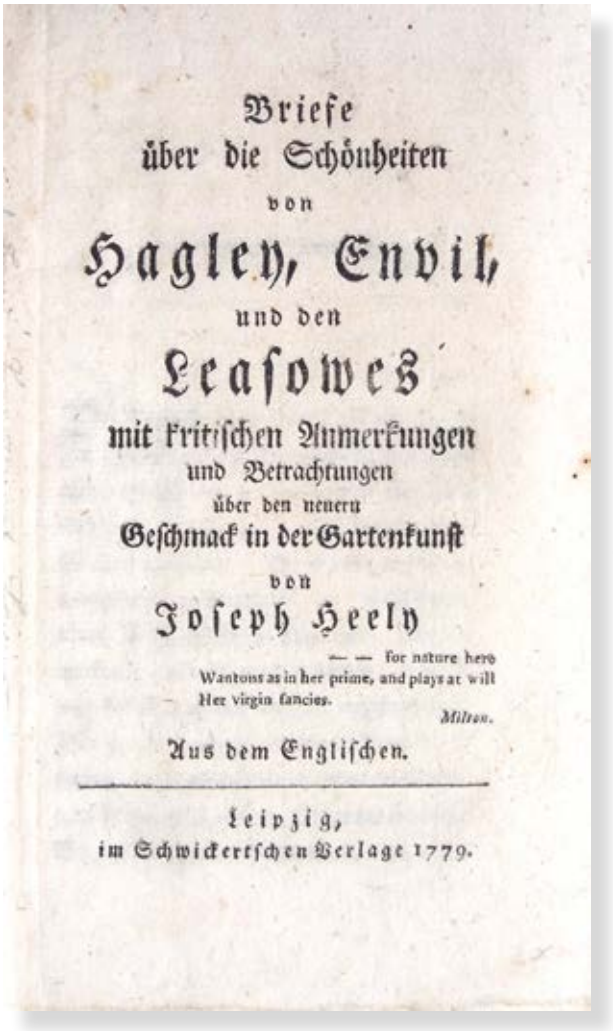
LUCAS, Richard Cockle.

Nature printing in many and diverse ways by R. C. Lucas, Sculptor. Natus 1800. Fecit 1878. (Manuscript inked title on front paste-down). An album with mounted original illustrations in various techniques — 35 nature prints — various sizes, 15 ca 340 x 235 mm, others smaller, 31 etchings; 10 original drawings. 92 numb. pages. Contemporary velvet binding. Folio (415 x 295 mm). Binding rubbed. Paste-downs soiled.

EUR 32.000.-

The artist, architect, and author Richard Cockle Lucas (1800–1883) was an intriguing creative figure of the nineteenth century who fell into obscurity despite his own extraordinary efforts to build a place in the historical memory. As well as producing skilled sculptural works in wax, ivory, and stone, Lucas's multi-disciplinary approach combined print-making, nature-printing, stained glass, photography, performance, building, antiquarianism & forging, collecting and writing. Looking from today's performance or multimedia artists, this seems a quite modern approach to art with interrelated themes of memory, identity, and consciousness.
Richard Cockle Lucas was a well-known Victorian sculptor, competent etcher and at the same time an innovative early amateur in photography – inventing „the selfie" already in his time.
He was a noted eccentric (of the best Victorian kind), having become fascinated by the possibility of using photographs to convey mood, he made a long series of photographic portraits of himself („selfie"), intended to illustrate various emotions; the album he sold to the British Museum.
In the late 1850's he started experimenting with nature-printing (due to his photographic experience) and in nature printing he created some of the earliest 'artistic' nature prints in England (and probably elsewhere), not intended for a scientific context, but as artistic expression.
"His technique is at first sight fairly simple and unsophisticated, but Lucas's skill in composition helped him produce prints which were visually very effective. ... Lucas approached nature printing form the viewpoint of an artist, not a botanist, and appears to have inked leaves using a range of oil colours which he thought would best represent the hues of the originals, and then making further painterly adjustments to the shading and colouring on the resulting prints. Most published descriptions of Lucas's work are rather condescending, suggesting that he was only an amateur whose work was well below that of Henry Bradbury in quality, but his prints had a very different purpose" (Roderick Cave in Impressions of Nature; A History of Nature Printing p. 126).
This original „manuscript" album, assembled by Lucas in the 1870's for his grandson Albert Richard Henry Lucas comprises a large number of Lucas' artistic colour nature prints, hand-coloured examples of his engravings, a photograph and original drawings.
The British Museum holds a volume including photographs, etchings and original pen and ink sketches by Lucas but with only a dozen of his nature prints. Apart from that album material by Lucas is of considerable scarcity in the market. A further album with photographs by Lucas and a few nature prints is hold at Denison University, Ohio.




Briefe
über die Schönheiten
von
Hagley, Envil,
und den
Leasowes
mit kritischen Anmerkungen
und Betrachtungen
über den neuern
Geschmack in der Gartenkunst
von
Joseph Heely
— — for nature here
Wantons as in her prime, and plays at will
Her virgin fancies.
Milton.
Aus dem Englischen.
Leipzig,
im Schwickertschen Verlage 1779.

English Landscape Gardens

HEELY, Joseph.

Briefe über die Schönheiten von Hagley, Envil, und Leasowes mit kritischen Anmerkungen und Betrachtungen über den neuern Geschmack in der Gartenkunst. Aus dem Englischen. Leipzig, Schwickert, 1779. 8vo. (178 x 110 mm) (5), 6–222 pp., (4) Contemporary paper card boards, rubbed and soiled. Uncut copy. Otherwise clean and fresh.

EUR 1.200.-

In 1777 R. Baldwin of Pater- Noster Row, London published a guide book to the three great West Midland Gardens of the mid-18th century entitled Letters on the Beauties of Hagley, Envil and The Leasowes with critical remarks and Observations on the Modern Taste in Gardening by Joseph Heely. In an Advertisement in the front of the book he writes that he had published some time ago a concise description of the three gardens 'merely as a companion to those celebrated recesses', but then complains that although his writings have been well received many others have plagiarised them and that the time has come for 'an edition on a more extensive plan.'

'Nothing is known of Heely. I suspect that he may have been a local clergyman or small landowner, intimate with these three gardens to write with knowledge and affection of them.' (John Dixon) It is possible that he was the son of Richard Heely of Birmingham, then in the County of Warwick who was a gunsmith and was one of at least seven children left with an annuity of twenty pounds a year when his father died in 1770.- Dochnahl pp. 67

Aloe

MINDERER, Raymund.

Aloedarium Marocostinum. Augustae Vindelicorum (Augsburg), Christoph Mang(ium), 1616. 8vo (160 x 100 mm). 12 Bll., 235 pp., (1), 5 Bll. (last 2 blank) with engraved title. Contemporary red vellum, ties missing, old ownership inscription on lower title page, slight browning, somewhat stained and worn, else a fine copy in first appearance.

EUR 1.400.-

Rare first edition of a work on aloes, which also treats myrrh, crocus, thyme, rhubarb and their preparation with a long chapter on: De liquoribus ad confectionem pilularum requisitis, written by a iatrochemist following Paracelsus. The work describes also the preparation of tartarum saturnisatum (lead carbonate) by precipitating lead acetate solution with potassium carbonate. The acetum ammoniacum is a solution of gum ammoniac in vinegar, not ammonium acetate. (pp. 99). Minderer is always credited with the use of a solution of ammonium acetate made by dissolving sal volatile in distilled vinegar, which Otto Tachenius called „water of Minderus" or spiritus ophthalmicus Mindereri. Raymund Minderer (ca. 1570–1621), a famous army surgeon, iatrochemist and physician in Augsburg and to the emperors Matthias and Maximillian, wrote several chemical and medical works. He says of himself: „ Although I was born among chemical vapours and brought up amidst spagyric furnaces, I have as a physician followed the Hippocratic and Galenical method … if I … occasionally employ metallic and mineral remedies, I do this that they may supplement vegetables pure and simple to which the new and graver or inveterate diseases will not yield. I do this that medicine may not despair." (Partington II, 171). The work has attracted some interest as it was twice reprinted after his death in 1622 and 1626.- VD 17 23:295904SM; Krivatsy 7920; Wellcome I, 4328; Neu 2771; Schelenz 482; Pritzel 6248; Hirsch-H. IV, 215; Partington II, 171.2; not in Neville Historical.

Advertising a Xylotheque

SCHLÜMBACH, Friedrich Alexander von.

Abbildung der hauptsächlichsten in- und ausländischen Nadelbäume, welche insbesondere in dem Königreich Baiern wild gefunden werden, nebst den sich am häufigsten dabey aufhaltenden schädlichsten Insekten; mit Anzeige der zweckmäßigsten Vorbauungs- und Ausrottungs-Mittel der Insekten; dann mit einigen Fragen und Antworten aus der Forstwissenschaft und mit einer Anleitung zu amtlichen Berichten nach dem Baierischen Geschäftsgang; ingleichen mit einer – dem Ersten Theil beyliegenden Holzsaamen-Preistabelle. 2 Vols.. – Nürnberg: zu finden bey dem Verfasser (at the author), gedruckt bey Gustav Philipp Jackob Bieling, 1810–1811. 4to (240 x 200 mm) VI, 76 pp. with 9 engraved plates, partly hand colored; VII, pp. 77 – 132 with 9 hand col. engraved plates, numbered: X – XVIII. Contemporary green paper-card boards, floral borders on cover, gilt edges, heavily rubbed and soiled, especially to vol. two. Otherwise fine on blueish paper.

EUR 2.800.-

Rare first edition of a work on Pinales and their enemies written by the German botanist and forester, Friedrich Alexander von Schlümbach (1772–1835) and serving as an introductory text to his „Holzbibliothek“ (Xylotheque), a collection of wood samples in the form of gift boxes (thus wood library) for which he is mainly known today.

Nearly every volume was made of a different species of tree. Schlümbach designed the boxes similar to the earlier wood library of Carl Schildbach with the spine of each volume fashioned from bark. Between 1805 and 1810 he made with the help of Johann Goller, several wooden libraries, nine series of which are still preserved at the beginning of the 21st century in Sweden, the Netherlands, Hungary and Germany. The collection of Alnarp (Sweden) has 217 volumes, representing 200 species, and is by far the most complete series still in existence. The king of Holland, Louis Bonaparte ordered, around 1809, from Schlümbach three collections of wood libraries to offer them to the universities of Harderwijk (146 vols.), Leiden (148 vols.) and Franeker (158 vols.). Xylotheques date back to the later 17th century, when wood specimens began to appear in cabinets of curiosity. Over time, they grew larger and more systematic, with hundreds of individual volumes in a single collection. The oldest extant collection was established in 1823 at the University of Leningrad, and by the middle of the century they had been established in many European countries. In older xylotheques, the wooden volumes were typically made out of the same wood as the specimens inside and sometimes decorated with tree bark and associated lichens and mosses. Each volume housed seeds, flowers, twigs, and leaves from the corresponding tree or bush, along with a written description hidden in a small compartment set into the inner spine. An alternative form of xylotheque found in Japan and elsewhere featured paintings of the plant parts rather than actual field specimens.

Schlümbach worked in Franconia from 1811–1822 in Theta (Bayreuth) and later until 1831 in Hipoltstein. – Stafleu, Cowan, Taxonomic Literature 10.835; Feuchter- Schawelka, Freitag, Grosser (2001). Alte Holzsammlungen. Die Ebersberger Holzbibliothek: Vorgänger, Vorbilder und Nachfolger. 2001. pp. 86 ff.

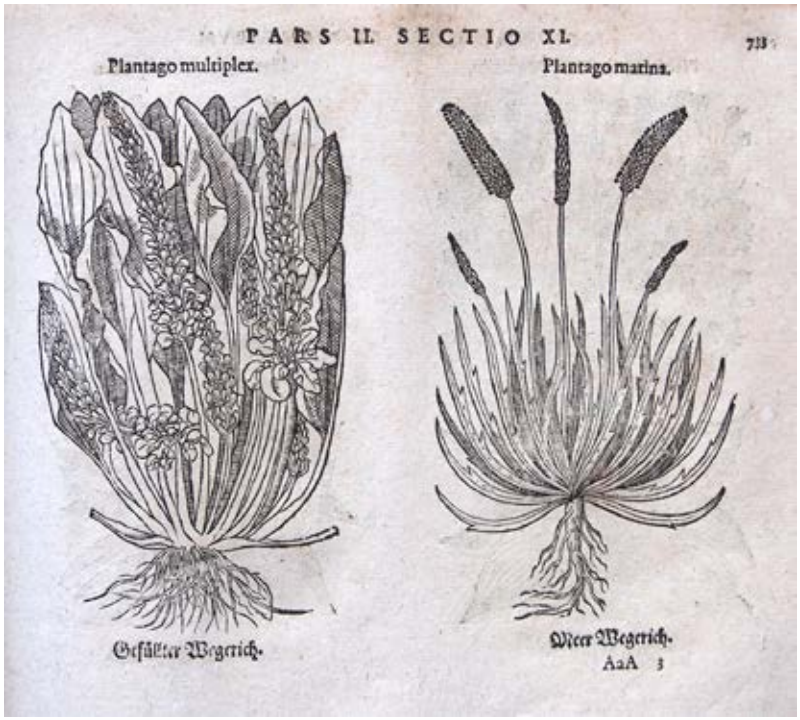
First Botanical Field-Guide and Model Book for Artists

(Jakob THEODOR) Iacobus Theodorus, called Tabernaemontanus.

Eicones plantarum seu stirpium, arborum nempe, fructicum, herbarum, fructuum, lignorum, radicum, omnis generis; tam inquilinorum, quàm exoticorum : quae partim Germania sponte producit, partim ab exteris regionibus allata in Germania plantantur; in gratiam medicinæ reique herbariae studiosorum, in tres partes digestoe; adiecto indice gemino locupletissimo. – Francofurti ad Moenum: [Nicolaus Bassaeus], 1590. oblong 4to (192 x 250 mm) [8], 1128 pp., [16] p. with 2255 text woodcuts of herbs, flowers, plants, trees etc. Contemporary vellum, handwritten paper title label on spine, bent, rubbed and soiled, hinges on one side little cracked, but holding, front fly with old colored portrait in ink, color oxidized. Nice old Ex-Libris (?) on front-fly. Partly browned, little stained and a few woodcuts slightly colored by a little later hand. Good copy in first binding.

EUR 8.500.-

First edition of this smaller format botanical field-guide by one of the fathers of botany; Tabernaemontanus, his second book. The Frankfurt print-shop of Nicolaus Bassée (Basse) decided to print a herbal without text in a size which could be used to take into the field to identify plants. Further research could then be done in the studio with more elaborate books. On the other hand the publisher wanted to book could also be used by artists as a model-book to copy certain plant illustrations. The illustrations here were later used by Gerard for his Herball. The „last of the botanists of the 16th century" and one of the most influential, Iacobus Theodorus (1522–1590), also known as Tabernaemontanus, produced two extensive works on botany. Educated as a physician at Padua and Montepellier, Theodorus was an associate of Hieronymus Bock and Otto Brunfels. His Neuw Kreuterbuch (1588–1591), sometimes considered the most important work of botany of the 16th century, includes descriptions of numerous plants brought back to Europe from the colonization of the New World, including Indian corn and the potato. Theodorus' intention was to make knowledge about the medical uses of plants available to a wide audience, and to that end, he included an index in twelve languages that included the common, as well as learned names of plants. Based partly upon illustrations from earlier works, the woodcuts from the Neuw Kreuterbuch were reissued in 1590, without the text, as the Eicones plantarum seu stirpium. The majority of these engravings enjoyed a life long after 1590. The plates were acquired in Frankfurt by John Norton, printer to the King of England, and were re-used in John Gerard's famous Herball or Generall Historie of Plantes (1597), one of the most influential English herbals of the 17th century. Only 16 text woodcuts were new. The enlarged edition of 1631 of Gerard's Herball used then the woodblocks of the Plantin - Moretus print-shop. – VD 16, T 829; Isphording 86; Nissen, BBI 1932; Pritzel 9094; Alden-L. 590/66; not in Hunt, Heilmann 297: "Da der voluminöse Wälzer sehr unhandlich war, ließ der Verleger Bassaeus nach dem Muster von Fuchs und Egenolph für den täglichen Gebrauch einen textlosen Band im Quartformat mit 2255 Holzschnitten drucken ... Die Holzstöcke von Tabernaemontanus wurden von John Norton, England, angekauft und 1597 zur Illustration von Gerards Herball verwendet." Swadzba, 1965, pp. 36: nine resp. ten woodcuts are related to absinth.



American Trees & Shrubs for European Gardens

WANGENHEIM, Friedrich Adam Julius von.

Beschreibung einiger nordamericanischen Holz- und Buscharten, mit Anwendung auf teutsche Forsten; zum Gebrauch für Holzgerechte Jäger und Anpflanzer fremder Holzarten […]. Göttingen, Johann Christian Dieterich, 1781. 8vo. (175 x 105 mm). (2), 151 pp., (9). Contemporary paper card boards, rubbed and soiled, otherwise clean and fresh copy.

EUR 1.600.-

Rare first edition, a description of North American trees and shrubs written for the use in European landscape gardens based on observations Wangenheim made between 1777 to 1780 in North America as soldier as the title states: „in dortigen Provinzen seit den Jahren 1777 bis 1780 gemachten Bemerkungen“

Friedrich Adam Julius von Wangenheim (1749 - 1800) was a german dendrologist, and was the citing authority for a number of eastern North American plant species he described. He was also a Hessian soldier, and during his service in the thirteen colonies devoted his leisure time to botanical studies of American fo-rests. When he returned to Prussia, he wrote up his research and strongly advocated importing suitable American species of trees and shrubs for use in German forests and gardens. In 1785, he wrote a memoir to the Berlin Academy showing the immense advantages that would be derived from the naturalization of several species of American trees. On request of the academy, he was sent to Gumbinnen (Gusev near the border with Poland and Lithuania today) as director general of the waters and forests for eastern Prussia, where he carried on experiments on a large scale and planted a great number of American trees. Erste Ausgabe. Nach einer kurzen militärischen Laufbahn ließ sich von Wangenheim (1749–1800) zum Forstmann ausbilden. 1777 ging er jedoch als Offizier, einberufen vom Landgraf von Hessen-Kassel, für die englische Krone nach Nordamerika und diente dort acht Jahre in einem Jägercorps. Noch Jahre vor seiner Rückkehr nach Europa erschien die kleine Schrift, die auf »in dortigen Provinzen seit den Jahren 1777 bis 1780 gemachten Bemerkungen« basiert.

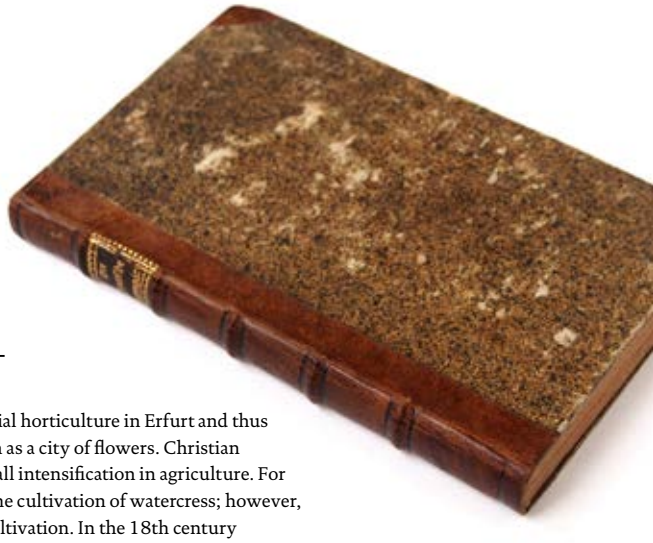
Beſchreibung
einiger
Nordamericaniſchen
Holz- und Buſcharten,
mit Anwendung
auf teutſche Forſten;
zum Gebrauch
für
Holzgerechte Jäger und Anpflanzer
fremder Holzarten
von
Friedrich Adam Julius von Wangenheim
Capitain beym Hochfürſtl. Heſſen-Caſſeliſchen Feldjäger-Corps in Nordamerica.
aus den
in dortigen Provinzen ſeit den Jahren 1777. bis 1780. gemachten Bemerkungen.
Göttingen,
bey Johann Chriſtian Dieterich.
1781.

Garden Trees

DAULING, Johann Georg.

Der Deutsche Baumgärtner. Nach den Grund- und Lehrsätzen der berühmtesten Männer in der Gärtnerey. Besonders aber Des Franzosen, Mr. Quintinye, des Engländers Herrn Millers, und des Deutschen Herrn Reicharts. Mit Figuren. – Schleusingen, Johann Christoph Rennsperger 1764. 8° (175 x 110 mm) (24), 260 pp. (but 262 pp.) with woodcuts on five plates, partly fold. and within text. Contemporary half calf, gilt spine in compartments, morocco label, fine copy.

EUR 900.-



A compilation on the cultivation of trees by Johann Georg Dauling (- 1786) based on writings by other authors like Jean de la Quintinye, gardener to Louis XIV., Philip Miller, author of Gardener's Dictionary, and the Erfurt based German gardener Christian Reichart (1685-1775), also incorporating his own ideas: tips on planting and refining of trees, storage and manufacturing of the fruits (including the production of cider and various recipes). Christian Reichart (Reichardt) is considered the founder of horticulture in Germany. Reichart is regarded as a pioneer and promoter of commercial horticulture in Erfurt and thus also established Erfurt's reputation as a city of flowers. Christian Reichart pursued what today we call intensification in agriculture. For example, he was concerned with the cultivation of watercress; however, he was concerned with planned cultivation. In the 18th century he determined the development of horticulture and agriculture in Germany and Johann Georg Dauling followed him.- Dochnahl 12.

Art Experiment between Photography, Nature Prints & Modernist Photograms

(Silhouetting Herbarium by an unknown Artist).

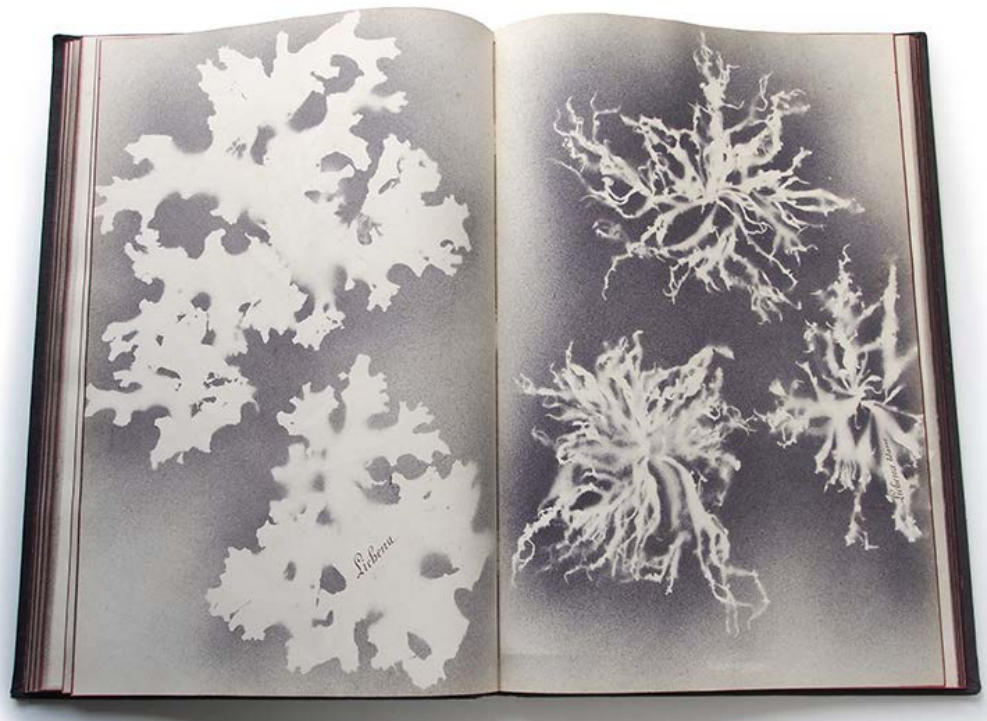
Dessin. (France ca. 1890). A book of spray paint images of botanical specimens with a spray painted title consisting of about a thousand seeds arranged to form the word 'Dessin' and more than 170 spray painted images of botanical specimens on 145 pages, 63 blank pages. Folio (495 x 325 mm). The images are generally executed in black paint resulting in images with a highly differentiated palette of black, grey and white hues resembling nature prints, cyanotypes and – quite surprisingly – modernist photograms in their visual appearance. One image with maroon paint, most with the French names of the plants written in brown ink in a French batard coulée script. 4 images with hand-colored silhouettes of paper cut-outs of butterflies and other insects, birds and even horses. […] Contemporary black cloth, red edges. Front cover with manufacturer's letter-press printed label with 3 blank lines for a manuscript title above 'Fabrique de Registres. Imprimerie – Librairie Eyboulet, Ussel'. Covers slightly rubbed. An overall fine copy.

A remarkable botanical album comprising images of botanical specimens made directly from the specimens through a silhouetting or spray-paint technique. Silhouetting is a process of reproducing designs by laying them on a surface and spraying the exposed parts with a tinting, here white, fluid. This technique of Paint spraying was already use by caveman / cavewomen to paint hands on a wall (accomplished by blowing paint through hollow bones, yielded a finely grained distribution of pigment, similar to an airbrush). With the invention of photography these technique was re-discovered. An inspiration might have been Anna Atkins (1799–1871) sun pictures (cyanotypes) of seaweed. Guided by her interest in sea algae, she decided to apply the cyanotype technique in 1843 to this marine specimens, as a means of preserving her observations and overcoming "the difficulty of making accurate drawings," ushering in a whole new medium for scientific illustration. She self-published a pioneering volume Photographs of British Algae: Cyanotype Impressions, with the dedication: "To my dearest Father this attempt is affectionately inscribed" in 1843. Capturing the intricacies of plant life, she created strangely beautiful algae illustrations that were somewhat abstract in their simplicity. The images were surprisingly modern-looking, with outlines of the specimens delicately crawling across Prussian blue backdrop.

The modernist beauty of her work inspired similar works that followed her later; works that not include actual specimens but direct impressions of natural specimens. A process which produces similar images in style is the air-brush, spray - paint technique used in the album here and to produce post-cards at the end of the 19th century.

It seems that the spray paintings here were made directly on the album leaves after binding. The 170 spray paintings or silhouettes begin with ferns and include various leafy plants, grasses, a few flowers, and end with an unlabelled specimen of Cannabis sativa. This kind of spraying technique renders a clear silhouetted image of single flat leaves, whereas more three-dimensional parts of finely textured plants tend to blur slightly but this effect doesn't compromise the artistic value of the image on the contrary it enhances a distinct feeling of the three-dimensional nature of the specimens. As the spray paint technique was often used by photographers to retouch photographs, it is not unlikely that this album was made by a photo amateur.

A precursor to this technique could be seen in the application of spray-painting to a certain variety of Mauchline Ware the so-called Fern Ware introduced about 1870. The technique was developed in the 1870 and propagated to retouch photographs. From the outset one of the early inventors, Walkup, along with his wife Phoebe, a photo retoucher, tirelessly promote his airbrush. Their first demonstration was at the 1882 Photographic Convention in Indianapolis. The book bears no name of the botanist/artist who produced the spray paintings, but the album bears the name of the printer, bookseller and stationer Eyboulet in Ussel, flourishing there from 1888 to 1949, trading under various names.



Scientific Art

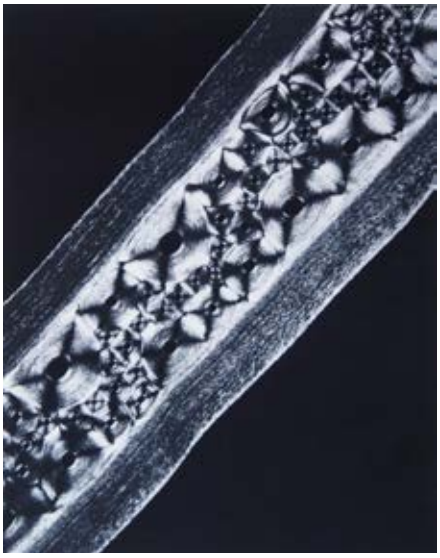
ALBIN-GUILLOT, Laure.

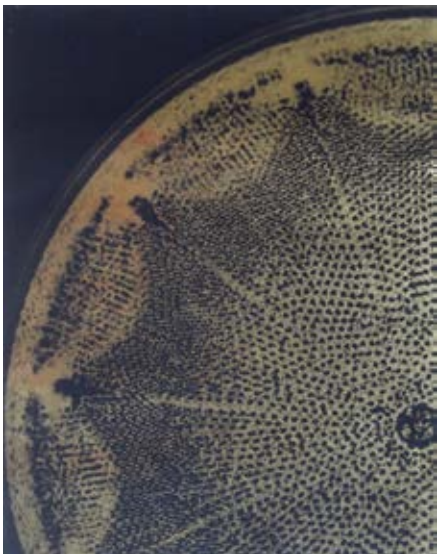
Micrographie décorative. Préface de Paul Léon. Paris, Draeger Frères 1931. Folio (435 x 385 mm) 4 Bl. text and 20 photogravures on different colored or metallic paper. Image in size: 285 x 225 mm, each photogravure mounted within passe partout (425 x 360 mm). Spiral-bound original blind embossed hard cover boards in original portfolio folder (440 x 405 mm) The binding cover minimally spotted and a tiny missing part at the upper corner under the metal spiral of the front cover. The cardboard folder stained and with stronger traces of use. Inside very nice and extraordinarily clean copy..

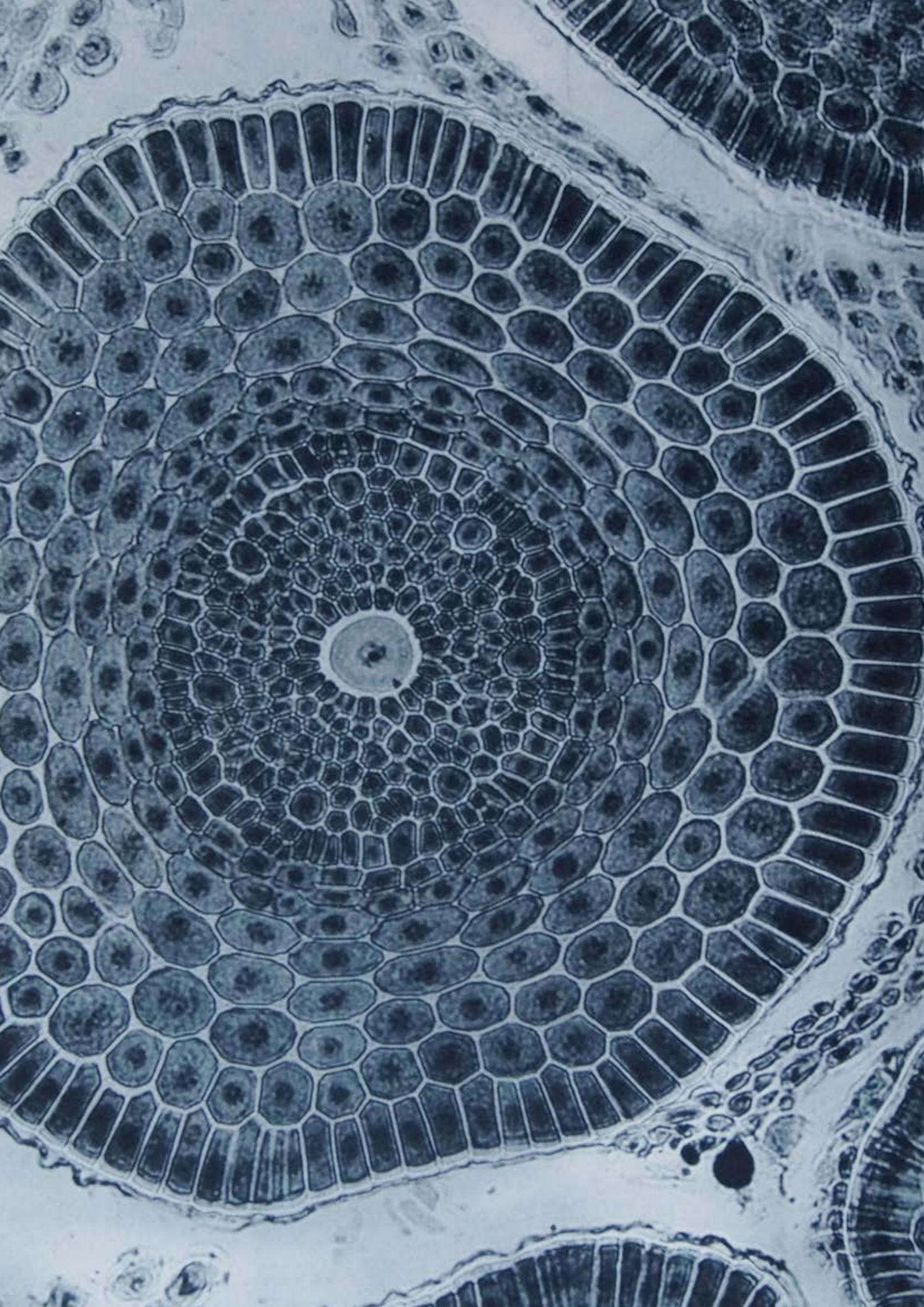
EUR 9.000.-

One of 300 numbered copies (this being: no. 253) of a sumptuous produced classic Art Deco Book which was favourably received by her contemporaries, the shimmering patterns echoing the lapidary and marquetry work of Art Deco designers. Its limited circulation (305 copies), however, and the luxurious nature of the production, ensured that this particular example of artistic - scientific photography did not achieve the widespread popularity of Blossfeldt's botanical studies. The study of geometric forms in nature and the study of fractals in late 20th century have further generated interest in this finely printed book.

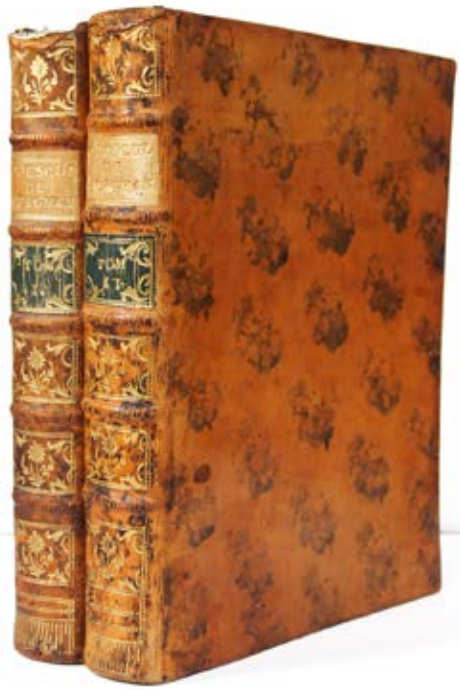
„The project was a rare collaboration, not only between scientist and photographer but also between husband and wife. Laure Albin-Guillot was one of the most successful Parisian photographers of the 1920s, her style a commercially astute blend of pictorialism and modernism. She was renowned for a wide range of photography, her portraits, nudes and landscapes, her illustrations for books of modern French poetry, her cosmetic and pharmaceutical advertisements. Micrographie décorative, however was a more personal project, a memorial to her husband, who had died in 1929. He had been a specialist in preparing specimens for the microscope and his wife had helped him to make microphotographs. In these artistic experiments here, microscopic preparations were privately printed by photogravure onto various colored and metallic papers by the well-established Parisian printing house of Draeger Frères, who were responsible for many artists' books. It was included in Beaumont Newhall's historical overview of photography at New York's Museum of Modern Art in 1939: Photography 1839-1939." (Parr/Badger, The Photobook: A History I, 80)

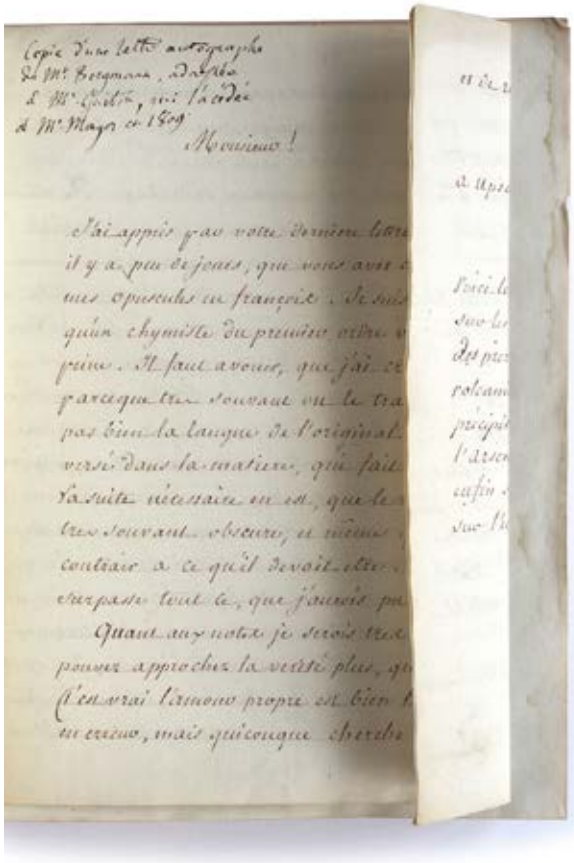






With a copied Letter by Bergman
Large Paper Copy





BERGMAN, Torbern Olof.

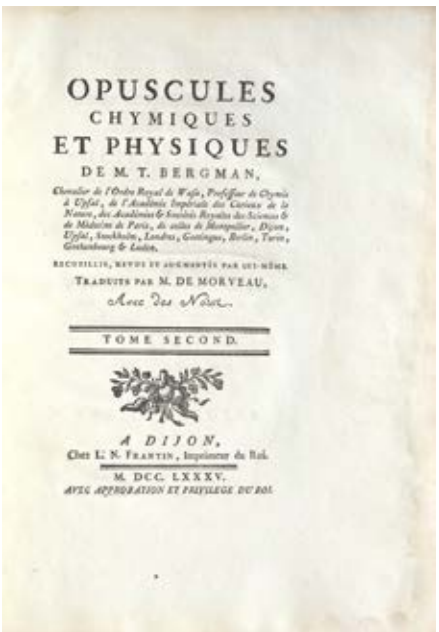
Opuscules Chymiques et Physiques de M. T. Bergman,… recueillis, revus et augmentés par lui-même. Traduits par M. De Morveau, avec des notes … 2 Vols. – Dijon: chez L. N. Frantin, Imprimeur du Roi, 1780 – 1785. 4to (240 x 175 mm) 8 Bll., XXXI, (1), 446 pp., 1 Bl. add. & corrections, with a large folding table of analyses (facing p. 268), and 2 fold. engraved plates; 2 Bll., XVI, 525 pp., (1), 1 Bl. add. & corr. and two fold. engraved plates. Fine copy in contemporary mottled calf, spines richly gilt in compartments, two morocco lettering labels on spine, rubbed and soiled, minor defects on upper spine, little water-stained in inner margins of vol. one, but a very bright and clean, broad margined copy.

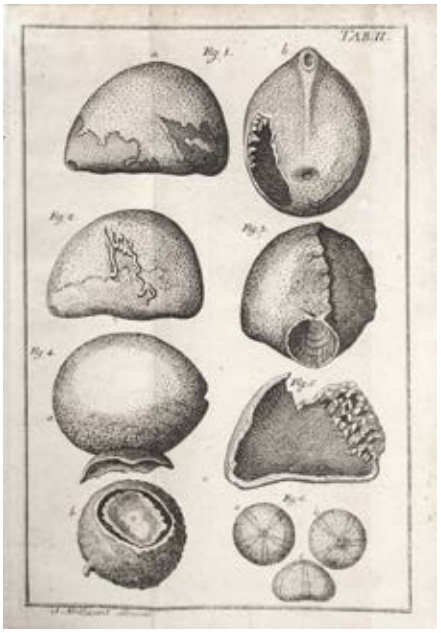
EUR 2.800.-

First French edition of the first two volumes of the Opuscules physica et chimica (Latin, 1779/80): our copy is unusual large **(large paper copy ?)** and with a letter in contemporary hand by Bergman to Morveau discussing translation problems of the book.

The translation was made by the chemist and mineralogist Mme. Claudine Picardet (later Guyton de Morveau) and supervised by Guyton de Morveau with the approval of Bergman who himself supplied corrections and additions, written in letters to Morveau (of which one is copied here in contemporary hand and bound with). De Morveau added an introduction to each volume, plus many long and valuable notes, which explain and develop Bergman's ideas and add value to the book, but when Torbern Bergman died in 1784, de Morveau discontinued the translation as the last three volumes of the latin Opuscules physica were edited by Hebenstreit posthumously. Among the French chemists of the late eighteenth century Mme. Claudine Picardet (1735–1820) stands out for her extensive translations of scientific literature from Swedish, English, German and Italian to French. She translated three books and thousands of pages of scientific papers, which were published as well as circulated in manuscript form. She hosted renowned scientific and literary salons in Dijon and Paris, and was an active participant in the collection of meteorological data. She helped to establish Dijon and Paris as scientific centers, substantially contributing to the spread of scientific knowledge during a critical period in the chemical revolution. Ferchl and Ferguson mention only the first vol. and Partington says the second vol. is very rare.

The Swedish chemist, mineralogist, geologist, physicist & astronomer Torbern Olof Bergman (1735–1784) entered the University of Upsala at the age of seventeen, from which his family expected he would graduate in either divinity or law, although he preferred mathematics and natural science. However, through overwork he injured his health and during his convalescence he studied botany and entomology to such good purpose he was able to send Linneaus several new kinds of insect. He returned to the University in 1758, and upon graduation began teaching there mathematics and then physics. Upon the resignation of J. G. Wallerius from the chair of chemistry and mineralogy, Bergman became a candidate for the appointment. Although opposed by many, he had a friend in Crown Prince Gustavus III, and chancellor of the University, who gained the appointment for Bergman. He held this post until the end of his relatively short life (he died at the age of 49). Bergman's most important chemical contribution was his Essay on Elective Attractions, a study of chemical affinity. His other writings covered many subjects but are all related to some aspect of science, most particularly chemistry and mineralogy. For example, in 1761 he was the first to discover the planet Venus had an atmosphere. In chemistry, Bergman is considered the father of quantitative analysis, physical chemistry, modern chemical nomenclature, the concept of equivalent weights, and the electromotive series, and is the discoverer or made major contributions to the discovery of at least eight chemical elements: platinum, molybdenum, tungsten, manganese, cobalt, nickel, oxygen, and barium. In crystallography he has been considered a forerunner of Haüy in founding the science. He wrote the first great treatise in physical geography and he contributed substantially to our modern philosophy of science.- Cole 104; Blake 43; Bolton 301; Bouchard, Guyton Morveau 121; Duveen 66/67; Ferchl 37; Ferguson I, 99; Moström 165; Partington III, 183; Waller 11070; Wellcome II, 149; Neville Historical I, 124/25; not in Freilich; Sinkankas 578 (not seen).


OPUSCULES
CHYMIQUES
ET PHYSIQUES
DE M. T. BERGMAN,
TOME SECOND.
A DIJON,
M. DCC. LXXXV.



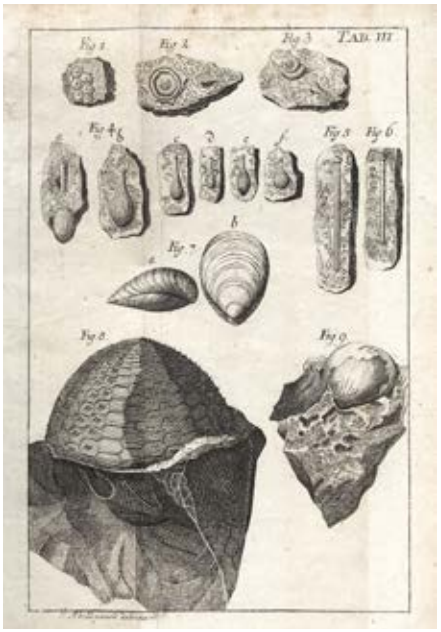
ABILDGAARD, Sören.

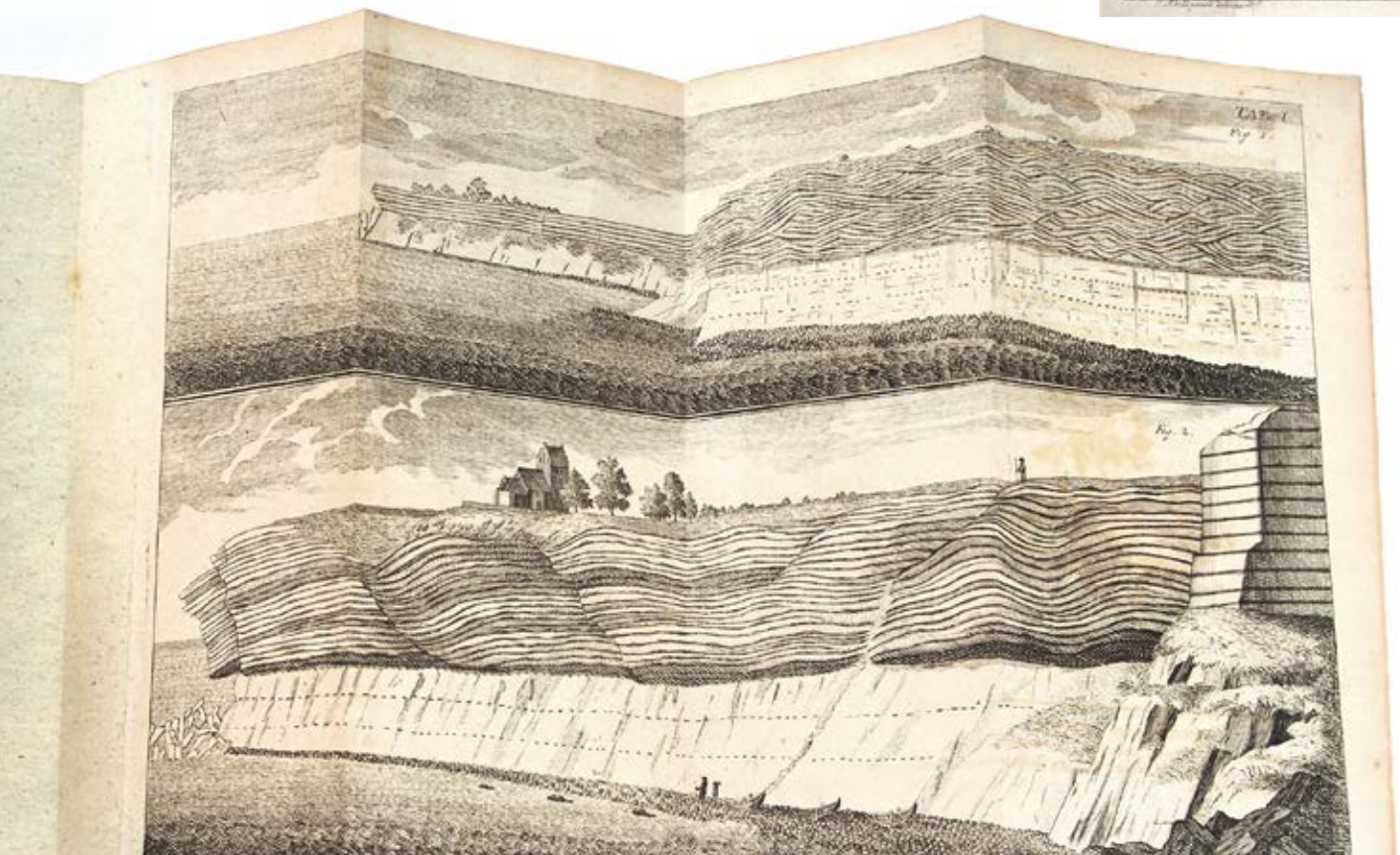
Sören Abilgaards Beschreibung von Stevens Klint und dessen natürlichen Merkwürdigkeiten, mit mineralogischen und chemischen Betrachtungen erläutert, und mit Kupferstichen versehen. Aus dem Dänischen übersetzt. – Kopenhagen und Leipzig: verlegts Franz Christian Mummens Witwe, 1764. 8vo (206 x 120 mm) 88 pp. with three folding engraved plates. Contemporary plain paper card boards, rubbed and soiled, especially spine. Otherwise fine copy in first binding.

EUR 1.400.-

Scarce German translation of Abildgaard's description of the fossil bearing chalk beds on the Danish Baltic coast, called Stevns Klint. The Danish draughtsman, mineralogist, antiquarian & naturalist Sören Pedersen Abildgaard (1718–1791) traveled throughout Denmark in order to create drawings of its antiquities, like tombstones, runes and other historic monuments. In 1753–54 he accompanied as an illustrator and painter the historian Jacob Langebek on his tour to Sweden and the Baltic provinces. He is also remembered for his studies of topographical and geological conditions and phenomena. A visit to the chert and fossil bearing chalk beds of Stevn Klint situated south of Copenhagen along Denmark's Baltic coast prompted Abildgaard to write in 1759 the first geological account of this interesting formation. Dedicating the book to King Frederick the Fifth, a description of the area is provided, including mineralogical and chemical observations on the chert nodules, fossil shells and the surrounding material. Abildgaard speculates that the chert is actually petrified soil. At the end of the volume are bound three plates engraved from the author's original drawings that show panoramas of the beds and various fossil shells found in the strata. Abildgaard also indicates he plans to write another book describing a similar formation in Møn. Modern geochemical research on specimens from Stevn Klint, a famous and classic formation, show that at the Cretaceous-Tertiary boundary, there is a high saturation of iridium and gold. This together with the presence of meteoric proportions of other metals provides further evidence of an asteroidial impact in the earth's distant past.

From 1755 to 1778 he worked as a master draftsman at the Royal Gehejmearkivet in Copenhagen. Over 900 of his drawings are presently kept at the National Museum of Denmark and at the Frederiksborg Museum in Hillerød and are regarded as important sources for antiquarian research.- VD18 15291707; Baltisches Biographisches Archiv I, 366; Poggendorff I, 4-5; Thomas, Dictionary of Biography, 35; Schuh online 2 ; Lit.: Poul Grinder-Hansen, Søren Abildgaard (1718–1791) - Fortiden på tegnebrættet, Nationalmuseet, 2011. Provenance: A. E. F. Graf von Schulenburg, Göttingen 1773; Grossherzogliche Bibliothek Neustrelitz (stamp verso title); privately owned by a Danish citizen. KVK: Köln, Darmstadt, Berlin, München; COPAC: BL London, NHM, Geological Society London; OCLC: no copy ?





Formative Drive

BLUMENBACH, Johann Friedrich.

Joh. Fr. Blumenbach … über den Bildungstrieb. – Göttingen: bey Johann Christian Dieterich, 1791. 8vo (152 x 90 mm) 116 pp. with three vignettes by Ernst Ludwig Riepenhausen. Later half calf period style, red sprinkled edges. Little browning throughout, but fine.

EUR 800.-

Last edition during his life time, as the author states in the foreword revised („mit verschiedenen Zusätzen und Anmerkungen zu vermehren Anlass gehabt"), of his essay on generation. First separate edition with vignette by Meil was in 1781 and another in 1789, an english edition was published in 1792.
The German anthropologist, physiologist and comparative anatomist Johann Friedrich Blumenbach (1752–1840) presented his concept of Bildungstrieb, or the formative force, an idea that influenced many in an embryological debate of his time and that affected developmental research and natural philosophy for more than a century. In his paper, "Über den Bildungstrieb (Nisus Formativus) und Seinen Einfluss auf die Generation und Reproduktion" ("On the Formative Force and its Influence on Generation and Reproduction") Blumenbach described Bildungstrieb as a force within all organisms that operated on their bodies throughout development in order to give rise to their final forms. Blumenbach's Bildungstrieb concept influenced the debate between preformationists and epigenesists, as it attacked the assumptions underlying preformationism. Previous authors, such as Wolff, in Russia had offered notions similar to Bildungstrieb, of vital forces that shaped the body. However, Blumenbach's concept went beyond those offered by other scholars, as it reinforced the arguments for epigenesis. He provided a framework for understanding a force for development that was both teleological, in that it acted towards a final form, and constitutive, in that it could organize development. Blumenbach applied his Bildungstrieb concept in his following works and various scholars utilized his concept. In the second edition of On the Natural Varieties of Mankind, Blumenbach used Bildungstrieb to explain the degeneration of an original type of human into the five varieties – which he later classified as Caucasian, Mongolian, Malayan, Ethiopian, and American – found around the world. In Contributions to Natural History, published in 1790, Blumenbach described how Bildungstrieb operated after the Biblical flood to produce new species. The concept was adopted by the writer and natural philosopher Johann Wolfgang von Goethe in Germany, and the philosopher Immanuel Kant in Prussia. Nearly one hundred years after Blumenbach's formulation of the concept, Ernst Haeckel, the chair of zoology at the Univ. of Jena, employed Bildungstrieb as the foundation of his theories on individual development – theories which influenced embryological research well into the twentieth century. (see Garrison-M. 104).- DSB I, 203-204; Hirsch - H. I, 576-55; ADB II, 748-751; Blake 51; Waller 1168; Blumenbach no. 00056.

On Evolution, ‚Negros' & Egyptian Mummies

BLUMENBACH, Johann Friedrich.

Beyträge zur Naturgeschichte von… Erster (und) Zweyter Theil. 2 Vols. – Göttingen: bey Johann Christian Dieterich, 1790 and (second part) Göttingen: bey Heinrich Dieterich, 1811. 8vo (155 x 90 mm) VIII, 126 pp., (2) with engraved title-vignette and four other vignettes by Chodowiecki. (3)-144 pp. with engraved title-vignette and four other text vignettes. Missing the first blank leaf. The first gathering of vol. one as always in wrong order (misprinting). Later half calf period style.

EUR 1.500.-

Very scarce. First edition of a collection of 14 resp. 17 short pieces on questions of natural history, incl. the variability of nature, a concept that was not understood very well. It also showed that the earth, with all its flora and fauna, had a very long history. Other essays are on mutation in creation, on basalt, on ‚negros', on cockroaches, the evolution of a former world, on Egyptian mummies, on Peter the Wild and on anthropological collections. The vignettes of the first part show the five races of men (‚Menschenvarietäten') and the images of the second part show „Peter, the wild boy" and mummies. Peter the Wild Boy (born c. 1713–1785) was a boy from Hanover in northern Germany who was found in 1725 living wild in the woods. The boy, of unknown parentage, had been living an entirely feral existence for an unknown length of time, surviving by eating forest flora; he walked on all fours, exhibited uncivilized behavior and could not be taught to speak a language. He is now believed to have suffered from the very rare genetic disorder Pitt-Hopkins syndrome. Johann Friedrich Blumenbach (1752–1840), an influential German physician, biologist & naturalist, studied medicine at Jena and Göttingen, from which he received his M.D. in 1775. He was appointed professor ordinary of medicine and anatomy at the University of Göttingen in 1778, where he had a 50 year career. Considered one of the founders of modern anthropology, Blumenbach was the first to divide the human species into five races, i.e., Caucasian, Mongolian, Malay, American and African or Ethiopian. He was one of the first scientists to recognize the ‚historicalness' of nature, he occupies an important place in the history of the evolution theory.- Kroke/Böker. Blumenbach no. 111 and 113; Garrison-M. 157; Bauer 892-96. Engelmann 422-26, DSB I, 204.

Mysterious, strange, melancholic Nordic Creature

(The ELK)

Kayserlich Maiestat Einreitung und ander geschichten so zu Brüssel und anderswo in Brabandt ergangen seind … Conderfetung des Ellends so zu Brüssel in des aller christenlichsten künig Karolus von Hispanien thiergarten gesehen ist. (Straßburg, J. Knobloch, 1517). 4to (180 x135 mm).12 nn. leaves. (Sign.: A–C4). Some unobtrusive vertical worming in the edges, the last six leaves with restorations, one leave with little annotations and small sketch of the elk. Title with handwritten date. Later calf period staly, new endpapers, fine.

EUR 4.800.-

The text describes the event and reports especially about the young elk in the menagerie in Brussels, an animal seldom seen then in Continental Europe. The title show the elk in woodcut probably after the live specimen. It is is not the first image of the elk in Western tradition, but a very early one.

We have an earlier drawing by Dürer of an elk (ca. 1501–1504) in the British Museum. It is likely that this drawing of an elk was made after a preserved specimen rather than a live animal. The elk is also seen in reverse in the wooded background of Dürer's engraving „Adam and Eve" of 1504. The elk represents there most probably one of the four humors in men/women: the melancholy.
The predecessor of the zoological garden is the menagerie, which has a long history from the ancient world to modern times. The oldest known zoological collection was revealed during excavations at Hierakonpolis in Egypt in 2009, of a ca. 3500 BCE menagerie. The exotic animals included hippopotami, hartebeest, elephants, baboons and wildcats. King Ashur- bel- kala of the Middle Assyrian Empire created zoological and botanical gardens in the 11th century BCE. In the 2nd century BCE, the Chinese Empress Tanki had a „house of deer" built. Henry I. of England kept a collection of animals at his palace in Woodstock which reportedly included lions, leopards, and camels. The most prominent collection in medieval England was in the Tower of London, created as early as 1204 by King John I. Until the early 19th century, the function of the zoo was often to symbolize royal power, like King Louis XIV's menagerie at Versailles. The modern zoo that emerged in the 19th century, was focused on providing scientific study and later educational exhibits to the public for entertainment and inspiration.

The royal tradition of collecting animals in the Lower Countries had its roots in the 15th cent. From 1446 on, Philip the Good (1396–1467), ruler of the Netherlands and Duke of Burgundy, owned many animals in Brussels, including a lion, wolf, lynx, fox, ibex, tabby cat, wild boar, stags, hares, and deer. He ordered the lion from Venice in 1461 and employed a keeper to care for it by the name of Lemoine. The menagerie also included monkeys, as a Colette de Noville was documented in 1462 as caring for them, as well as small birds, cared for by the surgeon Henri Bogaert. Through the marriage of Emperor Maximilian I. of Austria to Mary of Burgundy in 1477, the Habsburgs inherited the Burgundian territories, including the Low Countries as well as their collections. Maximilian's I. son continued to develop the menagerie in Ghent acquiring camels, ostriches, and other exotic animals. His grandson, Emperor Charles V., who often staged animal combats, acquired two lions and kept wild boar and birds at Ghent.- VD 16, K 36; Faust 402; not in Muller. KVK: München, Freiburg; NL Scotland, BL London; OCLC: no copy.

Dodo

FRAUENFELD, Georg Ritter von.

Neu aufgefundene Abbildung des Dronte und eines zweiten kurzflügeligen Vogels, wahrscheinlich des Puole Rouge au Bec de Bécasse der Maskarenen in der Privatbiliothek S. M. des verstorbenen Kaisers Franz. Hrsg. v. d. Zoologisch – Botanischen Gesellschaft. – Wien: C. Ueberreuter'sche Buchdruckerei (M. Salzer), 1868. Folio (465 x 355 mm) 16 pp. with two lithogr. and two chromolithogr. plates. Period style boards. Little water-stained as often, otherwise fine.

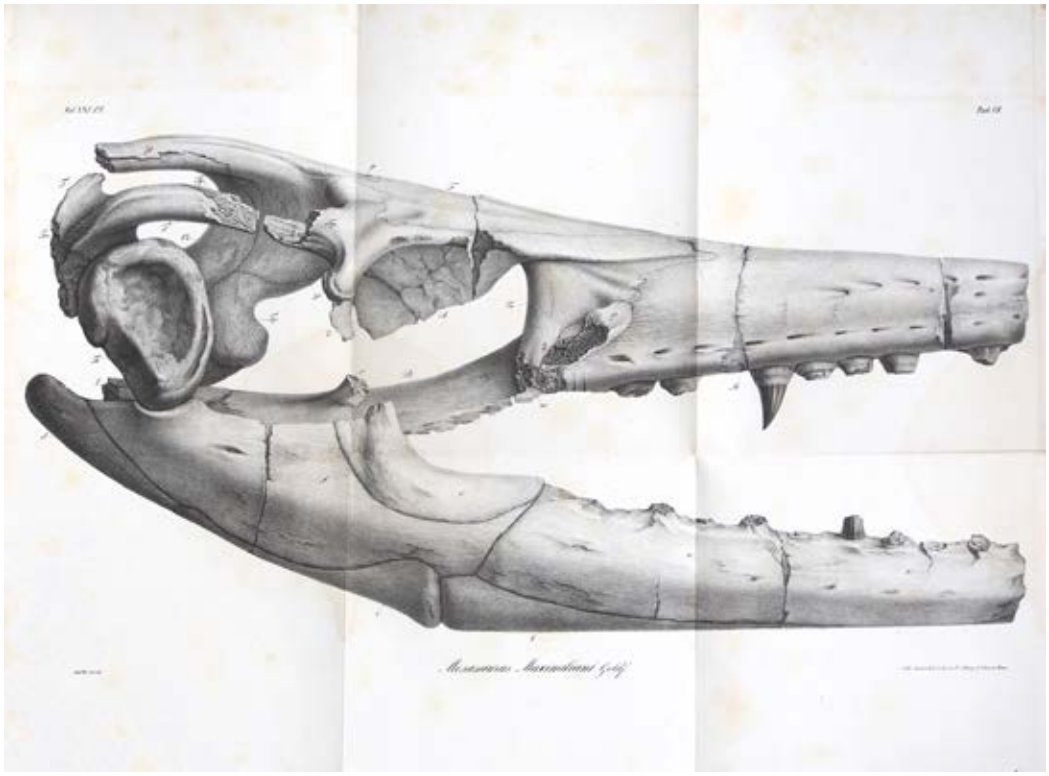
EUR 3.400.-

Chromolithographed facsimile image of the „Prague Dodo", a painting by Dirk de Quade van Ravensteyn (around 1610) from a stuffed subject and maybe formerly exhibited in the Museum of Emperor Rudolf II.

The dodo is depicted in the work known as the „Museum Kaiser Rudolfs II", comprising two leather bound volumes. These were formerly housed in the private library of the Emperor Franz II (1792-1806) and are now contained in the ÖNB (Austrian National Library). The Museum Kaiser Rudolfs II apparently represented specimens in the imperial collections; the illustrations were systematically arranged, depicting various quadrupeds, reptiles, birds, fish and so on. The majority of the subjects in the volumes were stuffed specimens; other taxidermied examples include composite creations, such as a wyvern and a monocerote donkey. The painted inventory was kept in a chest and is listed in Fröschl's Kunstkammerinventar of 1607-11: „Ihr May: thierbuch von allerley vierfüsiger thier, alle nach dem leben mit Ölfarben von Dietrich Raffenstein auff pergament gemalt". Frauenfeld examined the two volumes in which the latter rediscovered the paintings of the dodo and red rail. Frauenfeld then provided a same-size colored chromolithographed facsimile of the painting, painted by Strohmeyer and chromolithographed by the k.u.k. Hof-Chromolith. Anton Hartinger of Vienna. Thea Vignau- Wilberg attributed these paintings not to Joris Hoefnagel as originally thought, but from the workshop of Dirk de Quade van Ravesteyn.— Anker 151; Nissen IVB 330. Lit.: Jolyon C. Parish. The Dodo and the Solitaire: A Natural History (2013) pp. 180 ff.

Rudolf II was known not only as a somewhat eccentric monarch, but also as a great collector and admirer of everything possible and impossible – incl. collecting animals. In 1583 he gave to rebuilt by architect Ulrico Aostallis the original wooden pavilion to set of low buildings – the famous Lion Court (later renamed to Bear Court) – heated pens of animal with enclosures and beside them a high wall with a gallery for spectators, where they came up the spiral staircase. Rudolf extended the Royal Gardens, established a pheasantry and ponds for breeding of fish and water birds, deer enclosures in today's Deer Moat ... Brick and wooden pens stretched along the northern slope of Deer Moat up to the King's summer residence. 1601, in the pheasantry near Lion court, he built also "aviary for Amerindian bird" – heated little-house with two small rooms. It was designed by Orazio "Guido" Fontana and decorated with frescos by Bartoloměj Beránek called Jelínek (who was on duty of Petr Vok of Rožmberk). Also Deer parks Hvězda and Ovenec (today's Stromovka) were under the Prague Castle. In the time of Rudolf's II reign, they changed from hunting game fields more to parks - among other with animals. Thus the menagerie was arranged even in three places. In Ovenec were red and roe deer, elk, perhaps also reindeer, wild boars, horses, wisents, buffalo, aurochs (!), foxes and probably many other animals. In the Hvězda there were reportedly even also antelopes or gazelles and in 1592 also 12 lions with Indian keeper. Rudolf II bred many animals in these three places. Not about all we know. We have reports about lions, tigers, leopards, cheetahs, bears, civets, wolves, foxes, camels, deer, wild boars, antelopes, gazelles, wisents, aurochs, buffalos, "Indian donkey", "Indian calf", horses, ostriches, cassowary, pelicans, flamingos, white gyrfalcons, eagles and other raptors, parrots, hummingbirds, guinea fowls, turkeys, large reptiles ... According to the unconfirmed reports, Rudolf II had even orang-utan and (or) chimpanzee and elephant. 1599, there was reportedly born first lion in Czech lands. Very known, although not certified, is breeding of Muritian dodo bird at the Prague Castle. His bones were found during the alterations of the Deer Moat (they are in the National Museum now). Another fact, which shows this breeding it is painting of excellent Flemish painter Roelant Savery. Savery was drafted by Rudolf II in 1604 and became his court painter. It is known that Savery often stayed in the Rudolf's menagerie and painted the animals - one of his most famous paintings is just painting of dodo bird (and it is not known where else Savery could see this bird). A similar case concern also to cassowary - Savery reputedly could see it either in the Amsterdam port (when sailors brought it as an attraction), or more likely in the menagerie of Rudolf II. Others cassowary were not known at that time in Europe. Also other paintings of Savery had to originated reprotedly in Prague - pictures of animals, which all the Europe didn't know at the time, and if anyone could have them, so allegedly the only Rudolf II. - "New Guinean rare parrots", red rails (newly also Muritian flying fox was found on the paintings)... Art historians claim that the vast majority of the approximately 250 Savery's paintings of animals are dated to his stay in Prague or was painted later, however, according to sketches made in Prague. Rudolf's menagerie was soon known throughout Europe as well as his passion for animals. Rulers who came to gain favor with the emperor, took him many gifts – often just animals. For example, Moscow Grand Duke Feodor Ivanovich (son of Ivan the Terrible) gave to Rudolf besides the leopards and other animals also two white gyrfalcons, which was at that time considered as extremely rare birds, and therefore one of the most precious gifts. Notorious is the story of a lion, which the Emperor received as a gift from the Turkish sultan. Lion named Mohamed had an astrological constellation very similar to Rudolf's. Tycho Brahe supposedly read in the stars, that the emperor will have a similar fate as the lion Mohamed, that he'll die at the same time (this is written also in the chronicles of the time), so the lion enjoyed superior care. And indeed, the emperor Rudolf II died a few days (about 3) after the death of the lion. According to another legend of Rudolf's menagerie (recorded in chronicles in 1600) the poet Friedrich Schiller wrote a poem "Little glove", which was later rewritten by Josef Jungman... The nobility went to see the feeding of lions, among others also some beautiful but proud lady-in-waiting, who always refused suitors and could not choose. Knight Vojislav fell in love to this beautiful Kunigunda's noblewoman, and took part in feeding lions together with her. The glove of lady-in-waiting slippeds or she intentionally thrown it between lions and invited the knight to bring back her the glove. According to the poems the knight made it, brought back the glove, threw it in the face of the lady and left her. In fact, the end of the story was much more romantic according to chronicle... Noblewoman turned pale, fell unconscious and immediately became enthusiastic by the love for the knights .... Interesting facts are also about keepers of lions... Strong men, who cared for the imperial lions were women... Known were three: Ludmila Nebeská, after her, her daughter Otýlie and the most famous Laurenciana Pylmannová. Care for the lions was very lucrative – the salary was higher than in some offices and services of the Royal Court. Mrs. Laurenciana owned a representative house (at Vlašská Street), which was exempt from all taxes and fees. She getting a new clothes every year and enjoyed extraordinary favor of the Emperor - she was a frequent guest at his magnificent feasts. Laurenciana tamed the lion Mohammed so much that he followed her like a dog, she rode on him throughout the menagerie or let him to jump through a hoops. Also the regulation of Rudolf II about feeding meat is known - according to that regulation Jews from the Old-Town Ghetto had to give two pounds (about a kilogram) of fresh beef or veal daily to each beast of prey. Also several tragedies caused by predators is recorded in writing - from the attack, despite crippling to killing people.

An American Fossil



GOLDFUSS, August.

Der Schädelbau des Mosasaurus, durch Beschreibung einer neuen Art dieser Gattung erläutert. Mit vier Steindrucktafeln. Der Geologischen Section der Naturforscher-Versammlung zu Mainz im Herbstmonde 1842 mitgetheilt. [no place and date, but Bonn, 1845]. (=Acta Acad. Caes. Leopold. Carol. Nat. Cur. Vol. XXI, P. I.). 4to (305 x 230 mm). 28 pp. with four fold. lithographed plates. Contemporary paper card boards, rubbed and soiled, white border with waterstain, plates fine.

EUR 1.500.-

First edition, with separate pagination and on better paper.

Rare publication on one of the first large extinct marine reptiles specimens (mosasaurus) from the American West. The earliest fossils known to science were found as skulls in a chalk quarry near Maastricht in the late 1700's, which were initially thought to have been the bones of crocodiles or whales. One particular skull discovered at around 1780, and which was seized during the French Revolutionary Wars for its scientific value and transported to Paris, was famously nicknamed the „great animal of Maastricht". In 1808, naturalist Georges Cuvier concluded that it belonged to a giant marine lizard with similarities to monitor lizards but otherwise unlike any animal known today.

The first mention of mosasaurs from the American West probably comes from the Lewis and Clark Expedition of 1804 - 1806. Sergeant Gass, who found a large skeleton in 1804, of a „petrified skeleton of a very large fish, seen in Sioux country, up the Missouri." The remains subsequently were lost before they were properly identified. Then, almost 30 years later, another mosasaur fossil was found further north along the river. This second specimen was apparently found by a fur trapper near the Big Bend of the Missouri River in what is now central South Dakota in the early 1830's. The articulated skull, lower jaws and vertebrae were brought back to St. Louis where it was acquired by an Indian Agent named Major Benjamin O'Fallon and displayed in the formal garden of his home. The specimen eventually came to the attention of Prince Maximilian zu Wied (1782-1867) during his travels through the American West in 1832-1834 and was purchased by him. In what must have been a major logistical undertaking for the time, the fossil was then shipped from St. Louis to Germany and given to August Goldfuss, a naturalist in Bonn. Over a period of several years, Goldfuss meticulously prepared and described the specimen, then named the mosasaur Mosasaurus Maximiliani in honor of Prince Maximilian. His paper (here), The Structure of the Skull of Mosasaurus, was originally presented at a scientific meeting in Mainz in the Fall of 1842 and then published in 1845. The work done by Goldfuss was significant for the fact that it was the first time that an articulated, undistorted mosasaur skull had ever been shown. The original Dutch skull (Mosasaurus hoffmanni), figured by Cuvier, was mostly disarticulated. This more-or-less complete skull from the American West really gave people their first idea of what the head of a mosasaur actually looked like. (see Mike Everhart) Georg August Goldfuß (1782-1848) was born as son of a court physician. He started to study medicine from 1801-1803 at the Collegium Medico- Chirurgium in Berlin. Here his studies also included zoology and natural history. In August 1804 Goldfuß moved to the University of Erlangen where he acquired the title Doctor of Medicine and Surgery with a thesis on South African beetles. He worked on the Natural History collection of that University until 1806. In 1808 Goldfuß accepted a position as a teacher at the home of Baron Winkler von Mohrenfeld and in 1810 he returned to the University of Erlangen as a lecturer in Zoology and Geognostics. In 1818 he became first Professor for Natural History at the new Friedrich-Wilhelms- University in Bonn. There he founded a Natural History Museum and due to his connections to collectors, the collections of the museum grew rapidly and by 1821 already included 26635 inventoried items. Beginning in 1820, Goldfuß concentrated on his ‚Petrefacta Germaniae', an atlas of all fossils discovered in the German speaking area and neighboring states in text and pictures. Due to medical problems, Goldfuß could not continue his lectures after 1847 and on February 10, 1848, he died on a stroke.- Pogg. I, 925; NDB VI, 605. Provenance: Ewald Wüst; O. Goldfuss 1904.

Fossil Unicorn

LEIBNIZ, Gottfried Wilhelm.

Protogaea sive de prima facie telluris et antiquissimae historiae vestigiis in ipsis naturae monumentis dissertatio ex Schedis manuscriptis .... Goettingae (Göttingen): Joh. Guil. Schmid, 1749. 4to (230 x 170 mm) 2 Bl., XXVI, 1 Bl., 86 pp. with engraved coat-of-arms on title and twelve fold. engraved plates (no. III wrongly numbered VI). Contemporary calf, rubbed and soiled, small wormtrack to front cover, gilt spine in compart-ments, morocco label, coat of arms on front cover, red edges, marbled endpapers, spotted throughout in the text.

EUR 3.200.-

First edition of Leibniz's geological work on the formation of the Earth's crust.

Protogaea (or Treatise on the First Form of the Earth and the Trail of History in Monuments of Nature) is an ambitious account of terrestrial history and was central to the development of the earth sciences in the eighteenth century providing key philosophical insights into the unity of Gottfried Wilhelm Leibniz's thought and writings.

In the book, Leibniz offers observations about the formation of the earth, the actions of fire and water, the genesis of rocks and minerals, the origins of salts and springs, the formation of fossils, and their identification as the remains of living organisms. Protogaea also includes a series of engraved plates depicting the remains of animals – in particular the famous reconstruction of a "fossil unicorn" – together with a cross section of the cave in which some fossil objects were discovered. Protogaea built on, and criticized, the natural philosophy of René Descartes, as expressed in his Principia Philosophiae. Leibniz in the work adopted the Cartesian theory of the Earth as a sun crusted over with sunspots and relied on the authority of Agostino Scilla, whom he meet in Rome, writing about fossils to discredit speculations of Athanasius Kircher and Johann Joachim Becher. He took up suggestions of Nicolaus Steno that argued for the forms of fossils being prior to their inclusion in rocks, for stratification, and for the gradual solidification of the Earth. As he states in the book, Leibniz intended to develop "the seeds of a new science called natural geography". Written between 1691 and 1693, and unpublished in his lifetime, but made known by Johann Georg von Eckhart in 1719 in an journal, it was first published in full in 1749, shortly after Benoit de Maillet's far-reaching ideas on the origin of the Earth had been printed.

„As it is, Leibniz picks out facts derived from his own observations, from his network of correspondence with other natural philosophers, and from his wide reading of those he regards as trustworthy observers. His text briefly touches on many geological phenomena, from the formation of mountains to the origin of minerals and particularly fossils. Presciently, Leibniz is equally clear about the organic nature of many fossils: fish preserved in slates are exactly that and not mere ‚games of nature'. He was reacting against philosophers such as Athanasius Kircher, who "claim the great architect, as if in jest, had imitated the teeth and bones of animals, shells or snakes". Leibniz was certain that God had much more serious purposes than planting simulacra in the rocks. Glossopetrae, or ‚tongue stones', are shark's teeth, he states, nothing more or less. He recognizes ammonites and other fossil shells as having more than a passing similarity to their living relatives. The philosophical mind at work in these passages is of a modern, sceptical cast, highlighting that Leibniz was well ahead of most of his contemporaries. Even Leibniz is occasionally credulous. One illustration in the book shows the unicorn of Quedlinburg, a chimera of several mammals that was ‚discovered' in 1663. "The horn, together with the head, several ribs, dorsal vertebrae and bones were brought to the town's serene abbess", Leibniz confides, evidently deeming the words of this particular local eyewitness reliable. Nonetheless, he takes on board the field examples described by Steno that show how a sequence of strata revealed something of Earth's history. Scientific narrative was only a step away.

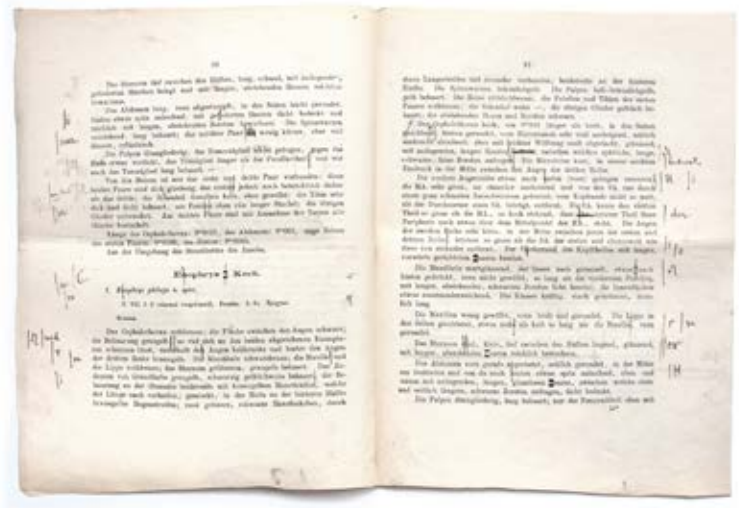
When considering the origin of minerals, Leibniz has an intuitive sense that a kind of natural cookery is involved: "One is thus inclined to suspect that nature, using volcanoes as furnaces and mountains as alembics, has accomplis-hed in her mighty works what we play at with our little examples [in laboratories]."
That the furnaces of the ‚chymist' might simulate Earth's processes is a hope that still drives research into petrology and geochemistry today. For all its insights, Protogaea does not seem to a modern geologist like the natural ancestor of Lyell's Principles of Geology. The missing ingredient is an awareness of geological time. Leibniz did not place the biblical timescale centrally in his science – he was actually very restrained in invoking the Creator. A short timescale was simply a given, so widely accepted that he did not have to restate it. Even Leibniz's evident awareness of events such as major incursions of the sea over what is now dry land did not challenge his view. Geology without time is rather like chemistry without elements: a collection of plausible narratives is possible; a rational basis for predictive science is not. More mundanely, it was also difficult to travel in the eighteenth century. Leibniz had to rely on the observations of others simply because wide-scale fieldwork was almost impossible. Armchair speculation was inevitable, despite Leibniz's careful affirmation of his own observations. The true complexity of Earth's history did not begin to be exposed until French geologists started work in the Auvergne and the Paris basin, and until James Hutton developed his theory of deep geological time in Scotland. The improvement of roads and canals, and then the advent of railways, allowed for different local geological narratives to be stitched together. Earth science has subsequently developed to recognize our planet as an interconnected system that has evolved over billions of years. Leibniz's world is an incomplete patchwork of local stories." (Fortey).- Freilich Sale 343; Norman 1328; Wellcome III, 482; Graesse IV, 152; Ranvier 440; Hoover 521; Ward & Carozzi 1358; Zittel 27-28.
Provenance: S.G. v(on) U. z(u) H. (coat-of-arms on cover)

Spiders of Egypt
Author's copy in Correction Sheets

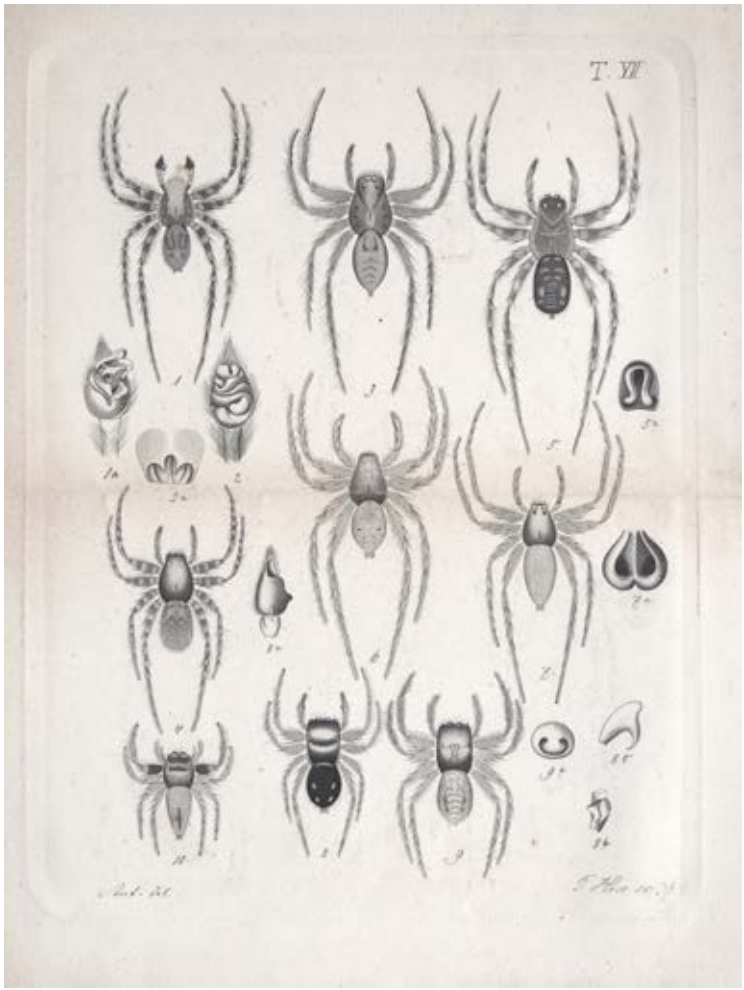
KOCH, Ludwig.

Aegyptische und Abyssinische Arachniden, gesammelt von C. Jickeli. Nürnberg, Bauer & Raspe, 1874 (recte: 1875). Folio (300 x 230 mm). (4), 96 pp. with 7 engraved plates. Original wrappers, dust soiled and wrappers little loose in spine. (coming with:) Two copies in loose gatherings, being the correction copies of the author. With numerous corrections in ink, and one additional set of the complete plates in correction state prior to lettering. Little browned, occasional staining, correction leaves with centre-fold. Together in an early 20th cent. half-calf box.

EUR 4.800.-



Unique copy of Koch's Spiders of Egypt and Abyssinia (today Ethiopia and Eritrea) with numerous corrections in ink and pencil by the author or publisher. The German entomologist and arachnologist Ludwig Carl Christian Koch (1825–1908) studied in Nuremberg, initially law, but then turned to medicine and science. From 1850, he practiced as a physician in the Nuremberg district. He is considered among the four most influential scientists on insects and spiders in the second half of the 19th century. He wrote numerous works on the arachnoids of Europe, Siberia, and Australia. His work earned him worldwide reputation and he was known widely as „Spider Koch". Sometimes he is confused with his father Carl Ludwig Koch (1778–1857), another famous arachnologist, his name is abbreviated L. Koch on species descriptions; his father's name is abbreviated C.L.Koch. His major work is on Australian spiders, Die Arachniden Australiens (1871-1883), and was completed by Eugen von Keyserling due to the onset of blindness.- Nissen, ZBI 2251.



‚Spiders of America‘
The Correction Copy with Original Drawings

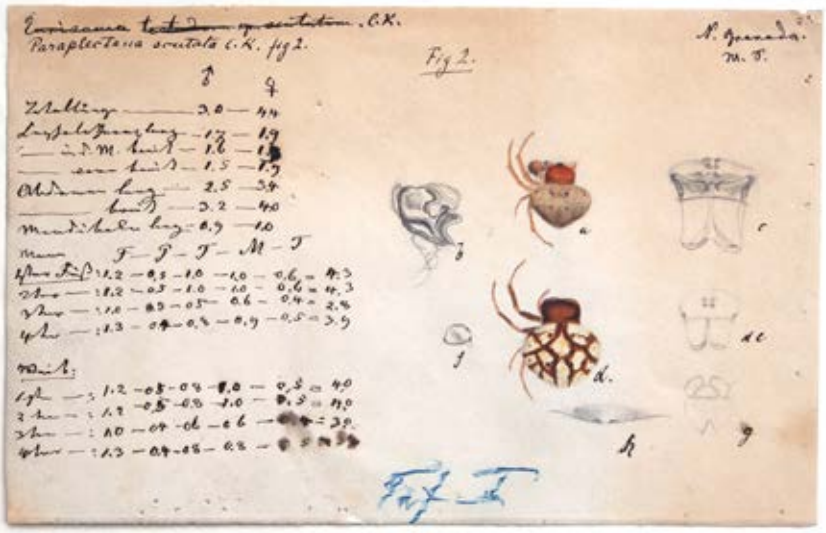
KEYSERLING, Eugen von (& George MARX).

Die Spinnen Amerikas. I. Laterigradae; II. Theredïidae; III. Brasilianische Spinnen; IV. Epeiridae (III. + IV. nach Keyserling's Tode herausgegeben von George Marx). 5 parts in 4 Text -Vols and 4 additional folders. 8 Vols.- Nürnberg: Bauer & Raspe, 1880 - 1892. 4to. (280 x 220 mm). Text Vols.: (275 x 210 mm) (2), 283 pp., (1), (VIII Bll.); (2), 222 pp. (X Bll.); (2), 295 pp., (1), (Bl. XI-XXI); (4), 278 pp., (X Bll.); VIII, 377 pp., (1), (XIX Bl. Erklärung der Tafel) without plates. 4 Folders with the additional material including the plates. Additional folders I.: all the 58 plates to the work (uncolored), being correction plates on strong paper with middle fold, handwritten corrections, partly original plates. Additional plates I, II, III are unique and not in the work and are probably deleted in the final version of printing. 21 doublets. Folder II.: includes correction sheets of the partial text and of the prospect to the work and also original drawings (120 x 195 mm) to the plates of the third vol. (Spiders of Brazil) in pencil and partly colored and notes. III.: Correction sheets of Vol. I, gathering 1-4, 9, explanation of plates, also correction sheets to Vol. II, 2: gathering 2, correction sheets to vol. 3. Inside the boxes in pencil notes of the former owner. Occasional browning or staining; plates, loose gatherings and leaves of vol 4 with centre-fold. Bound in green 20th cent. half-calf (text) and corresponding half-calf case boxes (these including plates, drawings, gatherings with corrections), little rubbed, spines somewhat sun faded. Fine.

EUR 12.000.-

Rare and fundamental monograph on American Spiders, including the Spiders of Brazil, in an unique copy as being the Correction copy of the author / publisher with all 58 plates in correction state, and 21 additional duplicate plates, three discarded plates, 205 leaves with original drawings to the plates of vol. 3, numerous original printers gatherings with corrections in ink or pencil. His magnum opus, describing hundreds of species new to science, is considered one of the finest iconographies of arachnids ever published.
The Baltic- German arachnologist Eugen von Keyserling (1833–1889) had studied at the University of Tartu (Dorpat) and then took part in expeditions of the Russian government to the Caucasus and in particular in 1858/59 in a scientific expedition to Khorasan. During this expedition he also described non-spiders, such as Iranian species of freshwater fish (e.g. Squalius latus). He continued touring England, France and Algeria. After his marriage to the daughter of Dönniges in 1864, Keyserling gave up his existing travel plans to America and bought an estate in Lower Silesia in order to farm there. He continued to devote himself to his special topic, the spiders, and received these from the German - American arachnologist George Marx and other friends in his field. After Keyserling's untimely death, Marx completed his life's work: The Spiders of America, ready for printing. The drawings, the book contains, are by Keyserling's hand. Today, it is a bibliophile treasure for experts. Keyserling's spider collection comprised over 10,000 species and after his death was acquired by the Natural History Museum in London. The Natural History Museum in Berlin had rejected to purchase the collection for 15,000 Reichsmarks in 1890, the offer of Keyserling's widow, Margarethe Countess von Keyserling. Keyserling himself completed Die Arachniden Australiens (1871–1883) on behalf of Ludwig Carl Christian Koch. The German-born American physician & archnologist George Marx (1838–1895) was regarded as one of the foremost authorities on spiders and highly regarded for his superb scientific illustrations.- Nissen, ZBI 2177.

Content: Contains the following in addition to the text volumes: 1) The complete series of plates in uncolored state before printing, with handwritten numbering of the illustrations in pencil and frequent handwritten comments/corrections to image 2.) Duplicates of 21 plates with few corrections but mostly different condition of the plate. 3.) Three probably rejected plates, num. I-III. 4.) 203 sheets (120 x 195 mm) with preliminary pencil drawings (a few colored) of the illustrations of the plates of the 3rd volume and extensive size indications for each representation in ink. Mounted on 102 card boards. 5.) 2 sheets with partly colored illustrations. preliminary drawings for plate 1 of vol. 4. one sheet with manuscript note to the text of the plate. 6) one sheet draft for a brochure by the hand of the publisher Emil Küster. 7.) Correction sheet with numerous handwritten corrections by Keyserling in ink



First English colored book on Fossils

MARTIN, William; (White WATSON).

Petrificata Derbiensia; or, Figures and Descriptions Collected in Derbyshire. – Wigan: Printed by D. Lyon, sold by White and Co., … (1793 –) 1809. 4to (256 x 195 mm) IX, [1 blank], (2), ii, ii, [50 leaves, including sub-title leaf), 28 incl. half-title, with 54 hand-colored engraved plates accompanied by letterpress description, a couple of references add in a neat hand, expertly bound in a period binding of half calf over marbled boards, spine tooled in gilt, black morocco title label, a handsome copy, uncut.

EUR 2.900.-

William Martin describes the Carboniferous limestone and other fossils of Derbyshire, probably from his collection, at least he had studied in Derbyshire.

Martin had been unsuccessfully attempting to raise funding for a publication since 1790, and produced a one-page „Prospectus of a catalogue and description of Derbyshire fossils" outlining the proposal. However, after he met White Watson (1760 - 1835), a sculptor, stonemason, carver and marble-worker who was also a mineral dealer, they began working together on the project and both managed to raise the necessary funds to publish a work.

From 1793 Martin began to produce installments of the work on his own, using White Watson's text contributions and his accompanying plates with virtually no credit given.

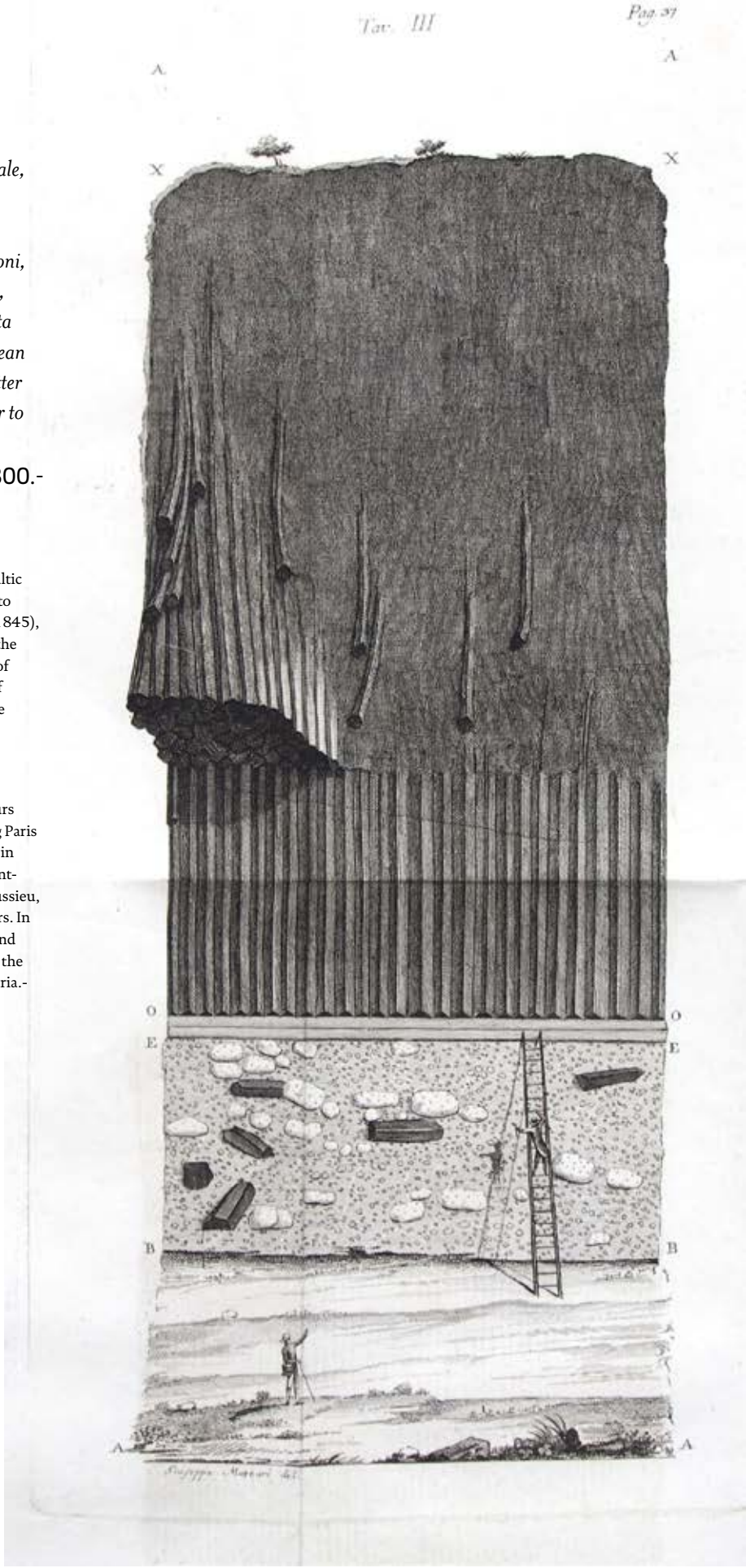
As a result, the pair eventually felt out, and William Martin later re-published the first installments (28 plates) of the 1793 edition under his own name as Volume I of Petrificata Derbiensia in 1809, with a new series of 28 plates and text added. William Martin (1767–1810), first an actor, then a writing teacher, was influenced by the Derbyshire geologist, John Whitehurst who in 1778 had published an important appendix concerning general observations on the strata in Derbyshire. During the final quarter of the 18th century numerous earth - scientific treatises appeared, including various descriptive overviews of the petrifactions. These works are typically well illustrated and the descriptions range from minute tests of foraminifera to the giant bones of marine reptiles. Some of these paleontological inventories prepared the ground for a more temporal and evolutionary perspective on the fossil record. Martin proposed that science should use fossils as evidence to support the study of natural history.- Nissen ZBI 2715; Upcott I, 143.

Basalt

MARZARI-PENCATI, Giuseppe.

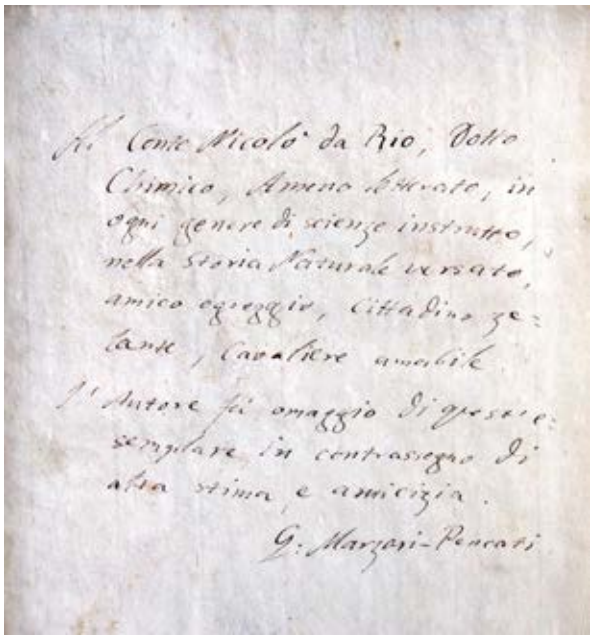
Corsa del bacino del Rodano e per la Liguria d' Occidente. Divisa in sei sezioni, di cui la principale, cioe quella che diede motivo all' opera contiene La orittografia del Monte Coiron, situato nella Provincia Vivarese ...– Vicenza: Tipografia Paroni, 1806. sm.4to (245 x 170 mm) VIII, 174 pp., (2) with 7 fine engraved fold. plates. Plain Carta rustica with handwritten title on spine, fine & clean copy with wide margins, probably printed on better paper with handwritten dedication by the author to Niccolo da Rio.

EUR 1.800.-



Dedication copy of this very rare geological work on the Rhone River Valley and the Plateau du Coiron and the basaltic formations therein. With a long **handwritten dedication** to the Italian chemist & mineralogist Niccolo da Rio (1765–1845), author of Orittologia euganea (1836). Rio was director of the philosophical and mathematical studies at the University of Padua under Napoleon. Afterward, he became inspector of the forests in the region of Brenta. Rio was a member of the Venetian Institute.

The author Conte Giuseppe Marzari-Pencati (1779–1836) was a young nobleman from Vincenza, who already had a fine herbarium with 18 years which he had collected at tours through the Berici mountains and the alps. He was visiting Paris in 1802 to improve his knowledge of the natural sciences; in particular he was studying „geology" with B. Faujas de Saint-Fond. There he meet Alexander von Humboldt, A.-L. de Jussieu, Leopold von Buch, J. C. Delamétherie, L. Cordier and others. In 1804 he visited the volcanos of the Puy-de-Dome region and worked afterwards with Hassenfratz on the mineralogy of the Tarentaise. In 1805 he explored the Rhone Valley and Liguria.- Ward & Carozzi 1516; Pogg. II, 71; not in Honeyman.


Al Conte Nicolò da Rio, Dotto
Chimico, Ameno letterato, in
ogni genere di scienze instrutto,
nella Storia Naturale versato,
amico egregio, Cittadino ze-
lante, Cavaliere amabile
l'Autore fà omaggio di questo e-
semplare in contrassegno di
alta stima, e amicizia.
G: Marzari-Pencati

The Earthquake that shocked Europe

(MASCHENBAUER, Johann Andreas Erdmann).

Angestellte Betrachtung über die den 1. November 1755. so ausserordentliche Erdbeben und Meeresbewegungen, wodurch die Grundfeste eines grossen Theils Europens und Africa erschüttert, und einige derer Städten verunglüket worden. In vier Abhandlungen eingetheilt, welche enthalten: I. Eine nach physicalischen und astronomischen Gründen erläuterte Untersuchung … II. Eine kurz gefasste Erzehlung von allen denjenigen heftigen Erdbeben, … III. Eine hinlängliche Nachricht von dem so grossen Erdbeben und Meereswogen,… IV. Eine historische und topographische Beschreibung … Aufgesezt von J. A. E. M. … Augsburg: drukts Johann Michael Wagner, … 1756. 4to (205 x 145 mm) 40 pp., (6) (Sign: A–E4, F–G2) with 3 fold. engraved hand-colored maps and 6 (incl. five folding) engraved plates, views, et al.. Contemporary brown paper card boards (Kleisterpapier), rubbed and soiled, wrapped, corners little bumped, else fine copy with minor defects.

EUR 3.600.-

Very rare, first and only edition of this report on the devastating earthquake of Lisbon in 1755 written by the publisher and amateur astronomer, Johann Andreas Erdmann Maschenbauer (1719–1773). Maschenbauer had have a private observatory, published on comets, and hold a collection of scientific instruments made by Brander, Thenn and Höschel.

The Lisbon earthquake of 1755 was a series of earthquakes that occurred on the morning of Nov. 1, 1755, causing serious damage to the port city of Lisbon, Portugal, and killing an estimated 60,000 people in Lisbon alone. Violent shaking demolished large public buildings and about 12,000 dwellings. Because November 1 is All Saints' Day, a large part of the population was attending mass at the moment the earthquake struck; the churches, unable to withstand the seismic shock, collapsed, killing or injuring thousands of worshippers. Modern research indicates that the main seismic source was faulting of the seafloor along the tectonic plate boundaries of the mid-Atlantic. The earthquake generated a tsunami (Meereswogen) that produced waves about 20 feet (6 metres) high at Lisbon and 65 feet (20 metres) high at Cadiz, Spain. The waves traveled westward to Martinique in the Caribbean Sea, a distance of 3,790 miles (6,100 km), in 10 hours and there reached a height of 13 feet (4 metres) above mean sea level. Damage was even reported in Algiers, 685 miles (1,100 km) to the east. The total number of persons killed included those who perished by drowning and in fires that burned throughout Lisbon for about six days following the shock. Depictions of the earthquakes in art and literature continued for centuries, making the "Great Lisbon Earthquake," as it came to be known, a seminal event in European history. The engravings by Georg Christoph Kilian show: 1) Landkarte von Europa. 2) Landkarte von Afrika. 3) Landkarte von Spanien und Portugal. 4) Ansicht von Lissabon. 5) Vogelschauplan von Lissabon. 6) Vogelschauplan von Setubal. 7) Ansicht von Sevilla. 8) Ansicht von Cadiz. 9) Vogelschauplan von Cadiz. There are two variants with only three plates and two leaves of text after pp. 40 and our copy. - VD18 10436650; not in Rosenthal; not in Schuh; Lit.: Inge Keil. Augustanus Opticus pp. 194; Oliver Hochadel. Öffentliche Wissenschaft pp. 96 ff.; see also: G. Lauer und Th. Unger: Das Erdbeben von Lissabon und der Katastrophendiskurs im 18. Jahrhundert, pp. 68.

Geo-Photography

SIMONY, Friedrich.

Vier Landschaftsbilder aus dem Dachsteingebiet in Lichtdruck nach photographischen Aufnahmen. – Wien: Selbstverlag des Autors, 1877. Folio (345 x 250 mm) 8 pp. text and four plates with collotypes. Original publisher half cloth with mounted printed title on front cover, little rubbed and soiled, browned, but overall fine copy in first appearance.

EUR 1.800.-

A rare and pioneering publication („Probeblätter“) in geophotography by Friedrich Simony (1813–1896) – the begin of the photographic exploration of the Dachstein mountains area and its glaciers published by Simony on his own expanses and distributed in a very small number. Actually I could locate only one copy in libraries (Bibl.verb. Südtirol).

The Photographs are of A. Eisenwenger („Nassaufnahme von A. Eisenwenger August/September 1875“) of different parts of the Dachstein mountain area, titled: Aussicht von der Ochsenwiesenalpe gegen das obere Karls-Eisfeld, [...] gegen den hohen Gjaidstein, [...] niederen Gjaidstein, der unterste Teil des Karls-Eisfeldes.

In the latter half of the 19th century, photography began to replace engravings and illustrations as the primary conveyor of visual information in books. Around the same time, geological surveys started collecting photographs as archives. In 1867, photographer Timothy H. O'Sullivan, who was then known for his depictions of the destructive nature of the American Civil War, joined Clarence King's geological survey of the 40th parallel between the Rocky Mountains and the Sierra Nevada. In 1871 he embarked on a similar expedition to document the landscape and geologic features of the 100th meridian and returned with images that proved geologically valuable and emphasized the West as a hospitable place for settlers. These images, and those from King's expedition, were among the first incorporated into the US Geological Survey's Photographic Archive after its establishment in 1879. W. Jerome Harrison, then curator of the Leicester Town Museum, published the first known book of geological photographs, detailing the geology of Leicestershire and Rutland, England, in 1877. As photography became more ubiquitous, geological surveys began enlisting the help of full-time photographers as well as community volunteers.

The Austrian geographer and Alpine researcher Friedrich Simony was initially trained as a pharmacist, and from 1836 studied natural sciences in Vienna with the botanist Joseph Franz von Jacquin. In 1848 he became a curator at the natural history museum in Klagenfurt, and during the following year, served as chief geologist at the Imperial Geological Institute there. In 1851 he attained the first professorship for geography in Austria at the University of Vienna. In this role, he conducted research in the fields of glaciology, climatology, speleology, ecology, phytogeography and hydrology. From 1840 he performed geomorphological and glaciological research of the Dachstein mountains area. In 1875 he discovered the medium of photography for his researches.

„1875 beginnt Simony mit Photographien zu arbeiten, die er als einer der ersten Geographen als wichtiges Hilfsmittel für seine wissenschaftliche Arbeit erkennt, 1876 fertigt Simony selbst seine ersten Photographien (auf Trockenplatten) vor Ort an. 1877 erscheinen 4 Probeblätter im Eigenverlag. Gleichzeitig stellt Simony eine Mappe mit 88 Photographien (u.a. denen von Eisenwenger aus dem Jahre 1875) zusammen, die er dem österreichischen Kronprinzen Rudolf schenkt. Ein zweites Exemplar erhält die Sektion München des Deutschen Alpenvereins, dem er 1880 – jedoch ohne Erfolg - vorschlägt die Herausgabe des ‚Dachsteinwerkes' zu übernehmen. Schließlich erscheint - mit finanzieller Förderung durch das österreichische Kaiserhaus - 1889 die erste Lieferung, 1893 folgt die erweiterte Lieferung, im Oktober 1895, wenige Monate vor seinem Tod, ist das Lebenswerk vollendet (see Franz Speta. Ein Leben für den Dachstein. Ludwig Simony - zum 100. Todestag. Linz 1996).- Kainrath, Simony Bibl. 156.

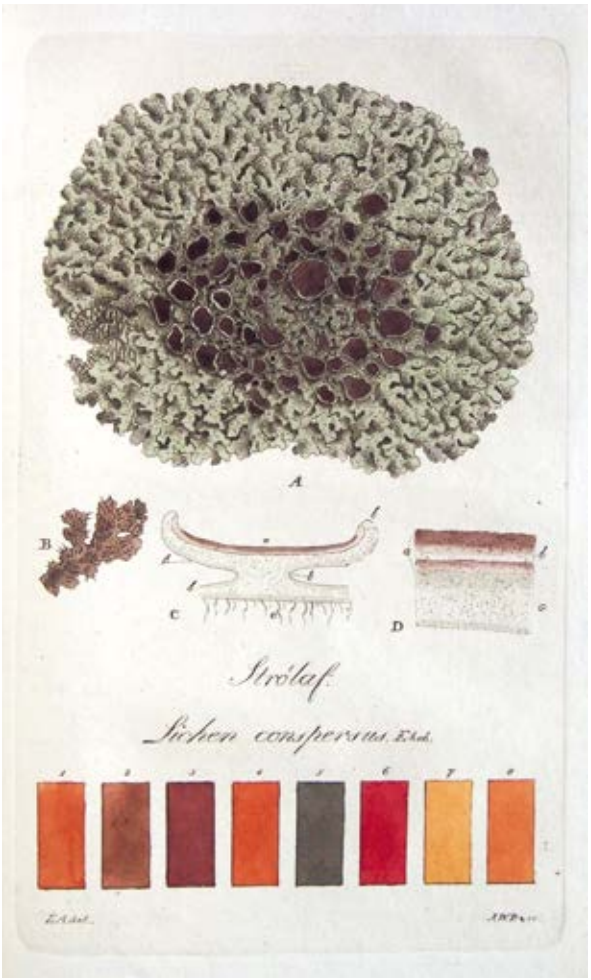
Dye from Lichen

WESTRING, Johan Peter.

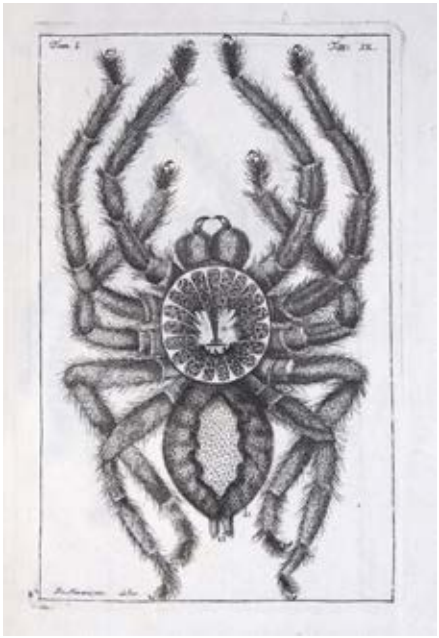
Svenska Lafvarnas Färghistoria, eller sättet att anvärda dem till färgning och annan hushallsnytta. –Stockholm, Carl Delen, 1805. 8to (220 x 132 mm). [4], XV, (1), (1)–32, (1) – 338 pp., [1]–23 pp, [1], [1]–11, [1], (1), VIII with 25 engraved plates, colored by hand. Contemporary half calf gilt spine in compartments, a few pages browned, else a fine copy. The defence against a review (23 pp.) which is normally bound after the text is here bound after pp. 294.

EUR 2.800.-

First edition in book form of a work on the making of dyes and paints from lichens by Johan Peter Westring (1753–1833), a Swedish physician and lichenologist, and one of Linnaeus's last disciples. Westring had spent several years of research on the use of lichens for textile dyeing, and started to publish the results in 1791 in the Kungliga Svenska Vetenskaps- Akademiens Handlingar. After extensive revisions and expansions he published the material in eight installments between 1805–1809, to be bound together as a book. The book contains advice and recipes on how to use lichen that grew in Sweden to colour wool, linen, and silk. Westring turned to both mistresses of the house, dying or re-dyeing house-hold textiles, and manufacturers of finished goods, both groups he assumed wanted a color on their silk with "the solidity and shine reminiscent of the Chinese silk". Westring scientific efforts were acknowledged by his election as a member of the Royal Swedish Academy of Sciences, the Academy of Agriculture, etc. The plates are by Erik Acharius and Johan Wilhelm Palmstruch. The 18th cent. was a period when new dyes developed in the wake of growing consumer demands: dyes such as Prussian Blue, Saxon Green and others. The consumer demands paid to what things looked like, the surface and shades of colors of objects. Central to colors and dyes was natural history and sciences. On a very practical level, taxonomy, species identification, was instrumental in the search for plants and insects that could be used in producing dyes. There is a political economy at play here too, naturalists were involved in looking for new ways to exploit nature, to produce new stuff, benefitting their home countries.- Krok, Bibl. Bot. Suecana, Westring 2b; Pritzel 10207; Stafleu & Cowan 17287.



Spiders & Silk industry in Paraguay



TERMEYER, Raimondo (Ramon) Maria de.

Opuscoli scientifici d'entomologia, di fisica e d'agricoltura, dell'abate D. Raimondo Maria de Termeyer … 5 Vols. – Milano: nella stamperia del Giornale italico di Carlo Dova, 1807 – 1810. 4to (250 x 203 mm) (6), IX – CXX, 425 pp., (1, blank), with 11 engraved fold. plates; XVI, 581 pp., (1, blank); [2] Bl., pp. XII–XVI, (1, blank), pp. 585–1031, (1, blank), [1] Bl.; [4] Bl., IX, (1, blank), 522 pp., V Bl. with four engraved plates and one map; [3] Bl., X, 628 pp., (6) with one engraved plate, and two fold. tables. Papercard boards imitating green half calf, volumes, rubbed and soiled, paper on spine partly defective, inside clean, fresh and fine. Fine copy, nearly uncut, with broad margins.

EUR 2.800.-

Very rare and only edition of Termeyer's collected essays on silk industry, natural history, entomology (especially spiders) and electric eels in Paraguay which were published before in Opuscoli scelte sulle scienze e sulle arti and Scelta d' opusculi interessanti. Beside a few papers on spiders and spider silk, the work contain several works on entomology, a long essay on yerba mate, about an universal antidote against viper's venom, on how to keep eggs fresh during long journeys, and on the South American electric eel.

The Jesuit naturalist of Dutch descent Ramón Maria Termeyer (orig. Wittermeyer) (1737–1814), spent three years in the Rio de la Plata. He was born in Cadiz, entered the Society in Andalusia in 1755, was ordained in Seville in 1763 and a few months later, on 21. June 1764, he arrived in Buenos Aires in the expedition of Father Escandon. From Buenos Aires he journeyed to the Jesuit College of Cordoba and embarked a few years later to the Rio de la Plata, where he begun experiments with silkworm eggs and seeds of mulberry trees with the purpose of introducing sericulture in Paraguay. While he was in Cordoba the eggs were hatched into larvae, but since Termeyer had not been able to grow the seeds of the mulberry trees, they soon died. Then Termeyer was installed to San Javier, close to the Parana River, where he found enough time to indulge in his experiments with electric eels and spiders. He narrates in thw work above that during an excursion on horseback into the deep woods of the Great Chaco, far north from San Javier, he stumbled upon a spider web so strong that he was not able to go ahead. It was then that he hit upon the idea of experimenting with spider silk as a substitute for the product obtained from silkworms. He returned to the spot with some companions and servants and spent five days collecting around 2500 spiders. Upon his return to the mission, he set the spiders free in some pomegranate trees in the orchard of the reduction and eventually was able to collect 2013 cocoons, from which he extracted about one ounce of spider silk. He repeated the experiment in larger scale with 4155 spiders, from which he got three ounces and one drachma of silk. (I, 69-70)

Upon his returning to Europe, Termeyer ended up in Faenza but around 1779 he had moved out to Milan. A chronicler writing in 1777 described his house in Faenza as something very much resembling a virtuoso's cabinet, containing a microscope, telescopes and other optical instruments, pneumatic and electric machines, a camera obscura and like things. In Milan Termeyer spent the rest of his long life as an amateur naturalist and person of letters.

More than anything, he concentrated on spiders and entomology. He managed to gather an important collection of insects from the Lombardy, which amounted to 28 exhibition cases (cuadros) of insects ‚conserved as natural'. A Spanish visitor described the collection in 1793: „an infinite number of butterflies of different species, which he (Termeyer) has prepared and carefully set under crystal to keep them unharmed and without detriment of their colors." (Miguel de Asua. Science in the vanished arcadia. Knowledge of nature in the Jesuit missions… Leiden: brill, 2014. pp. 279 ff.) OCoLC: 833669539; not in Hagen; Horn / Schenkling IV, 1216.24; Dean II, 532 (not this). Lit.: Miguel de Asua. The experiments of Ramon M. Termeyer on the electric eel in the River plate Region (c. 1760)… in: Journal of the History of the Neurosciences XVII (2008), pp. 160-174). KVK: Stabi Berlin, Göttingen, Weimar; Lyon, BN Paris; Musee Hist. nat. (3 vols. only); COPAC: BL, NHM London, Oxford; OCLC: ?

Von Baer's Copy

WOLFF, Caspar Friedrich.

Theorie von der Generation in zwo Abhandlungen erklärt und bewiesen. – Berlin: Birnstiel, 1764. 8vo (175 x 100 mm) (8) Bl., 283 pp., (1) Contemporary half calf, rubbed and soiled, little unfresh, first pages little stocked at edges, few pencil annotations. Ex Libris on inner front cover: Caroli Ernesti a Baer, a few library numbers on first pages.

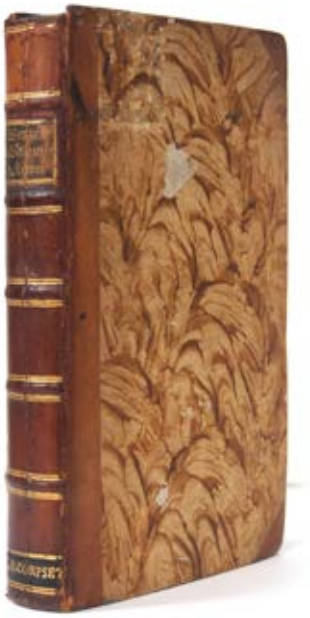
EUR 2.800.-

Theorie
von der
Generation.
in
zwo Abhandlungen
erklärt und bewiesen
von
Caspar Friedrich Wolff,
der Arzneygelahrtheit Doktor.
Berlin,
gedruckt bey Friedrich Wilhelm Birnstiel.
1764.

Very rare first edition – with fine provenance – of a fundamental text in the history of embryology, his restatement of his theory of generation against criticism of Haller and Bonnet. A fundamental work on embryology ... in which he refuted the theory of preformation and put forward a theory of epigenesis which laid the foundations of the germ-layer theory of Baer and Pander. He demonstrated the truth of his theory with detailed microscopic observations on developing plant and chick embryos. In the latter he followed the development of the heart and blood vessels. Wolff's dissertation, Theoria generationis (1759) was followed by his polemical restatement here, which was later reprinted in latin in an enlarged edition edited by Meckel (1774). Wolff's fundamental achievement was the refutation of the theory of preformation, which considered the development of an organism to be simply the expansion of an invisible, transparent, fully formed embryo. Wolff's works contributed to the development of embryology and especially to the work of Pander and von Baer, both of whom repeated, confirmed, and continued his research.

The German physiologist Caspar Friedrich Wolff (1733–1794) was one of the founders of embryology. In 1759 he graduated as an M.D. from the University of Halle with his dissertation „Theoria Generationis" where he revived and supported the theory of epigenesis previously proposed by Aristotle and William Harvey. The paper consisted of three parts devoted to (1) development of plants, (2) development of animals, and (3) theoretical considerations. It indicated that organs are formed in differentiated layers from undifferentiated cells. Traditional and prevailing theory had speculated that organisms were already preformed in the seed (theory of preformation), that is in the human a homunculus was already sitting in the sperm. His views were not well received, but Albrecht von Haller was a powerful antagonist. During the Seven Years' War, Wolff was required to practice as a field doctor in the Prussian Army. Thereafter he had difficulty entering academic life. Finally, in 1767, with help of the mathematician Leonhard Euler he obtained the chairmanship of anatomy at the St.Petersburg Academy of Sciences.- Provenance: Karl Ernst Ritter von Baer (1792–1876) KVK: München, Augsburg, Erlangen; Halle, Weimar, et al.; COPAC: BL, NHM, Royal Society; OCLC: no copy (?).- DSB Suppl. 524 ff.; Garrison-Morton 470; Osler 4266; Norman 2257 (all 1759 ed.); Kuehn/ Klemme (eds.) The Bloomsbury Dictionary of Eighteenth-Century German Philosophers II, 861.

E
Caroli Ernesti a Baer
thesauro librorum
de
historia evolutionis
scriptorum.



WENZEL, Carl Friedrich.

Lehre von der Verwandtschaft der Körper. – Dresden: bey Johann Samuel Gerlach, 1782. 8vo (174 x 110 mm) 2 Bll., 491 pp, (1) Contemporary half calf, black morocco label, upper spine little defective, also spine little cracked penpendicular, title stamped and inner cover deceased stamp. Little spotted throughout.

EUR 1.600.-

A very rare pioneer work in stoichiometry.

„This is one of the most important (chemical works) of its time, and contains a very great amount of quantitative and qualitative experimental work.“ (Ferguson)

First edition, second issue with canceled title-page. Wenzel’s main contribution was a collection of analyses of salts, which are given in the present book. His analyses were tabulated (with those of Torbern Bergman and Kirwan) bei Guyton de Morveau. He made an important contribution to the early history of the development of the law of mass action by his studies on the rates of dissolution of metals in acids. Thomas Thomson said: „Wenzel never obtained the confidence of chemists … and his book fell almost dead-born from the press.“ Nevertheless, Partington discusses the book at length, saying that he has found „Wenzel quite often quoted“ and that „all Wenzel’s books are scarce.“

The German chemist and metallurgist Carl Friedrich Wenzel (ca. 1740–1793) determined the reaction rates of various chemicals, establishing, for example, that the amount of metal that dissolves in an acid is proportional to the concentration of acid in the solution. Thus he was the first person to give the notion of equivalent weight and to publish a table of equivalent weights of acids and bases. Later Jeremias Benjamin Richter produced a larger table of equivalent weights. Disliking his father's trade of bookbinding, for which Wenzel was intended, he left home in 1755, and after taking lessons in surgery and chemistry at Amsterdam, he became a ship's surgeon in the Dutch service. In 1766, tired of sea-life, he went to study chemistry at Leipzig, and afterwards devoted himself to metallurgy and assaying at his native place with much success. He died at Freiberg.- Bolton 911; Ferchl 574; Ferguson II, 544; Kopp II, 356-359; Partington IV, 575-576; Pogg. II, 1297; Neville Hist. Library II, 622.m

Carl Friedrich Wenzel

Lehre

von der

Verwandschaft

der

Körper.

INGENIEURCORPSETS BIBLIOTHEK

Dreßden,

bey Johann Samuel Gerlach, 1782.

ZENDRINI, Bernardo.

Discorso Fisico – Matematico sopra il turbine seguito il giorno 25. di Genajo 1707/08, in Venezia; dove si tratta anche in generale dell’ Aria, de vapori, e della generazione de’ venti, e delle Bisciabove. Fatto …. Venezia: Girolamo Albrizzi, 1708. sm.8vo (165 x 108 mm) 68 pp. Marbled boards, rubbed and soiled, little water–stained, else genuine.

EUR 2.400.-

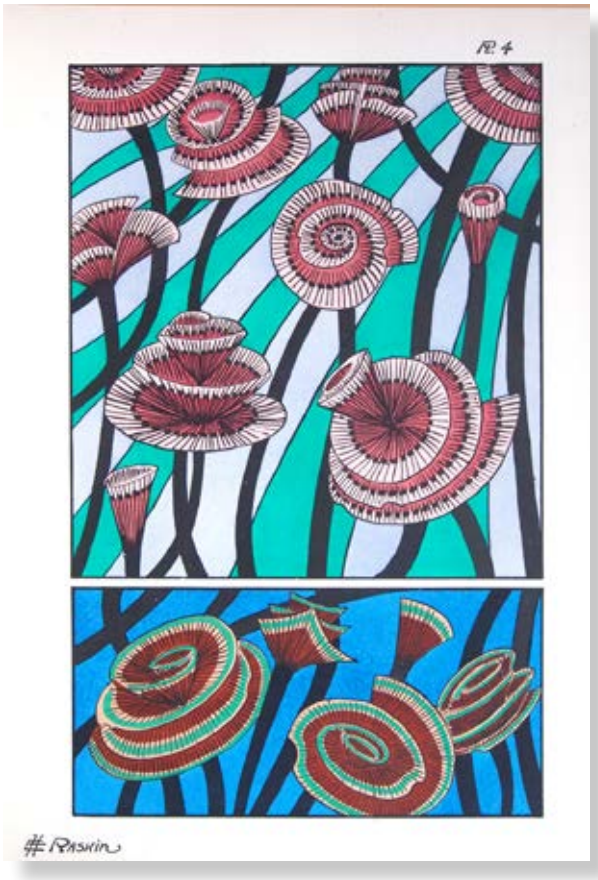
Very rare description of a tornado that has swept through the outskirts of the city of Venice in 1707/08 destroying large numbers of homes and other buildings. The hydraulic engineer, astronomer & physicist Bernardino Zendrini (1679–1747) was engaged in the service of the Serenissima of the Republic of Venice.To him we owe from about 1738 the renovation of the dams and stone walls that protected the lagoon of Venice from storm surges, originally proposed by Vincenzo Maria Coronelli. He was one of the earliest mathematicians in Italy to study the calculus in the sense of Gottfried Wilhelm Leibniz and he published a textbook on hydraulics and hydraulic engineering, which used these methods of calculus.- not in Marusek, 191. KVK: HAB Wolfenbüttel, BL London, Rome; not in OCLC: USA and major libraries.

Paris' Pochoir Print-Making at its Finest

RASKIN, E. H.

Fantaisies Oceanographiques. – Paris: F. Dumas, 1926. Folio (375 x 275 mm) Set of twentyfive pochoir plates with decorated title. An excellent set in the original folding portfolio case. Some wear to the cloth backstrip of the folding case and to the ties.

EUR 5.500.-



First edition, rare. A rare and exotic album of vivid French art deco undersea fantasies. These skilfully printed pochoir designs are based on tropical corals, anemones, plankton and jellyfish, combined into enticing patterns for possible use in fabric and wallpaper designs. The designs are remarkable for their use of the stencil overlay process of pochoir printing to create remarkable atmosphere and depth of field, combining subdued background colouration with vivid aquamarines and turquoise highlighting to catch the eye and entrance the viewer. The portfolio was limited to 250 copies and is beautifully preserved in the original folding case with cloth ties and elegant lettering stencilled to the front board. Fantaisies Oceanographiques is a mysterious and alluring celebration of Parisian pochoir printmaking at its finest..

Anatomy for Artists

AULICH, Carl; SALOMON, Eduard Julius Ludwig.

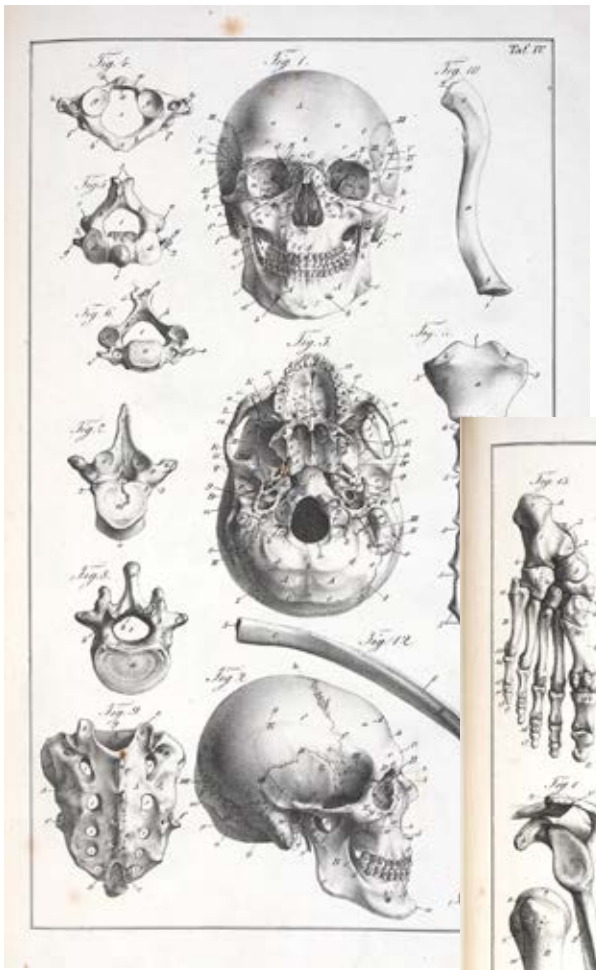
Anatomische Studien für Künstler und Kunstfreunde. Mit 9 lithograph. Tafeln. Mit einem Vorworte von Veit Hans Friedrich Schnorr von Carolsfeld. – Leipzig: Gebhardt, Reisland, 1841. sm.folio (355 x 220 mm) VI, 52 pp., nine Bll. Lithographien. Contemporary green half calf, silk on covers, gilt edges, gilt ruled borders on cover, very fine copy. Spine and edges bumped, covers sun faded.

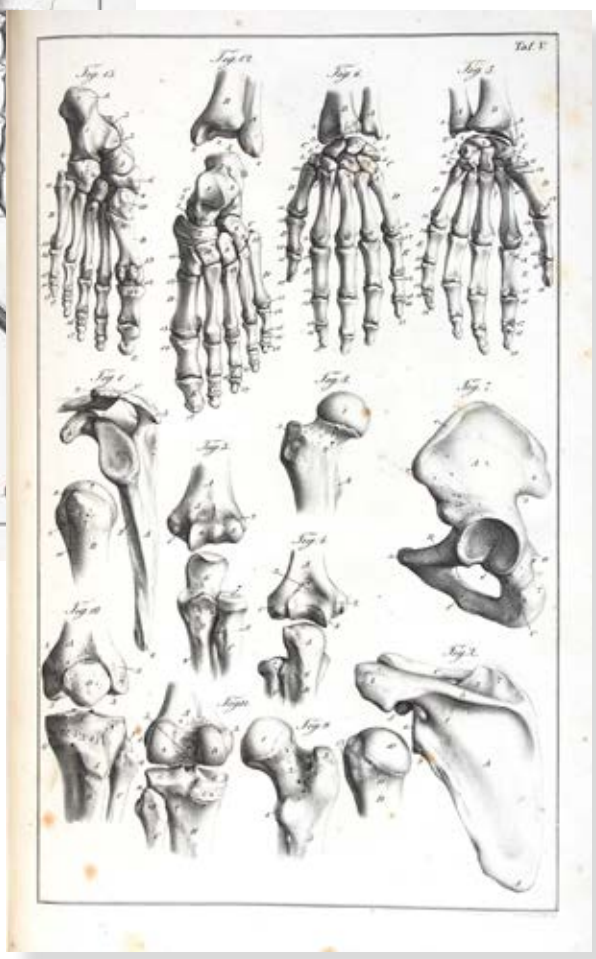
EUR 1.200.-

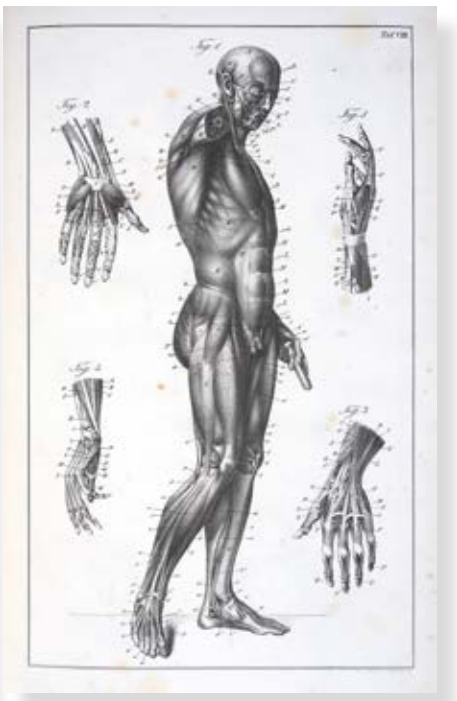
Very rare work based on Houdon's anatomical plaster statuette by an instructor in drawing for natural science and anatomy at the University of Leipzig, Carl Aulich, and a physician, Eduard Julius Ludwig Salomon (1813-1845).

„The osteologic and myologic plates are very praiseworthy, not so the skeletons which are drawn superficially, vaguely, and arbitrarily. The representations of single organs on the ninth plate, beside being useless to the artist (at least as they are drawn), are not wholly correct anatomically. The printing of the finished plates is sooty. The text is copious, scientifically instructive, and not merely explanatory." (Choulant/Frank 347) In 1842 both authors published an atlas of anatomy with the same publisher, this being a teaser for this large format atlas.

The introduction is by the German portraitist Veit Hanns Friedrich Schnorr von Carolsfeld (1764-1841) who didn't see the book in print. He was a friend of the poet Johann Gottfried Seume, whom he set out to accompany in 1801 on a journey to Syracuse, Sicily but separated from him after travelling no further than Vienna. In 1803 he returned to Leipzig and became an assistant teacher at the Leipzig Academy of Art. In 1814, after the death of Johann Friedrich Tischbein, he became director, which he remained until 1841.- KVK / OCLC: only Dresden, Göttingen, Frankfurt, Wiesbaden; Strasbourg; not in OCLC (USA).





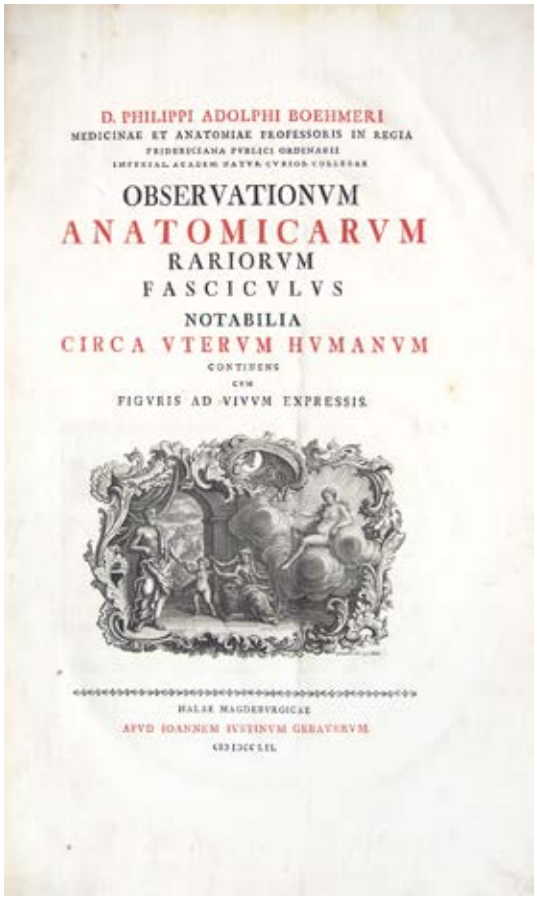


With Manuscript Drawings for an intended Second Edition

BOEHMER, Philip Adolf.

Philippe Adolphi Boehmeri Observationum anatomicarum rariorum fasciculus ... Notabilia circa uterum humanum continens: cum figuris ad vivum expressis. Fasc. 1. [and] Fasc. [2] Alter notabilia circa uterum humanum continens cum figures ad vivum expressis [= all publ.]. 2 parts in one volume. – Halle: J. J. Gebauerum, 1752 – 1756. Folio (410 x 290 mm) LI (= 51), [3] pp. and 3 engraved plates; LXVIII pp., with 8 engraved plates. Half calf period style A fine clean copy.

EUR 2.800.-


D. PHILIPPI ADOLPHI BOEHMERI
MEDICINAE ET ANATOMIAE PROFESSORIS IN REGIA
OBSERVATIONVM
ANATOMICARVM
RARIORVM
FASCICVLVS
NOTABILIA
CIRCA VTERVM HVMANVM
CONTINENS
CVM
FIGVRIS AD VIVVM EXPRESSIS

First edition, uncommon, his collected observations on gynecological special cases and malfunctions.

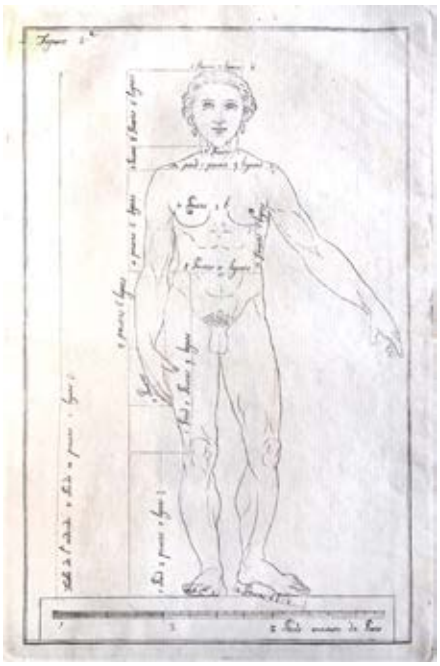
Bound with this is in each volume a different title page of the same book, probably an unpublished edition without title vignette and with the plates in hand drawing (wash-color and ink) by another artist, maybe for an intended second edition.

Philipp Adolf Boehmer (1711–1789), german anatomist and prof., personal doctor of King Friedrich Wilhelm II. von Preußen. He studied from 1732 with Friedrich Hoffmann and Johann Heinrich Schulze at Halle University. After his doctorate he travelled to Paris to study with Gregoire and to Strassbourg to deepen his studies. In 1741 he succeeded Johann Friedrich Cassebohm at Halle University and became member of the Leopoldina and Berlin Academy.- Goldschmid 246: „Die 11 Tafeln des prächtig ausgestatteten Werkes bringen lebensgroße Abbildungen von ektopischer Schwangerschaft, Myom, Uterusmißbildung und Mißgeburt in plastischem Linienstrich."; Blake 52; Wellcome II, 188; Hirsch-H. I, 593.

TAB. III.

TAB. I.

Giacoma – Transgender ante Litteram



(Giacoma FORONI)

"Relazione, riflessioni e giudizio sul sesso di un individuo umano vivente chiamato e conosciuto sotto il nome di Giacoma Foroni" in: Saggio d'operazioni ed esercizi dell'Accademia Virgiliana nel corso dell'anno accademico MCCCII primo repubblicano. Dedicato al cittadino Francesco Melzi D' Eril, Vice Presidente della Repubblica Italiana. – Mantova, Pazzoni, (1802). 4°(280 x 205 mm) 19 pp., 13 pp., 38 pp.,(2), 10 pp., (2), 15 pp., 31 pp. Little later Carta rustica with flowers, rubbed and soiled, but fine copy.

EUR 2.400.-

Rare journal to include a long analysis carried out by a deputation from the medico-surgical class of the Virgilian Academy of Mantua regarding the „physical anomalies" found on the body of a young peasant woman to determine if it was male or female.

An Italian woman gave birth on 22 May 1779 to an infant baptized as a girl with the name of Giacoma Foroni. Early on in the child's life, it became apparent to her mother that her body presented anomalies in that she seemed to possess both male and female characteristics. In May 1802, a deputation from the medico-surgical class of the Virgilian Academy, authorized by the government, went to the hamlet of Foroni, near Mantua. This was to be the final stage in a series of attempts to draw definitive conclusions regarding the sex of Foroni, who was then just under 23 years old. The members of the committee (doctors and surgeons called Tonni, Tinelli, Paganini, Ballardi) were to write a very detailed report about the case and to decide whether she is male or female. She/He could not be classified as a hermaphrodite. Giacoma Foroni herself apparently accepted the initial examination (of midwives who assured her that she was a female but warned her about the dangers the young woman would encounter should she become pregnant) gladly as she believed it would determine her to be a woman and allow her to marry a local peasant to whom she was engaged. Foroni apparently became less forthcoming when she found out that the decision was made that he/she was a male.- Lit.: Catriona Seth. Sexing the body. The case of Giacoma Foroni; in: Eighteenth-Century Archives of the Body. Université de Nancy.

BIANCHI, Giambattista.

Storia del mostro di due corpi, che nacque sul Pavese in Giugno 1748. Riferita da Giambattista Bianchi, … con alcune riflessioni. – in Torino: nella Stampa di Filippo Antonio Campana, (1749) 8vo (mm) (2), XIX, 3-139 pp., (1) with two fold. plates. Contemporary half calf, morocco label on spine, marbled paper on covers, uncut copy, waterstained in places. The printer has some pages at the beginning at the end: ix-xii between 130-139. There are also some misbound pages at the end (folding the sheets wrongly before binding), but complete.

EUR 2.400.-

Exceedingly rare book on conjoint twins from Pavese written by the Italian anatomist Giovanni Battista Bianchi (1681–1761), a prominent surgeon and anatomist, the first discoverer of several anatomical organs or valves in humans.

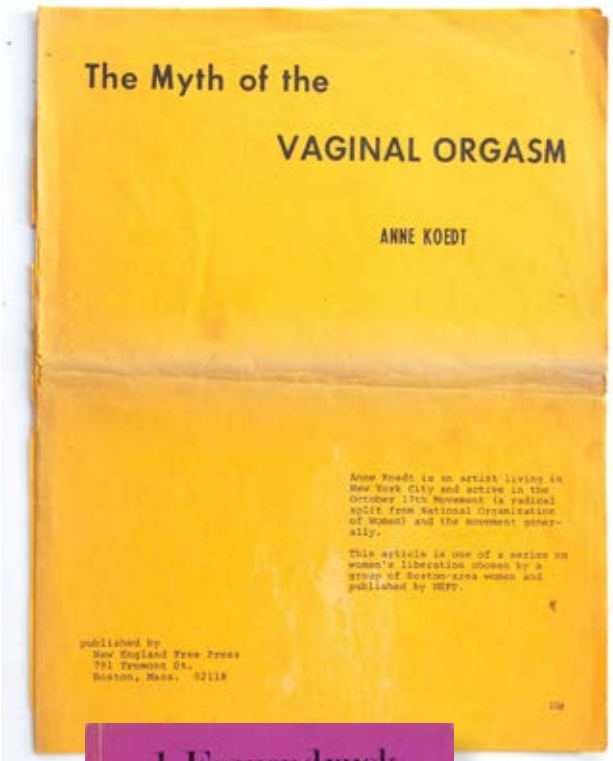
The Italian anatomist Giovanni Battista Bianchi (1681–1761 Torino) came from a noble family in Milan and completed his medical studies at the age of 17 with famous teachers such as Torriglia, Migliore, Torrino at the University of Turin. He was given responsible tasks in hospitals in his hometown at a very early age. In 1718 he was appointed associate professor, in 1719 honorary professor in the chair of theoretical medicine, and in 1721 full professor in the chair of anatomy at the University of Turin. Victor Amadeus II had an anatomical show room built for Bianchi. Today he might be known as author on a work on Catherine Vizzani.

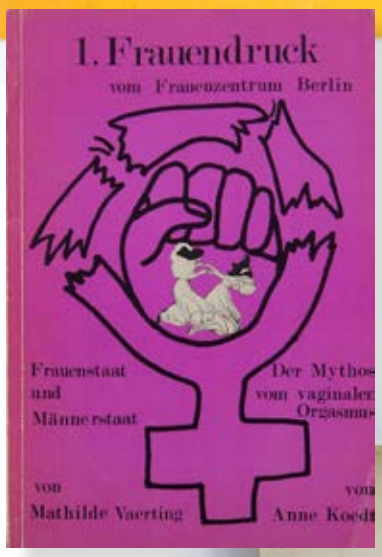
In 1744 Bianchi wrote a work that was translated by John Cleland into english and is remarkable for being the first study in English of what we might call „the lesbian body"; that is, the worthy doctor was confronted by a woman with a homosexual orientation, and he eventually anatomized her body to see if the source of this sexual anomaly could be found there. This approach illustrates that by the mid-eighteenth century the question about whether or not homosexuality was constitutional was an important issue. Since in fact Catherine Vizzani's body could not be differentiated from any other woman's body, it was more or less decided that her homosexuality was „caused" by something else; Cleland suggests it was caused by an early seduction by a female. Catherine's father seems to be the only one who realizes that his daughter was born that way, and that her „constitution" could not be „repressed", and that her inclination was part of „nature" and must be allowed to take its course. Catherine is perceived as „having a masculine Spirit, as well as masculine Desires". It is worth noting in the introductory paragraph that the word „Lesbian" is used in the same sentence as the phrase „Depravity of Nature" and „attachment to her own Sex": in other words, the author has a clear understanding of the modern meaning of the word „lesbian".

From medieval times through the Enlightenment conjoined twins were viewed as monsters. Their existence simultaneously horrified and amazed the common person. The established medical explanation of the day, from Hippocrates, reasoned that a conjoined twin was simply the result of there being too much seed available at conception for just one child, but not enough for two distinct beings. Even so, popular theories fueled the public's fear and wonder by suggesting that conjoined twins were the result of impure conception or the witnessing of some evil or traumatic event during pregnancy. Books depicting all sorts of monsters, both real and imagined, were extremely popular among the literate during this period. The authors often copied extensively from each other, bringing long told tales with new illustrations to another generation of the fascinated. - DBI, Vol. 10. KVK: Münster, Stabi Berlin, HAB Wolfenbüttel; not Wellcome, not NLM.

STORIA
DEL MOSTRO
DI DUE CORPI,
Che nacque ſul Paveſe in
Giugno 1748
Riferita da
GIAMBATTISTA BIANCHI
Preſide, e Capo del Magiſtrato del Protomedicato, e Profeſſor Primario di Notomia nella Regia Univerſità ec.
Con alcune rifleſſioni.
IN TORINO.
Nella Stampa di Filippo Antonio Campana. Con *licenza de' Superiori.*

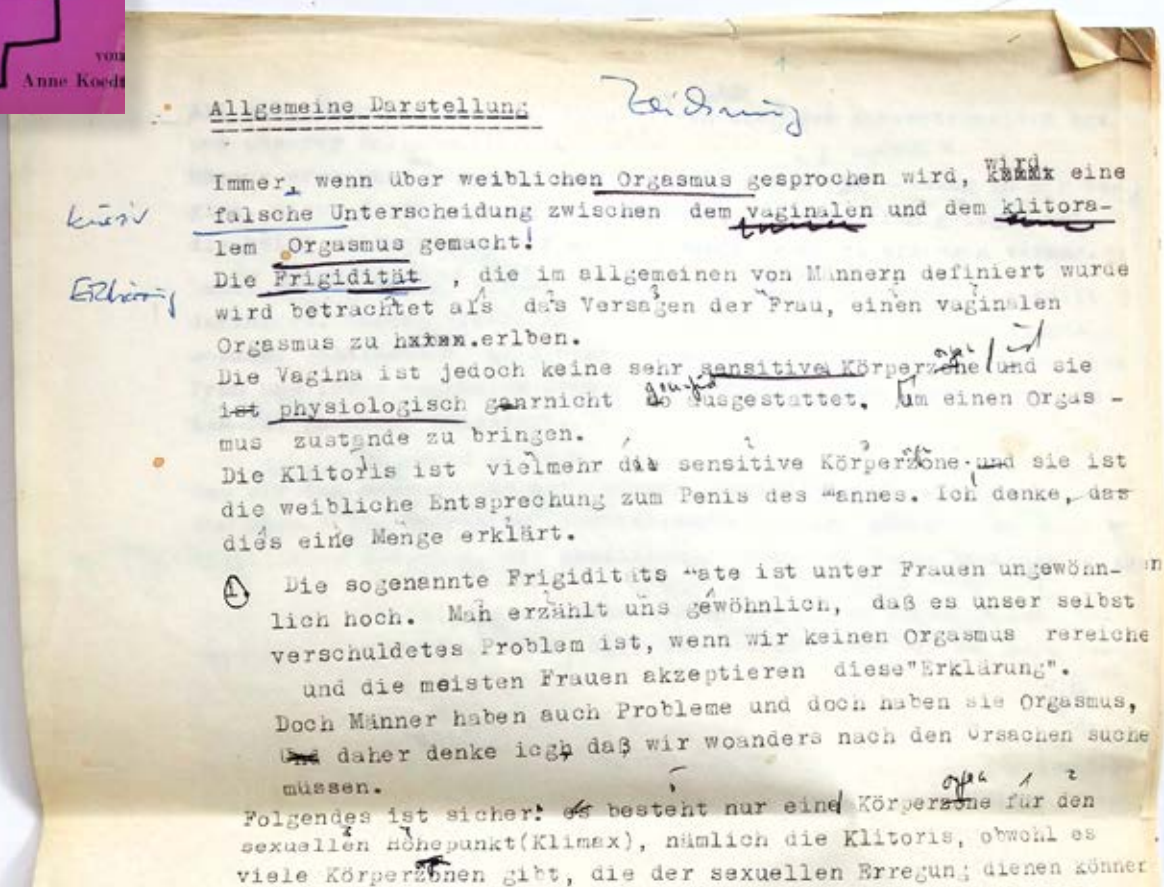
Feminism





Rare first edition incl. the manuscript for the first german edition (in type-script with handwritten corrections) and the first german edition of Anne Koedt's classic feminist work on women's sexuality.

Anne Koedt (born 1941) is an American radical feminist and New York-based author and artist. She was connected to the group New York Radical Women and was a founding member of New York Radical Feminists. „The Myth of the Vaginal Orgasm is a feminist essay on women's sexuality, written by Anne Koedt, an American radical feminist, in 1968 and published in 1970. It first appeared in a four-paragraph outline form in the Notes from the Second Year journal published by the New York Radical Women and was partially based on findings from Masters and Johnson's 1966 work Human Sexual Response. The Myth was then distributed as a pamphlet in its full form, including sections on evidence for the clitoral orgasm, female anatomy, and reasons the „myth" of vaginal orgasm is maintained. Koedt wrote this feminist response during the sexual revolution of the 1960s. The goal of this response is to address both the 'myth of the vaginal orgasm', create awareness and education for women and men about female sexual pleasure, and to counter previous thought about the female orgasm. Koedt reflects in her writing, "It was Freud's feelings about women's secondary and inferior relationship to men that formed the basis for his theories on female sexuality. Once having laid down the law about the nature of our sexuality, Freud not so strangely discovered a tremendous problem of frigidity in women. His recommended cure for a woman who was frigid was psychiatric care. She was suffering from failure to mentally adjust to her 'natural' role as a woman." Koedt breaks societal barriers of what is considered acceptable to discuss and her article played a vital role in the feminist sexual revolution, and draws on research done by Alfred Kinsey, among others, about human sexuality to support her claims." (wikipedia)



Allgemeine Darstellung

Immer, wenn über weiblichen Orgasmus gesprochen wird, wird eine falsche Unterscheidung zwischen dem vaginalen und dem klitoralem Orgasmus gemacht!
Die Frigidität, die im allgemeinen von Männern definiert wurde wird betrachtet als das Versagen der Frau, einen vaginalen Orgasmus zu erlben.
Die Vagina ist jedoch keine sehr sensitive Körperzone und sie ist physiologisch garnicht so ausgestattet, um einen Orgasmus zustande zu bringen.
Die Klitoris ist vielmehr die sensitive Körperzone und sie ist die weibliche Entsprechung zum Penis des Mannes. Ich denke, das dies eine Menge erklärt.

Die sogenannte Frigiditäts-rate ist unter Frauen ungewöhnlich hoch. Man erzählt uns gewöhnlich, daß es unser selbst verschuldetes Problem ist, wenn wir keinen Orgasmus erreiche und die meisten Frauen akzeptieren diese"Erklärung".
Doch Männer haben auch Probleme und doch haben sie Orgasmus, daher denke ich, daß wir woanders nach den Ursachen suche müssen.
Folgendes ist sicher: es besteht nur eine Körperzone für den sexuellen Höhepunkt(Klimax), nämlich die Klitoris, obwohl es viele Körperzonen gibt, die der sexuellen Erregung dienen könner

BUBENIK, Gernot

Without title. Screenprint, dated and signed by the artist. 1968. No. VI of XX copies. Farbserigraphie auf dünnem Karton. Signiert und datiert unten rechts mit blauem Buntstift sowie nummeriert unten links. Exemplar: VI/XX. Size: 500 x 650 mm.

EUR 1.400.-

Pop - Art Screenprint from his series of wall maps on genitals and sexuality as published on the cover of „Sexualkunde Atlas." The visual artist Gernot Bubenik (born 1942) became famous in the 1960s with his Pop Art wall maps (in oil, screen printing and etching) on objects between art and science. In 1967 he received the German Critics' Award and in 1968 the Tokyo Biennial Award.

The „Sexualkunde-Atlas" (Atlas on sexuality. Biological information on human sexuality) was the first official textbook for sexual education in West German schools.

The Conference of Ministers of Education for the Federal Republic of Germany presented in 1968 the first „recommendations for Sex education in schools". On June 10, 1969, the textbook Sexualkunde-Atlas was introduced as a nationwide teaching tool for the new subject „Sexualkunde" (sexual education). It was published in June 1969 on behalf of Käte Strobel, Federal Minister of Health, and the text was written by the Federal Center for Health Education.

The publisher C. W. Leske Verlag in Opladen was asked to find a design concept. „In order to circumvent the general taboo around sexuality, the explanatory drawings adhered to a practical, colorful, and „modern" approach." (M. Stoll)

The atlas has 48 pages, which were divided into twelve chapters: containing chapters & topics such as genital organs, fertilization and pregnancy. Ethical, social or emotional aspects were not dealt with. Critical issues such as homosexuality have been left out. The cover design came from the artist Gernot Bubenik. The state ministries of culture were very skeptical and the book was controversially accepted. While the Evangelical church advocated more liberal sex education, Catholic and Conservative circles criticized the state's efforts to educate people. The influential politician Hildegard Hamm- Brücher criticized the book in the liberal journal „Die Zeit": „I would never handed over the book to my 14-year-old daughter." Among other things, the naturalism of the representations was criticized as well as: „Contemporary critics complained that the atlas looked more like the user's manual for a refrigerator." (Stoll). Shortly afterwards (1974) the publisher „Jugenddienst Verlag" showed another approach to the theme with the photographer Will McBride's „Zeig Mal ! Ein Bilderbuch für Kinder und Eltern" (Parr/Badger, The Photobook II, 26) which was published also in other languages.- Rendgen/Wiedemann (eds.) History of information graphics, pp. 355

Not yet Corvid

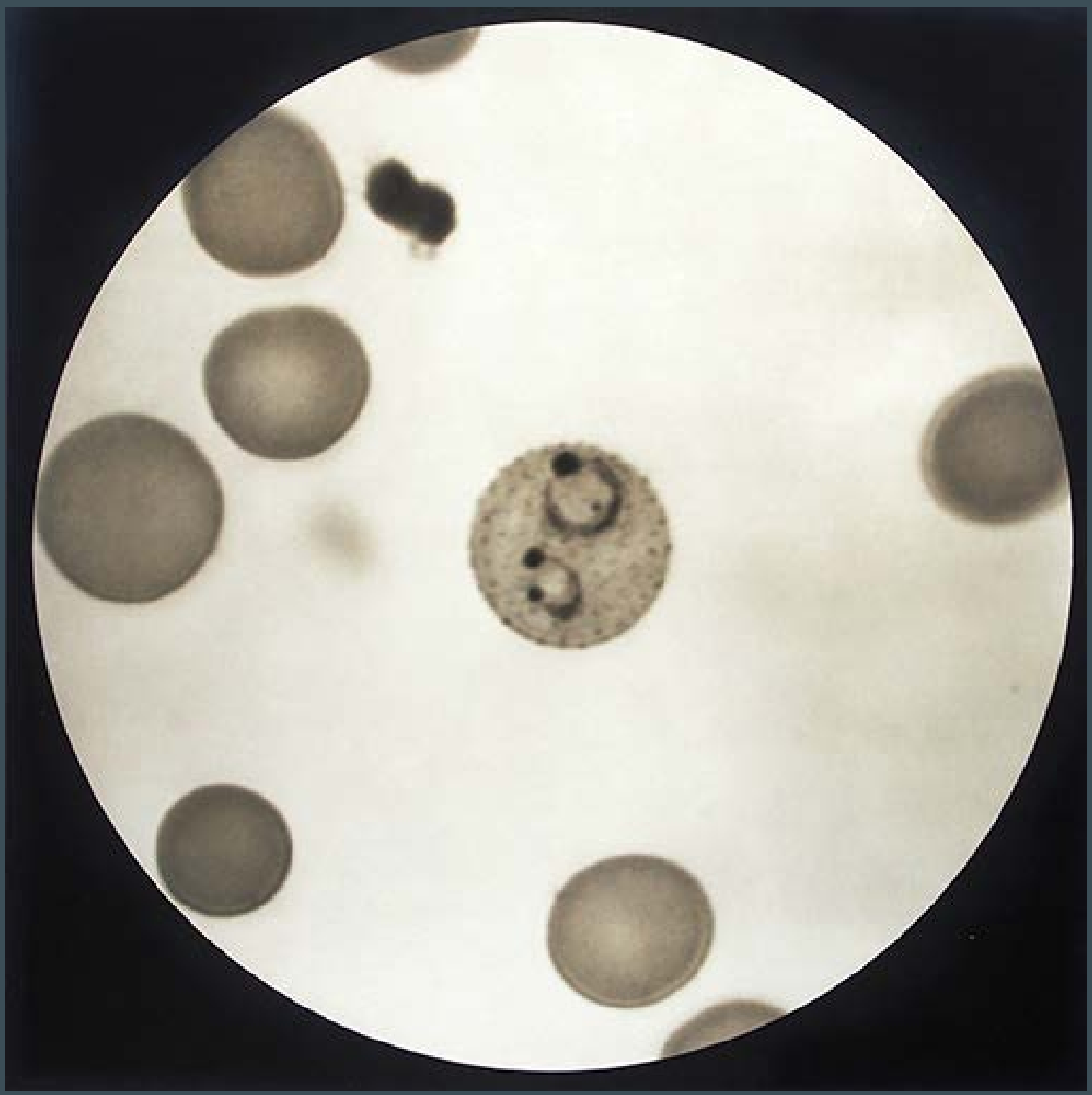
LAUBENHEIMER, Kurt (ed.)

Photographische Wandtafeln pathogener Protozoen. Mit kurzem erläuterndem Text. Herausgegeben von … – Heidelberg: Carl Winter, 1910. Imperial-folio (620 x 620 mm) 10 original photographs (size: 400 x 400 mm) mounted on heavy card boards (600 x 600 mm) in original publishers half cloth portfolio with printed label on cover and ties. TEXT: 4 pp. text and one printed plate (overview of the photogr. plates) in original wrappers. Overall fine.

EUR 7.000.-

Exceedingly rare portfolio of photographs of pathological protozoa (like Corona ?) for educational purposes - to be used as wall maps for instruction and to identify. We could trace only one other copy in libraries.

Protozoan infections are parasitic diseases caused by organisms formerly classified in the Kingdom Protozoa. They are usually contracted by either an insect vector or by contact with an infected substance or surface and include organisms that are now classified in the supergroups Excavata, Amoebozoa, SAR, and Archaeplastida. Protozoan infections are responsible for diseases that affect many different types of organisms, including men, plants, animals, and some marine life. Many of the most prevalent and deadly human diseases are caused by a protozoan infection, including African Sleeping Sickness, amoebic dysentery, malaria and Sars-CoV-2 (?). The word „protozoa“ was coined in 1818 by the zoologist Georg August Goldfuss, as the Greek equivalent of the German Urthiere, meaning „primitive, or original animals“. Goldfuss created Protozoa as a class containing what he believed to be the simplest animals. In 1848, as a result of advancements in cell theory pioneered by Theodor Schwann and Matthias Schleiden, the anatomist and zoologist von Siebold proposed that the bodies of protozoans such as ciliates and amoebae consisted of single cells, similar to those from which the multicellular tissues of plants and animals were constructed. Von Siebold redefined Protozoa to include only such unicellular forms, to the exclusion of all metazoa (animals). At the same time, he raised the group to the level of a phylum containing two broad classes of microorganisms: Infusoria (mostly ciliates and flagellated algae), and Rhizopoda (amoeboid organisms). The definition of Protozoa as a phylum or sub-kingdom composed of „unicellular animals“ was adopted by the zoologist Otto Bütschli—celebrated at his centenary as the „architect of protozoology“—and the term came into wide use. Kurt Laubenheimer (1877 - 1955) was Prof. of Bacteriology in Frankfurt / Main. As the son of a chemist who was a director of Hoechst AG, he had studied in Giessen where he obtained his master with a dissertation on Typhus. He worked at different posts in Giessen, Strasburg and Heidelberg. In the 1920 he wrote a text - book on microphotography being then extraordinary Professor for Hygiene and Bacteriology at Heidelberg University, and from 1922 to 1943 he worked at the Paul Ehrlich Institut in Frankfurt a. Main. He was also interested in cinematography for the medical sciences. This work is not mentioned in any bibliography.- not in Heidtmann (but see 05356); Drüll, Heidelberger Gelehrten 467. KVK, OCLC, COPAC: no copy in Germany (?); not in Wellcome Collection, **only one copy in libraries**: NLM Bethesda.



Modernist Perspective – Frog's Eye View

LOULA, Karel; V. HEROUT.

Eight finely executed modernist architectural drawing in pencil and wash color, partly using with silver and gold on thick paper card boards. Using the unusual frog perspective, and often in scale: 1 : 20. Titled and stamped in Czech mostly in lower right corner. Also a stamp by a higher art school (? Skola Malirska) and signed by K. Lonea (?) (810 x 500 mm) Traces of use. (Prague, 1920–30's)

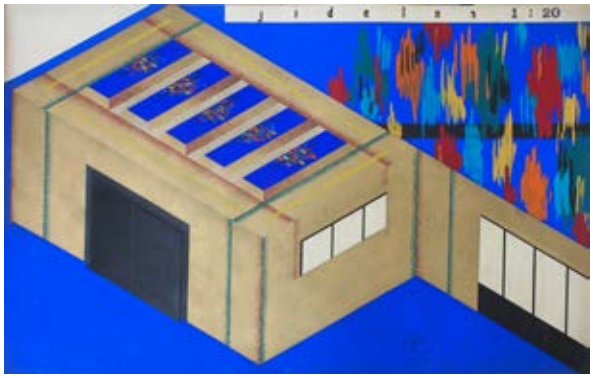
EUR 6.800.-

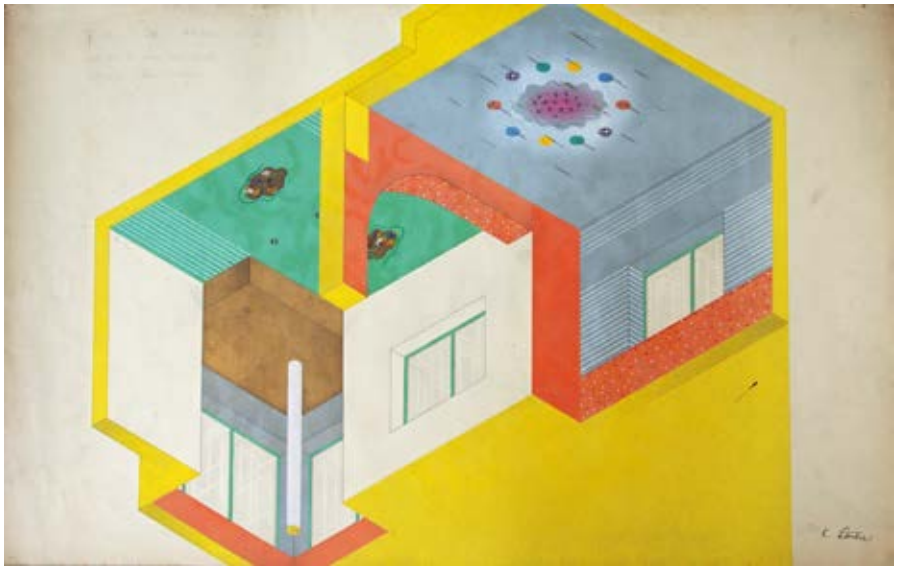
Interesting set of colorful designs for a modern house or apartment in functional, modernist style by an otherwise unknown architect from Prague, eventually made at an higher art school in the late 1920's. The architect used the unusual frog perspective - which make these drawings confusing if you don't explain. It also make an object look taller, stronger, and mighty while the viewer feels a bit childlike or powerless. These images are a fine example of architectural education in times of the czech modernist architecture.

The images show: ob. kuchyne (Kitchen); Jidelna (dining hall); loznice (bed room); Pansky pokoj (Man's Room); Jidelna (dining hall); zasedacisin (Wintergarden ?); ob kuchyne (Kitchen); untitled

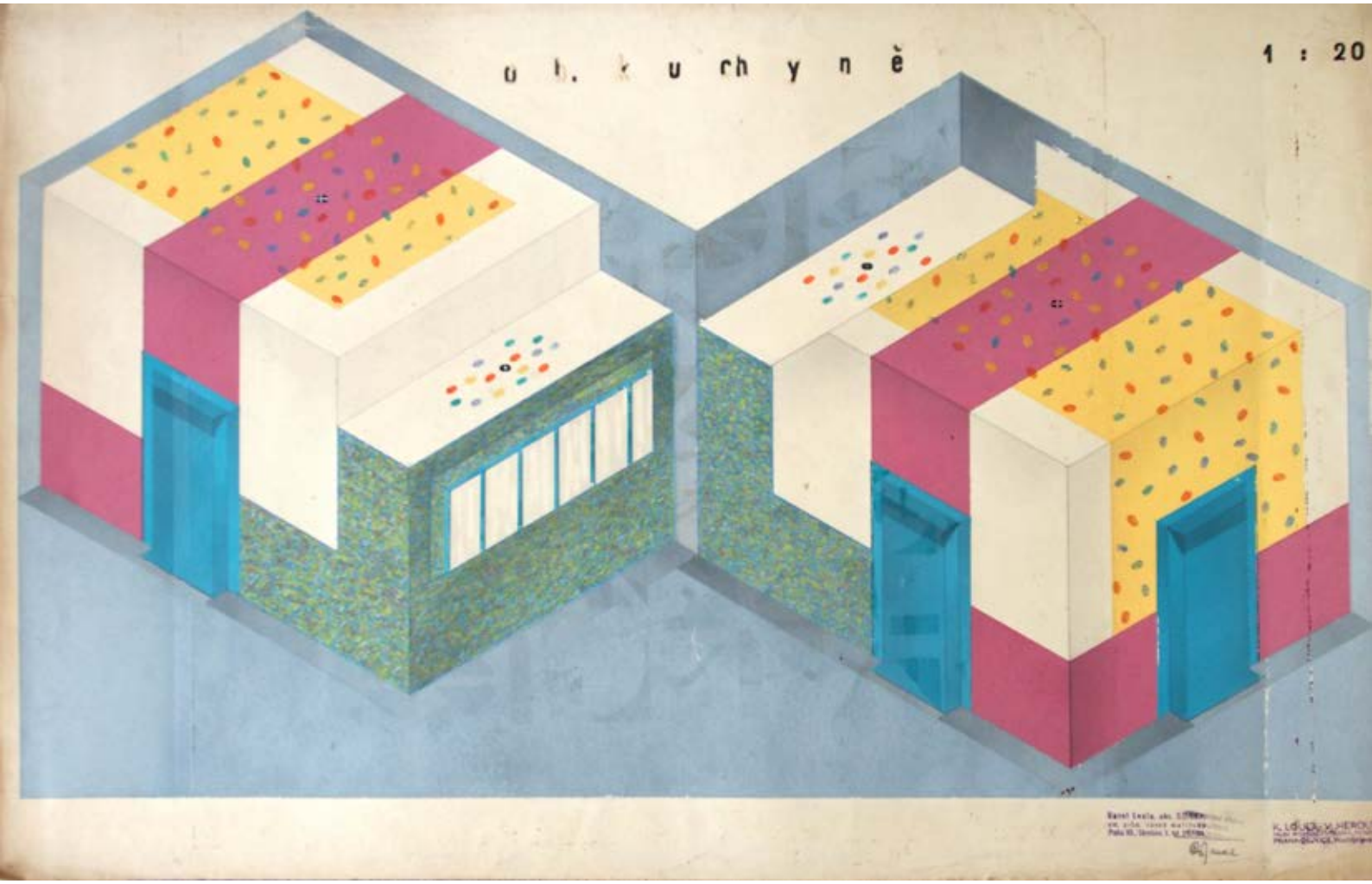
The Czech architects of the 1920's and 30's had visited Russia and Germany, the Netherlands and France, and returned determined to create a style more modern yet, and not just in Prague. Brno, a center for manufacturing, and Zlin, home to Bata, then the world's largest shoe manufacturer, became architectural showcases, too. President Tomas Masaryk hired an iconoclastic Slovene architect, Josip Plecnik, to modernize portions of Prague Castle. Le Corbusier came to lecture, and to look for work, but found none. And 12,000 people trekked up a hill in the Prague neighborhood of Baba to inspect a community of model homes that were daringly flat-roofed amalgams of horizontal and vertical spaces: "It was a young, new state, and they realized that architecture could play an important role to promote a vision of modernity, of modern democracy." (Jaroslav Andel)

In the early 1920s, architects responded to the technical inventions, the rise of aviation and the rise of automobiles by focusing on exterior decoration of buildings. Buildings with light shells, ribbon windows, flat roofs and the use white plasterwork or ceramic tiles helped define this trend. White buildings with large windows also characterized this movement that became a phenomenon in Prague. Architects strove for a sense of proportion and harmony. The first Functionalist buildings in Prague include the Bata House on Wenceslas Square. The Bata House features very narrow windowsills and a light cantilevered glass façade. Pavel Janak designed the Julis Hotel on that square, too. Well-renowned architect Adolf Loos designed the famous Muller Villa with rooms at different heights in the Stresovice district. The Cerna Ruze arcade in Na Prikope Street and the Olympic Palace on Spalena Street also feature functionalist elements. The Olympic Palace, for example, is made of reinforced concrete and has a flat roof terrace on the upper floor. The Veletrzni Palace or Trade Fair Palace in Prague's seventh district proves the biggest functionist building in the city and one of the largest buildings in Europe constructed in Functionalist style. It now serves as an art museum for modern works and is managed by the National Gallery in Prague. The family houses in the residential district of Baba in Prague's sixth district also derive from the functionalist style and were designed in a chessboard format. World War Two and the Nazi Occupation brought an abrupt end to this significant architectural trend.

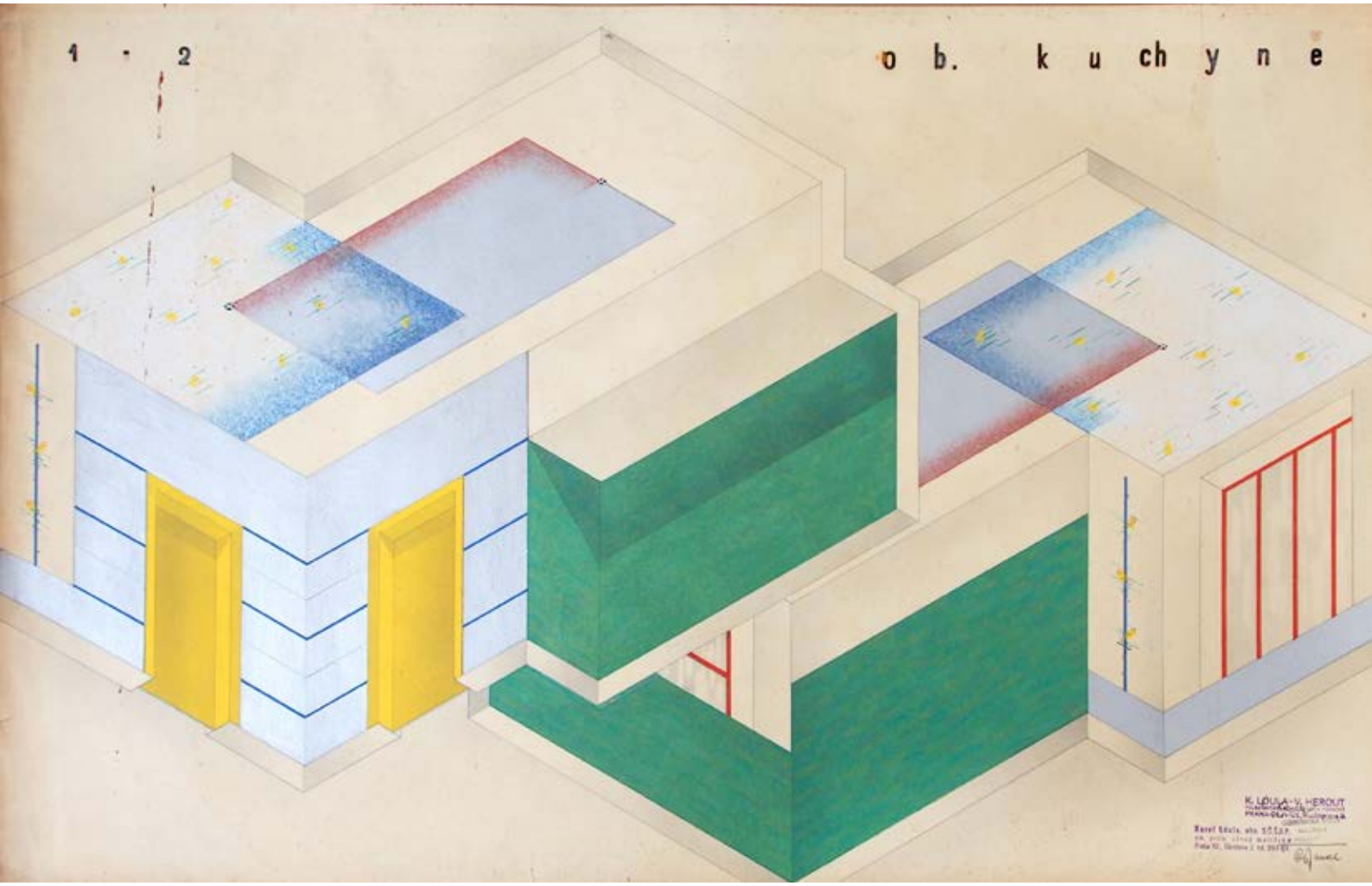


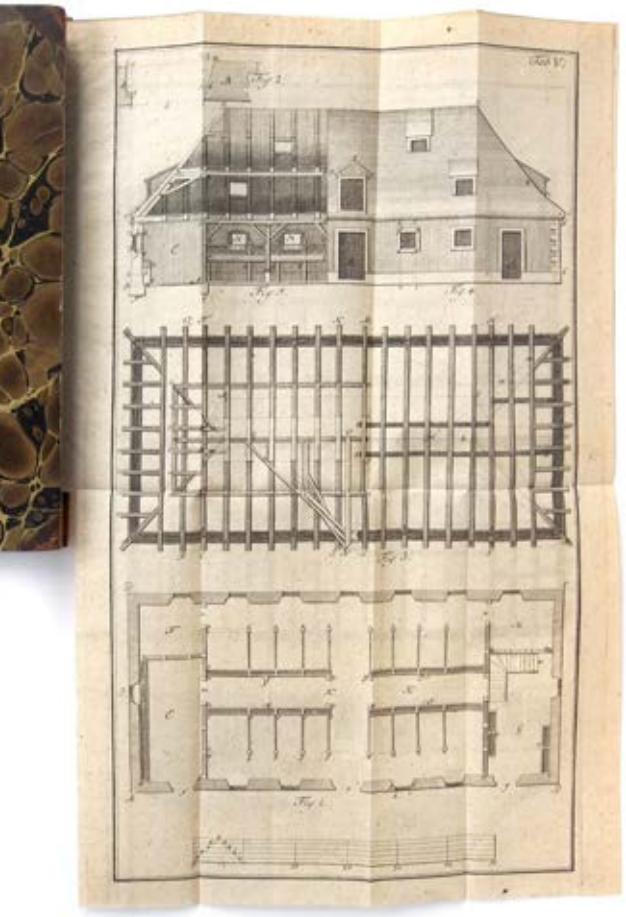


ob. kuchyně 1 : 20



1 : 2 ob. kuchyne



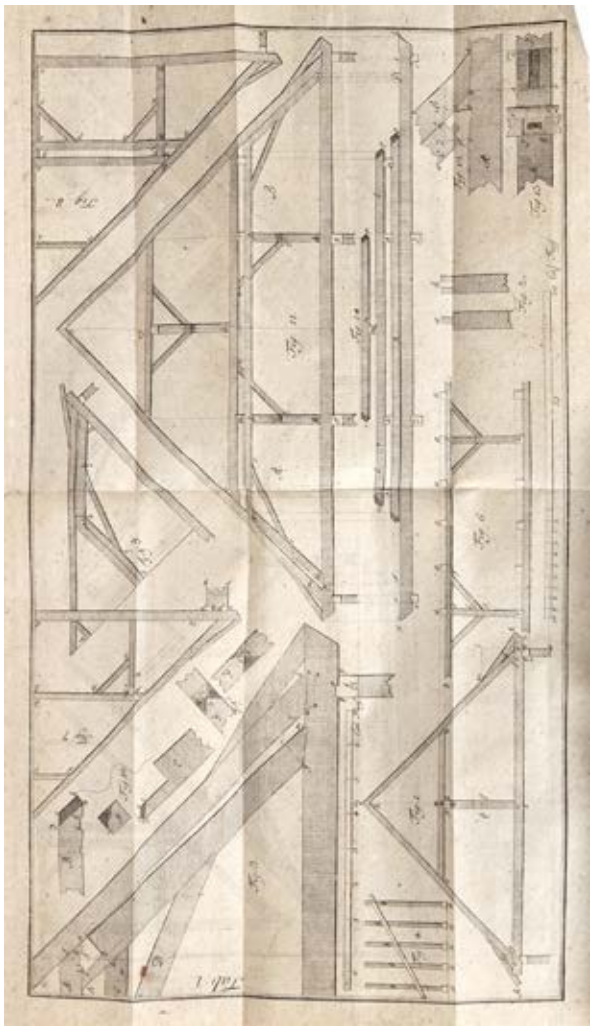


BORHECK, Georg Heinrich.

Entwurf einer Anweisung zur Landbaukunst, nach ökonomischen Grundsätzen. Zweite, umgearbeitete und vermehrte Ausgabe. 1.–2. Theil. in 2 Vols. – Göttingen, Vandenhoeck und Ruprecht, 1792. 8vo (195 x 115 mm) (12), 220 pp.; XXII, 234 pp. and together 17 fine large folded engraved plates. Contemporary half – calf, marbled boards, gilt spines, morocco lettering pieces, yellow edges. Stamps on title–pages. A few scattered brown–spots. Fine copy.

EUR 1.200.-

Second edition, revised and enlarged, of a very competent treatise on the architecture of country houses and farm buildings by the Göttingen based architect Georg Heinrich Borheck (1751-1834), subsequently well known as the architect of the University of Göttingen's astronomical observatory under Gauss, built to his designs from 1803 onwards. His master building was the first hospital for women in Germany built in Göttingen in 1785 to 1787 (‚Accouchierhaus'). In 1802, George III. of the United Kingdom, who was also the prince-elector of Hanover, allocated 22,680 thalers for a new observatory. The plans were developed, like many of the university's buildings, by the architect Georg Heinrich Borheck. Construction was delayed by the French Revolutionary Wars and extended from 1803 until 1816. At the time, the building was on the outskirts of Göttingen, to ensure an unobstructed view of the night sky. Carl Friedrich Gauss became the first director of the Observatory, and lived there between 1815 and 1855. Gauss arranged for the installation of two meridian circles (produced by Johann Georg Repsold and Georg Friedrich von Reichenbach in 1818 and 1819. A book by Borheck on the construction of this observatory was never published but is present in manuscript form (see: http://goedoc.sub.uni-goettingen.de/goescholar/bitstream/handle/1/3217/sternwarte_online.pdf?sequence=1). The first edition of Borheck's book had appeared in 1779, but it is this enlarged edition that was most commonly used and cited. Of its two volumes, the first is chiefly devoted to buildings for livestock and for storage of crops, while the second deals with the design of country and farm houses, cottages, school houses, residences for Protestant clergymen and their churches.- Berlin Cat 2035 (this edition) ; not in BAL Cat.



Unpublished Manuscript – Secret

(anon.; LAHR, Heinrich von der)

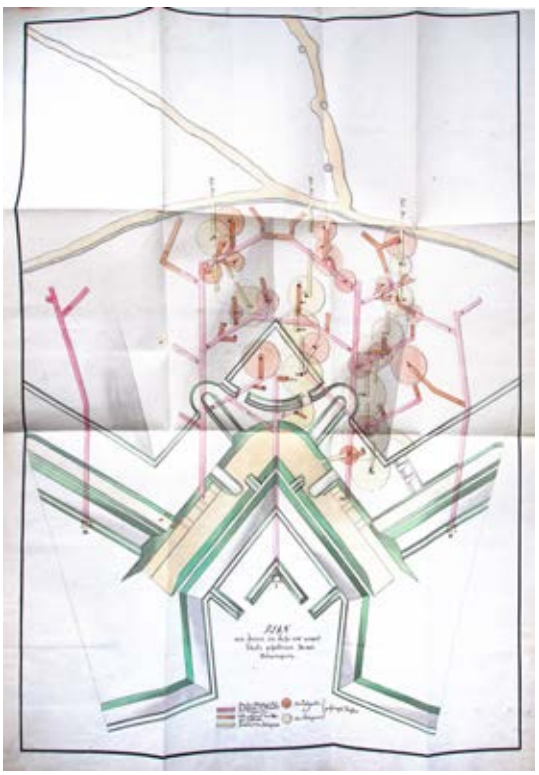
Journal von denen im Jahr 1776 bey Glatz gehaltenen Minenübungen (bound with) Journal von denen im Jahr 1777 bey Neisse gehaltenen Minenübungen, (mit 9 Zeichen). German manuscript in brown ink on strong and good paper in a legible hand. (no place, 1776 and 1777). Folio (330 x 210 mm) Title, 28 unnumbered pages with two fine hand-colored plates (710 x 510 mm and 245 x 360 mm); Title, 28 unnumbered pages with manuscript table and seven fine executed manuscript plates, partly hand colored (size: from 400 x 470 to 260 x 360 mm). Yellow german paper-card boards with handwritten label on cover, red edges.

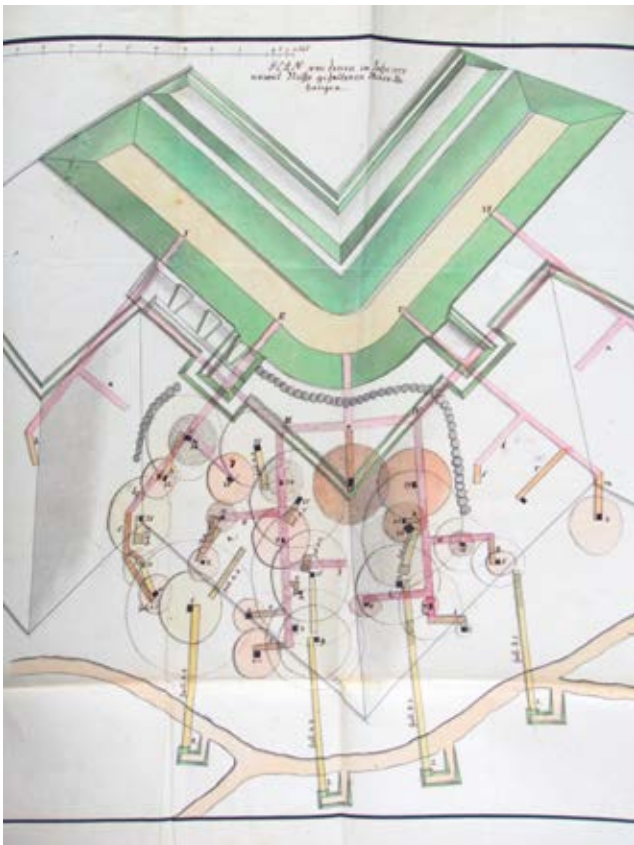
EUR 4.900.-

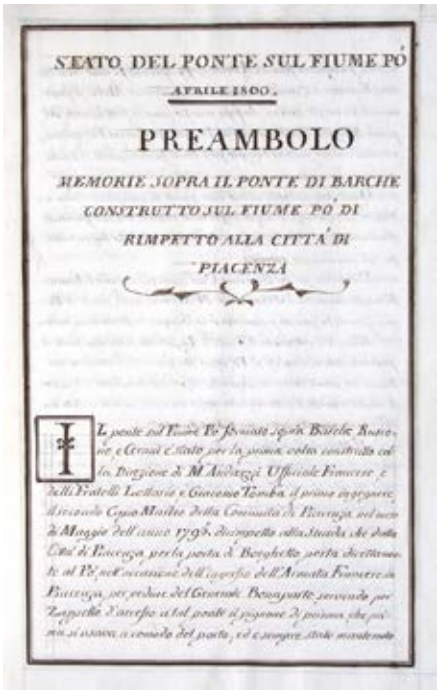
Authorial and unpublished manuscript by unknown hand, but probably by Heinrich von der Lahr or by Joachim Michael Geuss using a manuscript of von der Lahr. Heinrich von der Lahr (1734 -1816) was a Prussian lieutenant general of the Mine Corps in Neisse. He was the author of the Mine Regulations of 1795 as well as several books on the subject of mine warfare, which were not made public at the time for reasons of secrecy.

In 1751 he became an engineering candidate with Major Balbi in Potsdam and on August 30, 1755, he was appointed conductor (or surveyor) of the engineers. At the beginning of the Seven Years' War, Lahr joined the army of Duke Ferdinand von Braunschweig- Wolfenbüttel. The latter sent him to Magdeburg in 1757 to prepare the fortress for defense. During this time he also taught the Prince of Prussia in fortress construction and topographical land surveying. In 1758 Lahr was commanded to siege Olomouc and defend Neisse. On April 12, 1758 he became a second lieutenant in the mining company and in 1760 he was an adjutant to the engineering major Lefebvre in Neisse, but was captured on July 26, 1760 by the capitulation in Glatz, from which he was released in 1763 . He was first transferred to Silberberg, then to Glatz, and finally to Schweidnitz and promoted to chief of staff on October 1773.

In the War of the Bavarian Succession, he was engaged in a detachment of miners with the construction of roads. In 1780 he wrote a treatise on the use of mines in the siege war, which he presented to the king. In 1782, he became captain and company commander in the Mine Corps in Neisse. There he was promoted to Major in 1786 and Lieutenant Colonel and Commander of the Mine Corps in 1789. During the First Coalition War, Lahr was ordered to siege Mainz. The fortress was besieged according to his plans, for which he received the Order Pour le Mérite. In 1793, he was promoted to major general. Lahr stayed in Mainz until 1795 to repair the fortress works. After the war in 1795, he returned to Neisse and received an allowance of 1,000 thalers. However, since Lahr had a great reputation in the engineering corps, he was commissioned to prepare practical lessons for miners.- Wenzell, Angriff und Vertheidigung (1824), pp. 821-22.






STATO DEL PONTE SUL FIUME PO
APRILE 1800.
PREAMBOLO
MEMORIE SOPRA IL PONTE DI BARCHE
CONSTRUTTO SUL FIUME PO DI
RIMPETTO ALLA CITTA' DI
PIACENZA

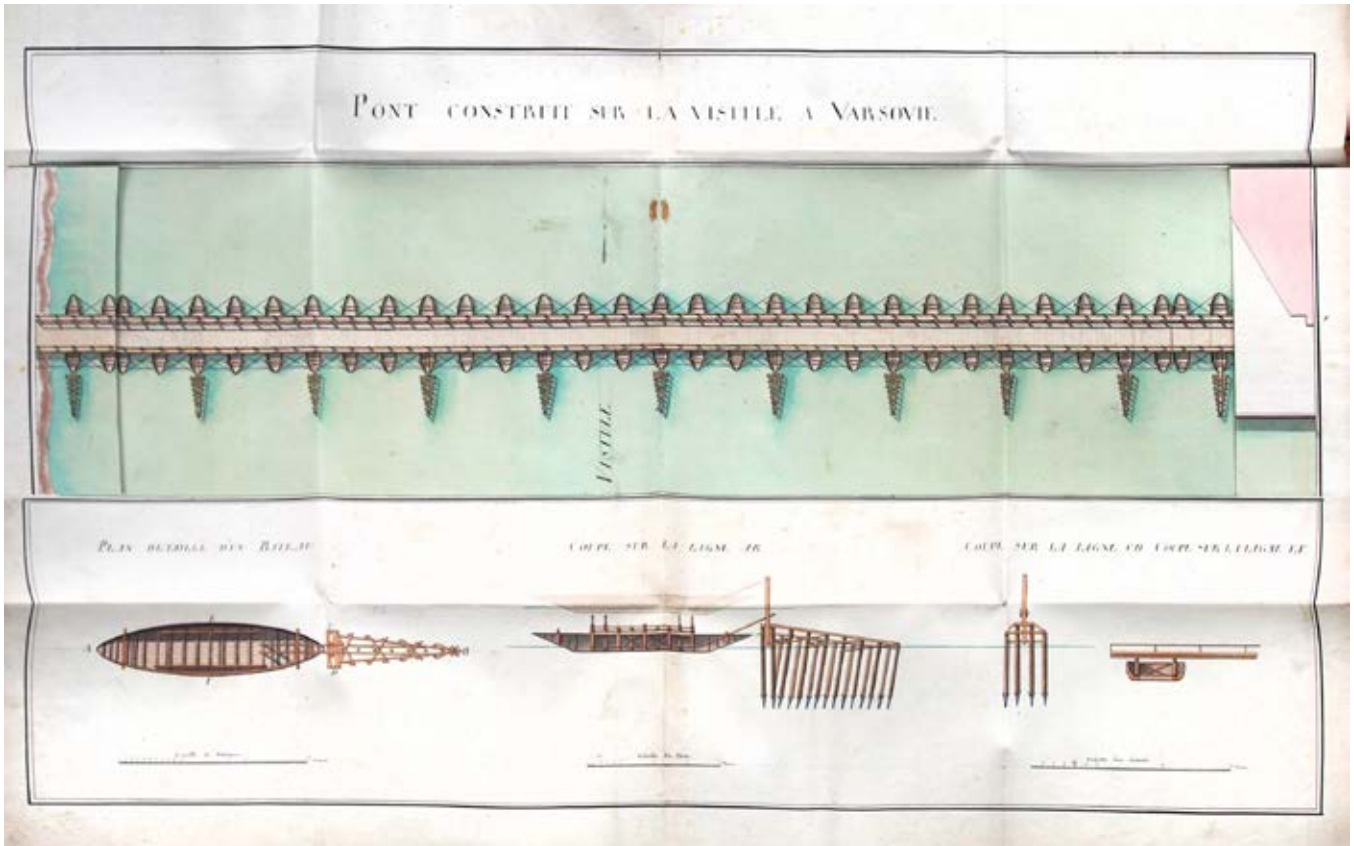
(Manuscript on a pontoon bridge)

Stato del ponte sul fiume Po, aprile 1800. Preambolo. Memorie sopra il ponte di barche construtto sul fiume Po di rimpetto alla citta di Piacenza. (probably Piacenza 1800) Italian manuscript in ink on paper, with a large drawing in ink and wash-color of a bridge in Poland, titled: „Pont construit sur la Vistule à Varsovie" probably made by the engineer. Folio (345 x 235 mm) (8), 53 pp., 20 leaves of blank paper. The plate measures: 610 x 910 mm. and the ends of the bridge are on two flaps on the sides (each flap measures 215 x 165 cm). Contemporary paper card boards. Very fine manuscript in a legible hand.

EUR 6.800.-

Very fine manuscript on a pontoon bridge constructed near Piacenza by the pontonniers under the direction of the French engineer M. Andreozzi with the help of the Italian engineers of the firm Fratelli Lottaria and the engineer Giacomo Tomba on behalf of Napoleon Bonaparte. The text describes the bridge and its parts, and probably the costs for the different boats which holds the bridge. While the text describes the pontoon bridge at Piacenza (of Napoleon Campaign in Italy ?), the plate is in french, showing the same pontoon bridge built in 1808 in Poland by the french troops, most probably by the same engineer. A Beautiful drawing of the pontoon bridge seen from the sky. In the lower part of the sheet one sees a „detailed plan of a boat". The ends of the bridge are on two flaps on the sides (each flap measures 215 x 165 mm, the total width of the design with the flaps unfolded is 1190 mm).

The bridge builders of Napoleon's army – the pontonniers – were an indispensable part of the military machine. Their main contribution was helping the emperor to get his forces across water obstacles by erecting pontoon bridges. The skills of his pontonniers allowed Bonaparte to outflank enemy positions by crossing rivers where the enemy least expected and, in the case of the great retreat from Moscow, saved the army from complete annihilation at the Beresina. Much of the professionalism and discipline of the pontonniers can be credited to General Jean-Baptiste Eble (not metioned in the text), who took over a haphazard organisation - originally of Rhine boatmen - and turned into a body of talented and courageous experts. Under his tutelage a company of pontonniers could construct a bridge of up to 80 pontoons - some 120 to 150 metres long - in a little under seven hours. The pontoons were rectangular-shaped, flat copper-bottomed boats that would be positioned together, anchored, and then have planks laid across its length. All the materials for the temporary spans were carried by the pontonniers' wagon train right down from the pontoons themselves to the clamps, spikes and anchors needed to secure them. There were also mobile wagon-mounted forges that the pontonniers used to fashion items that were out of stock. It was Eble's disobeying of imperial orders - to destroy the forges on the retreat from Moscow - that saved the pitiful numbers of Grande Armee survivors at the Beresina. Napoleon Bonaparte had been expecting the river to have been frozen in the appallingly cold winter weather, but the waterway had thawed and was now impassable. Fortunately, Eble had kept his precious forges, charcoal and sapper tools and his engineers braved ferociously cold water to construct the vital 100-metre bridge. A second structure opened within hours and with a hastily thrown out defensive perimeter in place, the remnants of one of the greatest fighting forces ever put together survived for another day. The work was exhausting and dangerous for the pontonniers, who had to endure horrendous conditions to save the army.



The (secret) large-scale Prussian Maneuver of 1753

(Manuscript; anon.)

Journal und Beschreibung der auf Sr. Königl. Mayst. zu Preussen aller gnädigsten Befehl in der Gegend der Stadt und Festung Spandau formierten Campements, so man 1ten September bis den 13ten dieses Monats gestanden, und in (solchem ?) 49 Bataillons und 61 Escadrons, nebst 50 Canonen sich befunden, die zusammen, Generalitet und General (?) Staab, im gleichen Canoniers Mineurs und Pontoniers mit ge(?) über 44.000 Mann betragen. Anno 1753. German manuscript in brown ink on paper written in a legible unknown hand. (undated and no place; Berlin ?, around 1753) 4to (213 x 170 mm) 108 unnumbered manuscript pages, around 27 lines each page, 13 folded manuscript plans, maps, plates, finely executed in black ink and wash-color, the last plate with colored over-lay (pop-up). Contemporary blue paper-card boards, handwritten title on spine, light wear to edges. Overall fine.

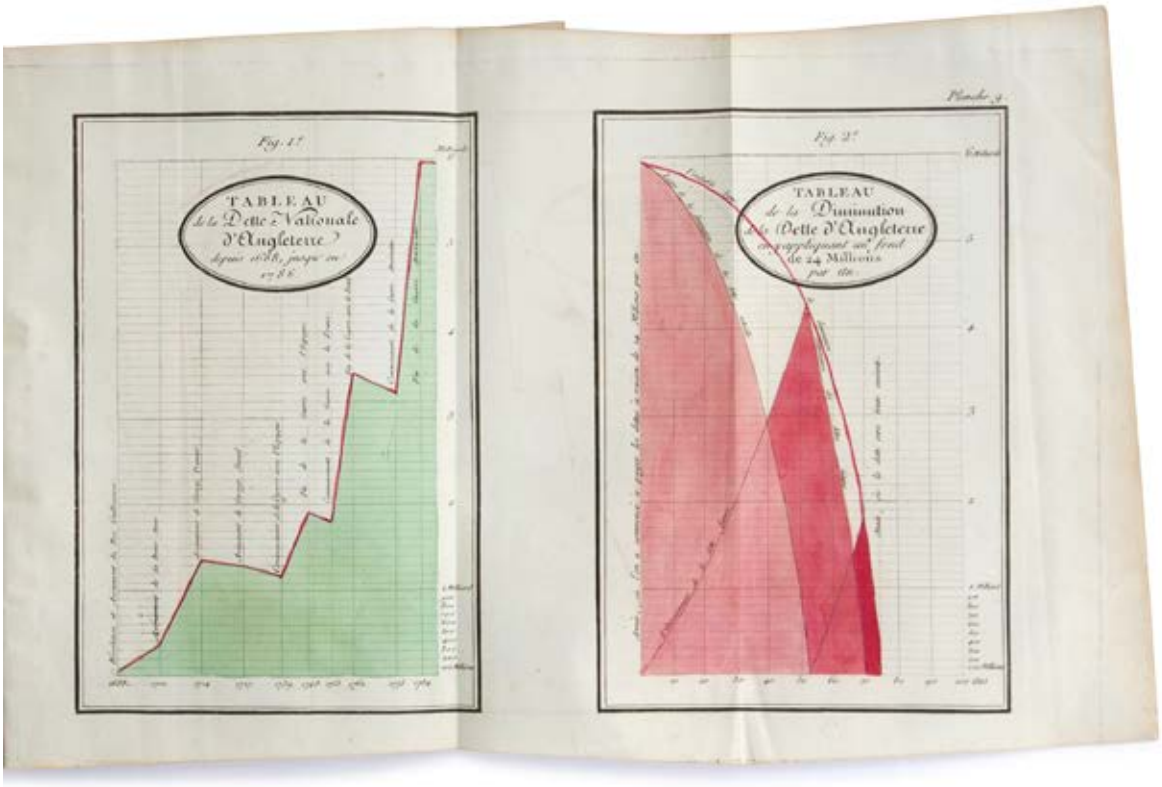
EUR 8.200.-

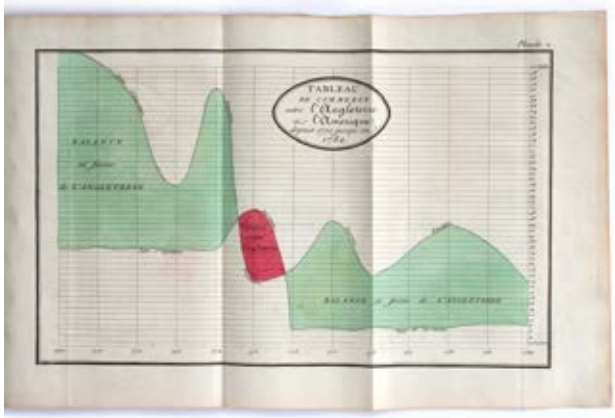
Finely executed German manuscript journal by an unknown, but trusted & knowledgeable writer, participating in the operations as an observer of the paradigmatic large-scale Prussian Maneuver of Frederick the Great in 1753 near Spandau and Gatow. The day- to-day journal describes one of the famous military maneuvers which inaugurates this genre as a military chess-game, and it became the prototype of the kind of military maneuvers still executed today. Engelmann, Offiziere notes that 127 Prussian officers incl. 26 generals were attending the „campement de 1753“ as visitors and one of them might be the source. The autumn manoeuvres were an invention of Frederick the Great, and they were a development of the first gathering of the kind at Spandau in 1743. Day after Day Frederick put large forces of mixed arms through simulations of real actions, reproducing attacks, retreats, foraging expeditions, the defence of positions, and the like. The ‚enemy‘ positions were at first represented only by flgs or strips of cloth, signifying the brigade boundaries, but in later years the forces were sometimes divided in two and carried out genuinely contested manoeuvres. The outcome helped Frederick to determine the practicability of various formations, and how long the forces took to cover the ground, and these experiences could make or break the careers of some of the generals. . . . The largest and most important of these gatherings (campement) was held between Spandau and Gatow from 2 to 13. September 1753, and it concerned no less than 49 battalions and sixty-one squadrons, making a force of 44.000 men. Frederick commissioned Lieutenant-Colonel Balbi to draw up an entirely misleading account of what was taking place, and he allowed the hussars to plunder any unauthorised spectators.“ (Duffy. Frederick the Great)

„... it was reserved for Frederick the Great to inaugurate a system of real maneuvers and to develop on the training-ground the system of tactics which bore such good fruit in his various campaigns. The numbers of troops assembled were large; for example, at Spandau in 1753, when 36,000 men carried out maneuvers for twelve days. The king laid the greatest stress on these exercises, and took immense pains to turn to account the experience gained in his campaigns. Great secrecy was observed, and before the Seven Years' War no stranger was allowed to be present. The result of all this careful training was shown in the Seven Years' War, and after it the Prussian maneuvers gained a reputation which they have maintained to this day. But with the passing away of the great king they became more and more pedantic, and the fatal results were shown in 1806. After the Napoleonic wars yearly maneuvers became the custom in every large Continental army.“ (Encyclopaedia Britannica, 1911).

„Within this framework Frederick the Great tried and tested new ideas and tactics, in the course of which his troops simulated operations of all kinds - river crossings, convoy movements, ambushes, attack and (less often) defence in varying terrain under different circumstances, aspects of siege work, etc. As well as enabling improvements in tactics it gave the troops and their officers extensive practice in movements of all kinds in many situations, with the officers of all ranks acquiring a set of principles and rules governing their troops conduct in many situations; the result was the high level of skill the army had developed by 1756. He also used these exercises to demonstrate specific points from one or other of his texts to his officers, for example he might stop the action at some point to show how something would actually happen in the field.“ The plates are titled: Plate A: Ordre de Bataille im Lager beÿ Spandau. B. General Plan der Gegend zwischen Potsdam, Spandau und Nauen. C. Affaire de Plaine zweier egal starken Armeen. D. Grüne Fouragirung unter Commando des General Lieutnants v. Küjau. E. Affaire de Plaine mit einem schwächern gegen ein stärkens Corps. F. Grüne Fouragirung... G. Dritter Manoeuvre. H. Convoi unter Commando des General Major Winterfeld. J. Vierter Manoeuvre. K. Ordre de Bataille derer Regimenter... L. Enlevement der von dem Lager postirten Husaren Wacht.. M. Attaque et Defence de Postes et de Redoutes.. (N). Retraite über einen Fluss.- A printed text (22 pages) on this maneuver was published in 1753 bei Voß in Berlin under the title: „Erklärung und genaue Beschreibung der Manoeuvres, welche von dem Königl. Preuss. Corps, das zwischen dem Amte Spandau und dem Dorfe Gatow campiret, vorgenommen worden, so wie sie sämtlich auf einem beygefügten grossen Plan marquiret sind.“ A handwritten report, cited in a few biographies on Frederick the Great, was written by Ernst Friedrich Graf von Giannini. Lit.: Rolf Straubel 2012, pp. 416/17.

Founding of Statistical Graphics: Invention of the Line Chart & Bar Chart





PLAYFAIR, William.

Tableaux d' arithmetique lineaire, du commerce, des finances, et de la dette nationale de l' Angleterre par M. W. Playfair. Suivis d' un Essai sur la meilleure maniere de faire des emprunts publics; d' après la comparaison des emprunts perpétuels & des annuités de quinze années, en Angleterre. Par le meme auteur, le tout traduit de l' anglois (by Henrik Jansen). – A Paris: chez Barrois l'ainé, 1789. 4to (245 x 200 mm) (XV), (1), 87 pp., (1) with twelve fold. engraved, colored plates. Period style half calf, clean and fresh copy with fine contemporary coloring.

EUR 3.600.-

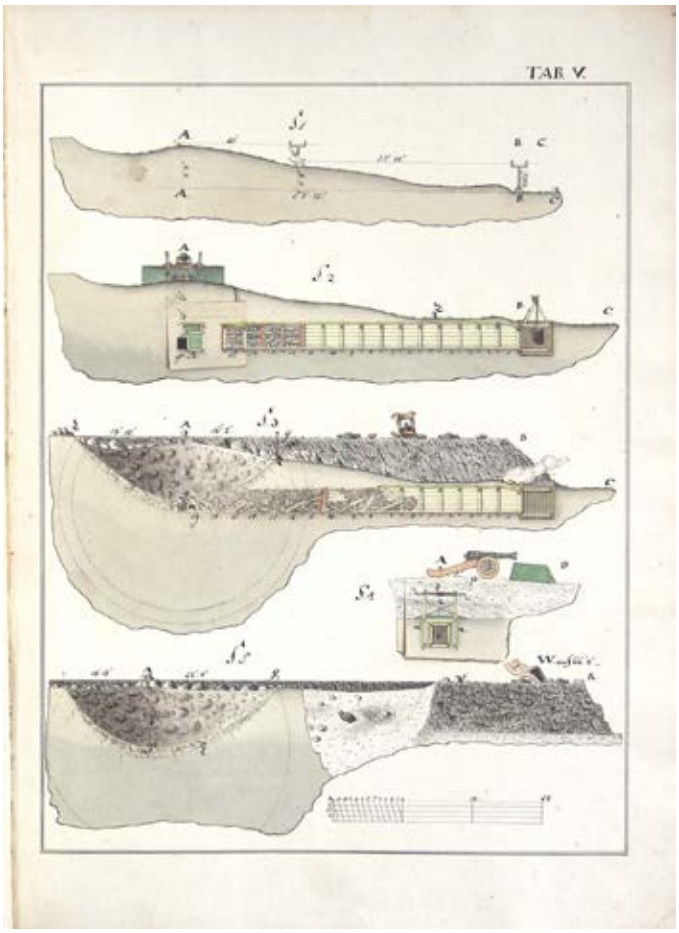
Very rare, first French part translation of Playfair's ‚The commercial and political atlas' and of ‚An essay on the national debt' (1787): the charts are preceded by detailed information on the commerce and revenue of Britain.

„William Playfair was the first to devise and publish several different types of statistical chart (most notably the time-series line graph, the bar chart, the pie chart and the circle chart). Although one may point to isolated instances of earlier diagrams that might be considered to be statistical, the publication of statistical graphs began with William Playfair in 1786. Playfair was aware of how and why his charts were effective devices for communicating data. He had an intuitive, but clear, understanding of the psychology of graph reading and many of his ideas anticipate the findings of modern experimental psychology. Playfair understood that statistical charts could assist human information processing by reducing demands on attention, working memory, and long-term memory. ... With the appearance of the ‚Commercial and Political Atlas (1786) statistical time-series line graphs are seen in essentially the same form as today. The plates in the Atlas contain all of the elements that we take for granted in modern time-series graphs: graduated and labeled axes, grid lines, a title, labels, lines indicating changes in data over time, color to categorize the different time series and accumulated quantities, etc." (Ian Spence)

Playfair was an engineer and political economist remembered primarily for his innovations in the presentation of quantitative information by means of graphs and charts. He invented the time series graph or line chart, the bar chart, and the pie chart. In 1785 Scottish engineer and political economist William Playfair issued in London a privately circulated preliminary edition of his „The Commercial and Political Atlas; Representing, by Means of Stained Copper-Plate Charts, the Exports, Imports, and General Trade of England, at a Single View". The next year Playfair formally published the work in London with an even longer title. For this work Playfair invented the line chart or line graph or times series plots, present in the english book in 43 variants, and the bar chart or bar graph, represented by a single example. The first 10 plates of the english edition were engraved by Scottish engraver and cartographer John Ainslie in 1785 for the preliminary edition; the remainder were engraved by Samuel John Neele (here by Pillot). It is thought that Playfair, often short of funds, may have hand-colored the charts himself—the coloring process that he curiously designated as „staining" in the titles. As one inspiration for his information graphics concerning economics and finance, Playfair cited Priestley's timelines as published in his New Chart of History.

„Over the course of the next half century, Playfair's line graph, which counterposed two quantitative axes, (one for time, the other for economic measures such as exports, importans and debts) became on of the most recognizable chronographic forms." (Rosenberg & Grafton, Cartographies of Time 136).

„Playfair had a variety of careers. He was in turn a millwright, engineer, draftsman, accountant, inventor, silversmith, merchant, investment broker, economist, statistician, pamphleteer, translator, publicist, land speculator, convict, banker, ardent royalist, editor, blackmailer and journalist. On leaving Watt's company in 1782, he set up a silver-smithing business and shop in London, which failed. In 1787 he moved to Paris, taking part in the storming of the Bastille two years later. He returned to London in 1793, where he opened a „security bank", which also failed. From 1775 he worked as a writer and pamphleteer and did some engineering work."
Palsky. Des Chiffres et des Cartes. La cartographie quantitative au XIXe siecle. (1996), pp. 53; Tufte sale no. 60; Goldsmiths-Kress no. 13787; Kress B. 1694; OCLC 2291251.



SCHEEL, Heinrich Otto von.

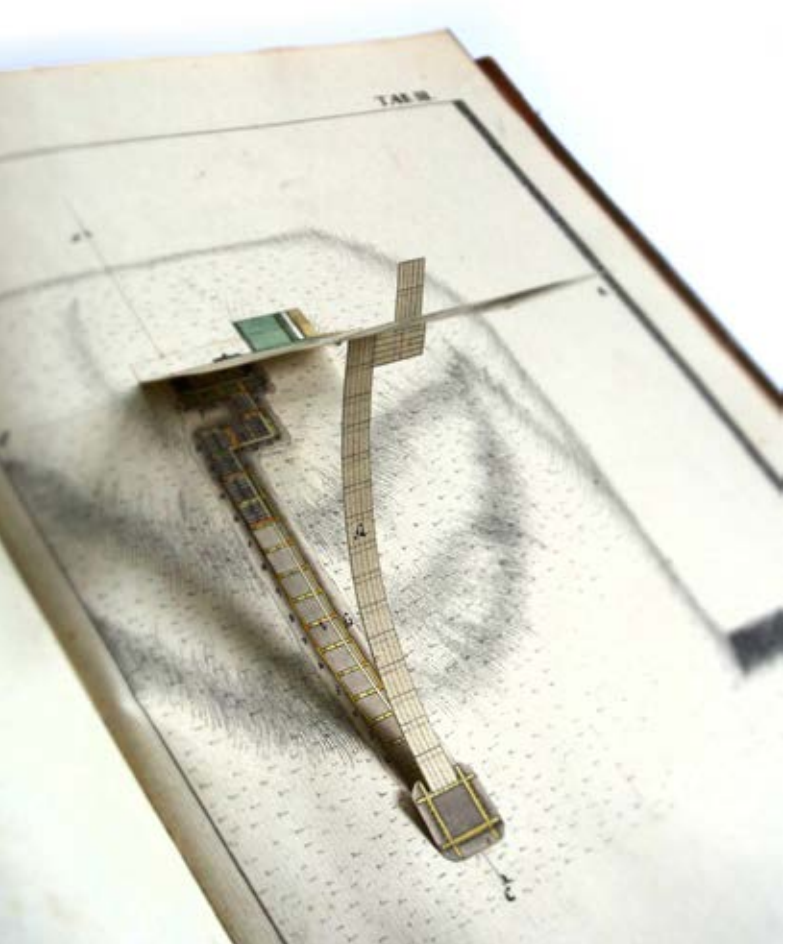
Rapport und Journal einer Minir Uebung auf Amack 1780. Abgefaßt und eingeben von J. H. Scheel. German manuscript on paper in brown ink in a fine legible hand. About 25 lines each page. (Kopenhagen, ca. 1780). Folio (360 x 255 mm). Title (verso blank), 18 unnumb. leaves (last leaf verso blank), 5 numbered plates with hand-colored pen- and ink drawings, two plates (III and V) each with 2 movable elements (pop-up's). Contemporary half calf, covers lined with sprinkled paper.

EUR 6.400.-

A first-hand account of detonation and blasting experiments of the Danish engineering corps on the island of Amack (Amager), nowadays part of the city of Copenhagen, by order of the general Heinrich Wilhelm von Huth (1717–1806) and written by the first director of the military engineering academy in Potsdam. The east coast of Amager originally consisted of a swamp area, through which the Danish military built a road in 1780, today's Amager Strandvej. The detonation experiments were done in connection with the road construction works, as the first book on explosives engineering was not published before 1793 by Gerstenbergck.

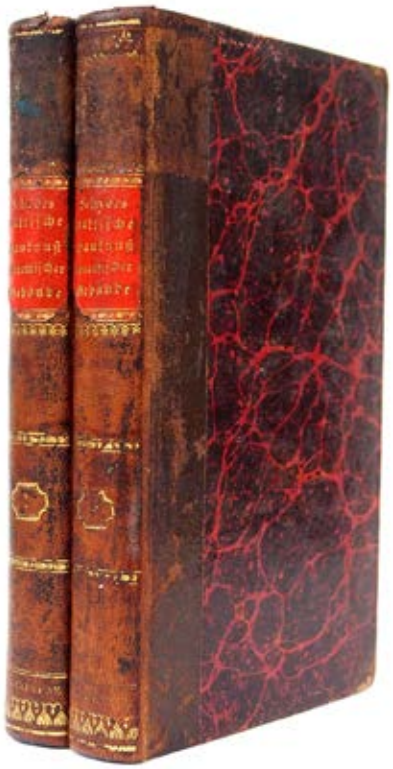
Von Huth was a Danish artillery general and politician, he studied mathematics in Leipzig and served in the Hassian army during the Seven Years War, as a military engineer and fortress builder. In 1763 von Huth became governor of Hanau and in 1766 he entered Danish service, where he was promoted to the position of lieutenant general and chief of the artillery and engineering corps. In 1772 he advanced to the position of general of the infantry, and of chief of the general staff in 1781. After Ove Høegh - Guldberg was toppled he was appointed to minister of state in 1784.

Heinrich Otto von Scheel (1745–1808) was a Danish lieutenant colonel in high esteem by Friedrich II. (the Great) and later a Prussian major general and first director of the military engineering academy in Potsdam, a position he held until 1804.



Our manuscript written by Scheel himself, authenticated by his signature on title starts with a list of all officers and sappers who were involved in the experiment, followed by a detailed list of tools and materials shown on plates I and II, then the report of the daily progress of the blasting experiment, which lasted from 26.8. 1780 to 9.9.1780, in full detail and accompanied by theoretical considerations regarding different size ratios of the length and depth of the tunnel in relation to the size of the explosive device, among others. Plate III shows the test arrangement with the position, length and depth of the tunnel in top view by means of two movable elements. Plate IV shows the blasting effect with an exact representation of the crater and the nearby surroundings. Plate V depicts different cross-sectional views of the tunnel and the representation of two different explosive devices by means of movable elements. A fine manuscript, the plates with detailed and finely executed drawings.

Provenance: From a Danish military library with stamp on front paste-down and fly-leaf. This library holding is referred to in the article on Scheel in the Dansk biografisk Lexikon, edited by Bricka. Bought at auction in Kiel in 1836 at d' Aubert sale.- ADB L, 520-522 (von Huth); Bricka. Dansk biografisk Lexikon. XV, p. 90-92; Anker. Norske Generalspersoner p. 222 (both for Scheel); cf. Jähns. Geschichte der Kriegswissenschaften p. 2374 for Scheel's first book „Mémoires d'artillerie, contenant l'artillerie nouvelle ...", published in 1777.



SCHEYER, JOHANN GEORG.

Praktische Baukunst ökonomischer Gebäude, oder Unterricht, wie man stehende Gebäude untergalten, sie vor Feuersgefahr sichern, bey Feuersbrünsten Löschungsanstalten treffen, holzersparende Feuerstätte anlegen, und wie man von verschiedenen Materialen neue Gebäude aufführen kann, für Ritterguts-Besitzer, Beamte, Stadträthe, Pächter, Verwalter, Dorfvorsteher, Handwerksleute und für jeden Landmann. (Two parts in 2 Vols.). - Leipzig, Fleischer, 1797–1798. 8vo (mm) XXIV, 295 pp., (1); XII, 303 pp., (1) pp. with 20 large fold. engraved plates. Contemporary half-calf, gilt spine in compartments, morocco lettering piece, rubbed and soiled, stamps on title-pages.

EUR 1.200.-

A practical guide for all sorts of economical building and construction by a lesser known author, who was architect and construction engineer for the Duke of Hohenlohe in Baden-Württemberg („Baurat"), Johann Georg Scheyer (1750–1801).- Rouse Historical Writings Hydraulic no. 249 (cites his work on water engineering, which in later editions were amended and corrected by the eminent water engineer Langsdorf).

Johann Georg Scheyers,

Hochfürstl. Hohenlohischen Ingenieur-Hauptmanns und Bau-Direktors, der naturforschenden Gesellschaft in Zürich correspondirenden Mitglieds,

praktische Baukunst

ökonomischer Gebäude,

oder

Unterricht, wie man stehende Gebäude unterhalten, sie vor Feuersgefahr sichern, bey Feuersbrünsten Löschungsanstalten treffen, holzersparende Feuerstätte anlegen,

und wie man

von verschiedenen Materialien neue Gebäude aufführen kann,

für

Rittergutsbesitzer, Beamte, Stadträthe, Pächter, Verwalter, Dorfvorsteher, Handwerksleute und für jeden Landmann.

Erster Theil.

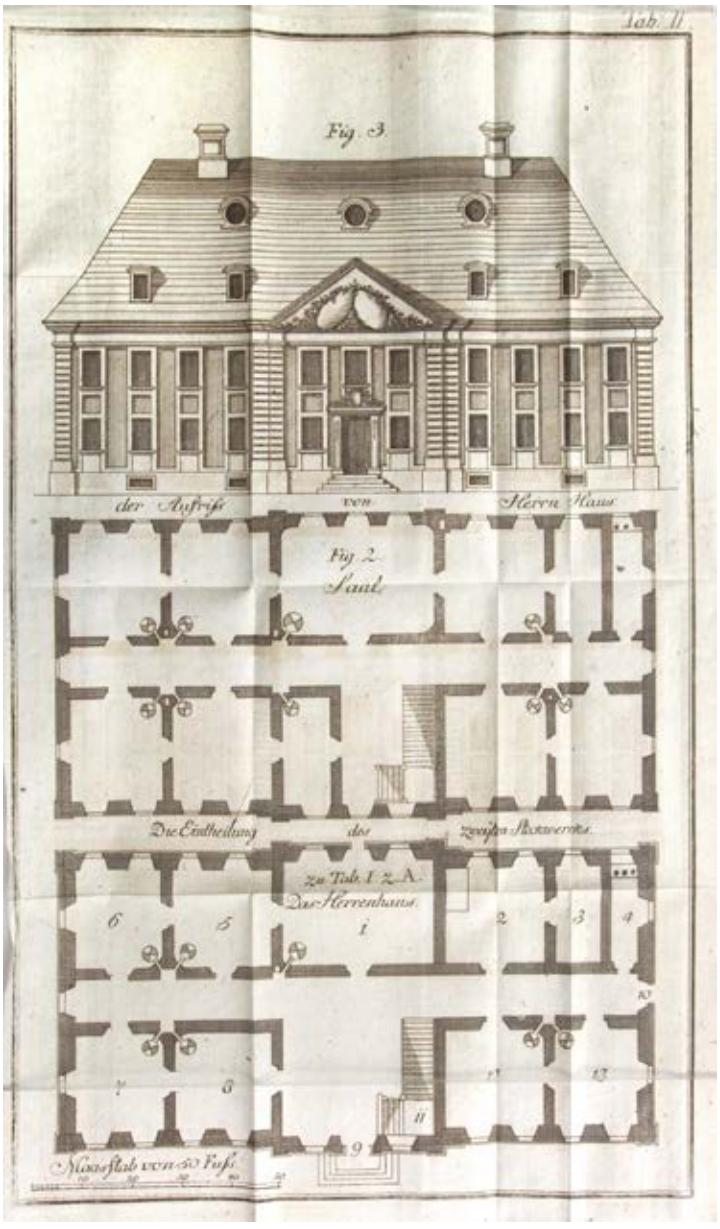
Mit acht Kupfertafeln.

Leipzig,

in Commission bey Johann Benjamin Georg Fleischer

1797.

INGENIEURCORPSETS BIBLIOTHEK.



(STRUCTURAL ENGINEERING) COTTRAU, Alfredo.

Impresa industriale Italiana di costruzione metalliche dall' ingegnere Alfredo Cottrau. – (Napoli: approx. 1873) Album in folio oblong (298 x 375 mm) 19 paper-card boards with together 73 mounted original photographs by the photographer Achille Mauri (Napoli; active 1860-95), mostly of iron bridges or iron structures. Each board commonly with four original albumen photographs (95 x 65 mm) within gold frame and with gilt printed title. Blind stamp of the photographer on first board, then within title. Front-fly with handwritten dedication by Alfredo Cottrau to Comm. P. de Le Bon. Contemporary green blind-stamped morocco, gilt edges, little rubbed and soiled, little spotted, photographs partly little faded, but fine copy.

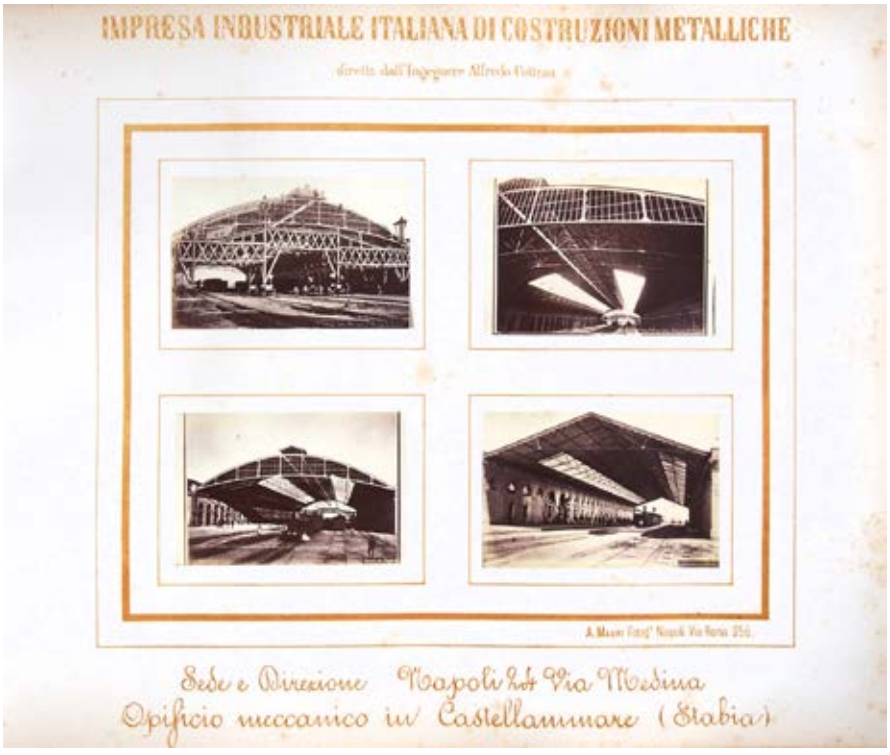
EUR 7.500.-

Exceedingly rare trade catalogue with original photographs, depicting bridges and other metallic structures, built by Alfredo Cottrau and with two boards depicting medals won by the firm at the International Exhibition in Vienna in 1873. We couldn't trace this album within a library but a similar album of 1884 is present in three libraries (outside Italy).

The Italian engineer Alfredo Cottrau (1839–1898) was one of the major designers of iron structures for railway stations, buildings and bridges in Italy. He had studied in Toulon at the Navy Academy, worked for Ernest Goüin & Cie, worked for the Russian railways construction works between St. Petersburg and Warsaw. He directed after 1861 the works for the Moncenisio tunnel near Turin, built a iron bridge over the Po in Mezzana Corti (a double beam iron construction) in only two years (1865-67; 824 meter long with 10 spans on pylons with a very innovative techniques). After he won a prize at the Vienna Industrial Exhibition as shown here in 1873 the company's activity centered on the construction of iron bridges and railway lines. At the same time he had obtained free teaching at the Royal School of Engineers and Architects of Naples. In 1881 it was decorated with a gold medal for industrial merit.

Some of his works are: Ponte sul fiume Po a Mezzana Corti, Ponte Girevole a Taranto sull'uscita del porto, Viadotto di Castellaneta sulla ferrovia Bari-Taranto, Ponte sul fiume Ticino a Sesto Calende, Ponte sulla Dora Riparia a Torino, Ponte sul fiume Piave a San Donà di Piave, Copertura a lucernaio del Museo Civico Gaetano Filangieri.

Holdings: Heidelberg & Columbia holding a similar album: Impresa industriale . . . made for the Torino exhibition in 1884 with 21(resp. 18) boards; Darmstadt, BL London & Zürich holding a different photographic album with the design of metallic, iron bridges published in Florence in 1868.- Lit.: Ugo Carughi; Guida Ermanno, Alfredo Cottrau 1839-1898. L'architettura del ferro nell' Italia delle grandi trasformazioni. Napoli, Electa, 2003.



WISCONSTICH
FILOSOFISCH
BEDRYF,
Van *Hendric Stevin* Heer van Alphen,
van Schrevelsrecht, &c.
BEGREPEN
In veertien Boeken.
VIVIMVS EX VNO
TOT LEYDEN,
Gedruckt by PHILIPS DE CRO-Y, in't Jaer 1667.

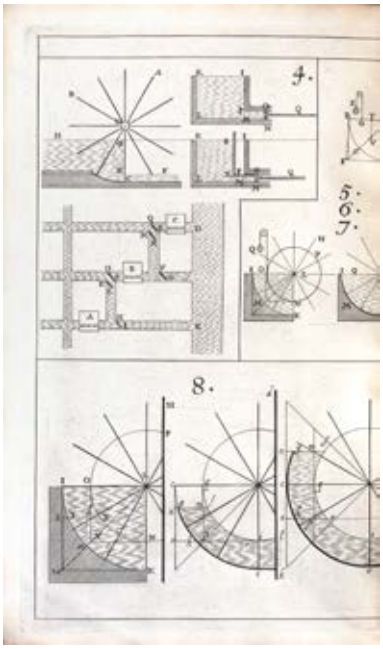
STEVIN, Hendrik (and Simon STEVIN).

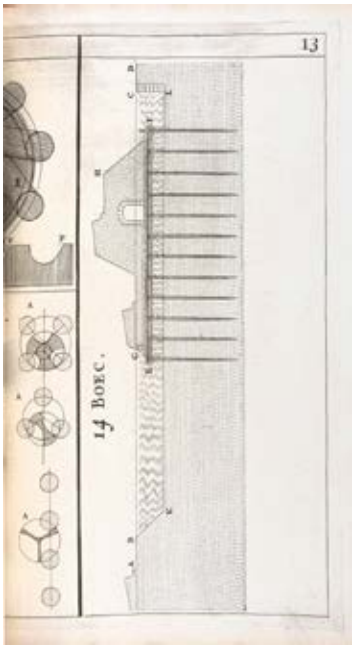
Wisconstich Filosofisch Bedryf van Hendric Stevin, …. in veertien Boeken. 14 parts in 1 vol. – Leyden, Phillipe de Croy, 1667. 4to. (195 x 155 mm) (10), 28 pp.; 40 pp.; 24 pp.; 45 (= 55) pp.; 62 (= 58) pp.; 52 pp.; 32 pp.; 34 pp.; blank; 56 pp.; 84 pp.; 52 pp.; 30 pp.; blank; 32 pp.; 61 pp., (3) pp. with numerous text woodcuts (with: ders.) Plaetboec. Vervangende de Figuren of Formen gehorig tottet Wiscontich Filosofisch Bedryf. No place, no. printer, gedruct int Jaer, 1668. Folio (325 x 210 mm) (4) pp. with 29 double-page engraved plates in Folio. Modest antique style half calf bindings with morocco lettering piece, some browning but overall quite clean.

EUR 9.000.-

Very rare work by Simon Stevin's son, Hendrik Stevin, to include three unpublished works by his father, the Flemish mathematician, physicist and military engineer Simon Stevin (1548–1620): 1. Van den handel der cammen en staven onses Vaders (my father's treatise on cogs and staves; 2. Van den handel der watermolens onses vaders (my father's treatise on water-mills), 3. Van den handelder waterschuyring onses vaders (my father's treatise on water-scouring). The work of the Stevin's in the waterstaet involved improvements to the sluices and spillways to control flooding, exercises in hydraulic engineering. Windmills were already in use to pump the water out but in Van de Molens (On mills), he suggested improvements including ideas that the wheels should move slowly with a better system for meshing of the gear teeth. These improved threefold the efficiency of the windmills used in pumping water out of the polders. The images show mainly physical diagrams, gears, waterworks, Archimedes' wheels, et al.

The hydraulic engineer Hendrik Stevin (1614–1670), son of Simon Stevin, was also a creditable mathematician. He studied at Leiden University and was from 1640 onwards building constructor of Alphen and Rietveld. He was an engineer in the Dutch army and developed the plan to use the Oude Rijn between Utrecht and Leiden as a barge canal (1663). Hendrik Stevin made the earliest known plan to close off the Zuiderzee (1667), a plan to prevent flooding around the Zuiderzee, by damming the channels between the islands in the Wadden Sea. This plan was technically not feasible at the time, but inspired other plans that led to Cornelis Lely's work in 1889. The water could never be pumped out of the polders without the help of steam-powered pumping stations. In the Netherlands, steam-powered pumping stations were only used for the first time when the Haarlem Sea was poldered. The idea of Mr. Stevin could therefore not be realized. The Stevin - Sluizen are named after him. He took care of the publication of bequeathed works of his father Simon Stevin (here). The chapters are: I. vant aenleggen ter wiscontige filosofi II. van der eertsche stoffen stercteconst III. van enig weegconstig der scheefwichten, IV. van der eertsche Stoffen Bewegingconst, en levendiger dieren machtelic verm ogenter dadelicke geweltoeffening, V. van de schampige beweging VI. van alder volmaecste cammen en staven, … - Bierens de Haan, 4546, not in Roberts/ Trent and not in Rouse, HWH. Hoogendoorn. Bibliography StevH01 & StevH02 (pp. 842) Lit.: Molhuysen, Blok, Knappert & Kossmann (eds.) Nieuw Nederlandsch biografisch woordenboek (10 vols.), Leiden: A.W. Sijthoff (1911-1937), Vol V., 816; Vanden Berghe, Guido, „Simon Stevin (1548-1620), Brugse wiskundige in dienst van Oranje", Vlaamse Stam 34 (1998), pp. 323-328





One of the First Water Pipelines in Germany

TRAITTEUR, Johann Andreas Edler von.

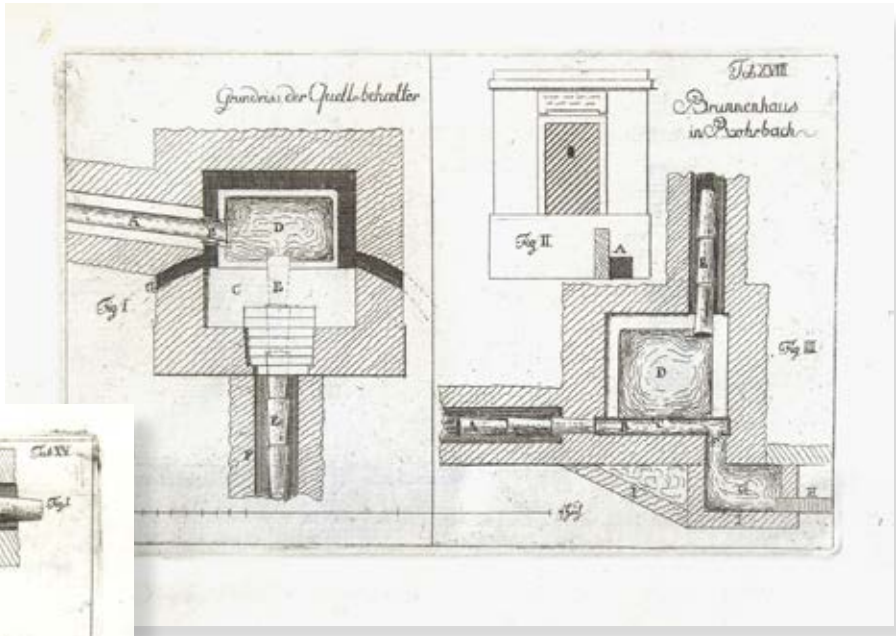
Die Wasserleitungen von Mannheim, wovon eine das Quellwasser aus dem Gebirg bei Rohrbach, die andere das Wasser aus dem Leimbach bei Schwetzingen beiführen, [...] Mannheim 1798. Quarto (205 x 160 mm) 112 pp. with one fold. engraved map and 26 engraved plates. The engravings show water reservoirs, plans of water pipes, canals, pumps, aquaducts as well as fountains. Contemporary paper card boards, red edges, handwritten label, fine & fresh copy, partly uncut. Blind-stamp on first title. Large paper copy. 8 parts bound in one vol.

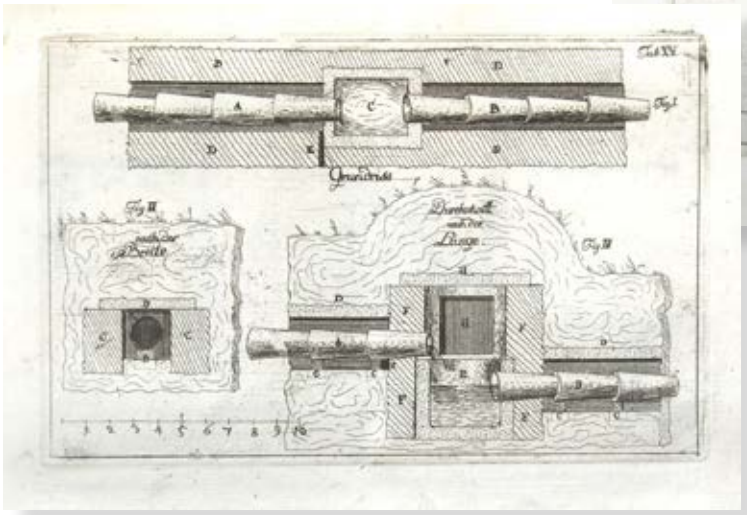
EUR 3.200.-

Sammelband with eight announcements, documents and writings on water supply and water engineering in Mannheim and Heidelberg published from the years 1790 to 1803 by the engineer Johann Andreas Edler von Traitteur. Traitteur (1752–1825) was an engineer and construction director in Heidelberg, and owner of salt works in Bruchsal and Mosbach. Coming from a noble family, he first studied law at Heidelberg University (1772) then engineering at Metz Military College. He became an engineer and worked in the engineering department of the Austrian army. From 1779 to 1781 he gave lectures on geometry. He was appointed professor in 1784, but initially without salary. In May 1785 he accepted the professorship at the University of Heidelberg. In 1786 he became a doctor, as well as dean of the faculty of philosophy, 1790/91 rector of the University of Heidelberg. After more than 110 years, the decision was finally made to build a fresh water pipeline to Mannheim. Many years ago, more than 20,000 florins (gulden) were spent on investigations, but constant contradictions among the experts left the court unable to achieve the desired ultimate end.

Traitteur was approved by the court in 1790 for the contract for planning and execution of the works. On November 20, 1790, he hold a public lecture in Mannheim, in which he presented the population with a plan to supply Mannheim with spring water from Rohrbach through a water pipe. The project ended with a disaster for Traitteur. He had to pay first for the construction of the pipeline, but never received any money from the state and got bankrupt. Included are: 1.) Traitteur, Johann Andreas. Nachricht an die Einwohner der Stadt Mannheim über die [...] genehmigte Leitung gesunden Quellwassers aus dem Gebirge nach Mannheim, wovon nebst mehreren öffentlichen Röhrbrunnen in vielen Privathäusern der Stadt solche Brunnen mit gutem Trinkwasser errichtet werden sollen.- Heidelberg, Wiesens Schriften, 1790. 12 pp. 2.) Wasserleitung nach Mannheim. Bekanntmachung einer Lesung des Autors am 20. November 1790. 1 Bll. / leaf 3.) Nähere Anzeige über die Wasserleitung nach Mannheim.- Heidelberg, 1790. 2 Bll. /leaves 4.) Aufforderung zur Subskription beim Kauf des Leitungswassers.- Heidelberg, 1791. 1 Bl. /leaf 5.) Auszug aus der Privilegien Urkunde. Mannheim, 1791. 1 Bl. /leaf 7.) Geschichte der Wasserleitung vom Gebürg bei Rohrbach nach Mannheim.- Mannheim, 1798. 45 pp., 2 Bll. [and] Fortsetzung der Geschichte der Wasserleitung vom Gebürg bei Rohrbach nach Mannheim.- Heidelberg, 1805. 40 pp., 1 blank leaf (Bl.) 8) Die Rheinpfälzische Wasser--Leitungsgeschichte von Mannheim vom Jahre 1790 bis 1803. Mannheim 1803. 21 pp., 1 blank leaf. Lit .: Fedorov, Sergei G. Wilhelm von Traitteur. A Baden master builder as innovator in Russian architecture 1814–1832. On the Development of German-Russian Relations in Construction in the First Half of the 19th Century.- Berlin: Ernst & Sohn, 2000. KVK: Mannheim, Heidelberg, München; outside Germany only at BN France, Paris.

Geschichte
der
Wasserleitung vom Gebürg
bei
Rohrbach nach Mannheim.
Aus
Urkunden und Acten bewiesen.





The Rarest of his Works

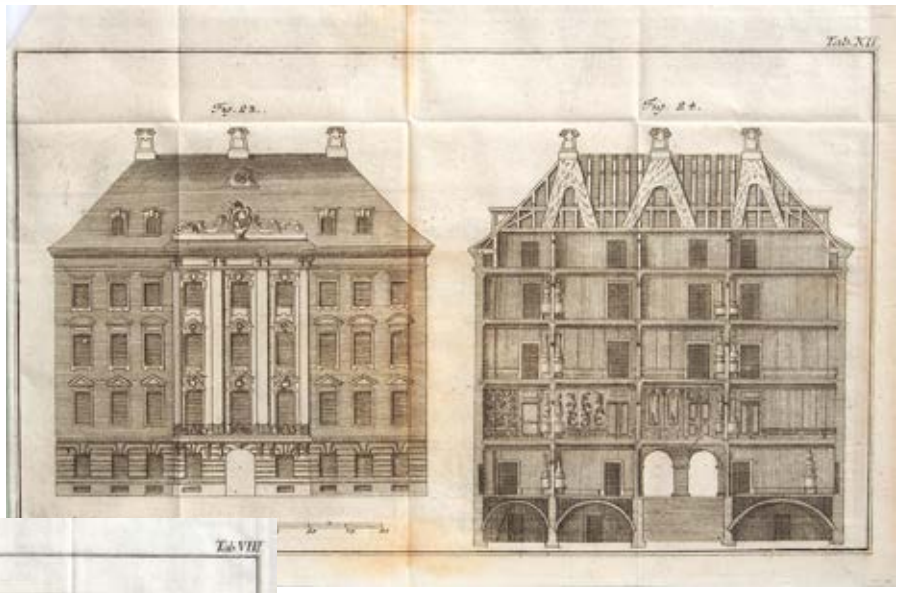
VOCH, Lukas

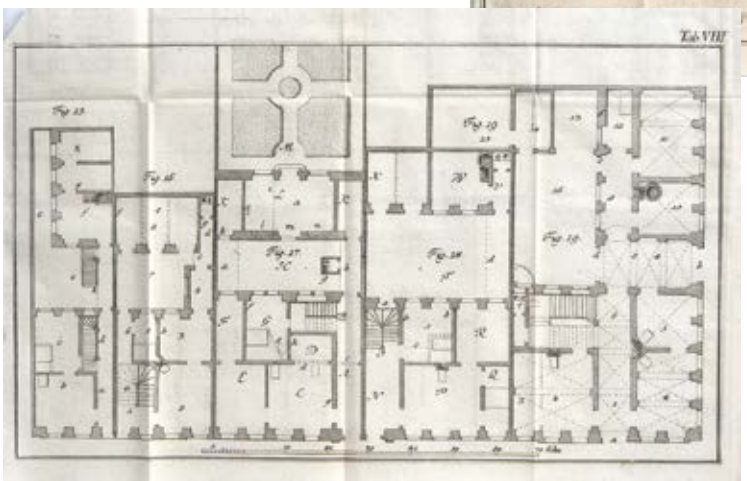
Bürgerliche Baukunst, darinnen gezeiget wird, wie die innerliche Einrichtung der bürgerlichen Wohngebäuden vorzunehmen, damit sie den Absichten des Bauherrn gemäss seye. Erster bis Vierter Theil. (4 parts in 4 Vols.). - Augsburg: Matthäus Riegers sel. Söhnen, 1780–1782. 8vo (175 x 100 mm) (16),126 pp.; (12), 99 pp.,(1); (16), 87 pp.,(1); (12),108 pp. with 61 fine large folded engraved plates. Contemporary half - calf, marbled boards, gilt spine in compartments, morocco lettering piece, two missing, blue edges. Stamps on title-pages. Internally clean and fine, printed on good paper.

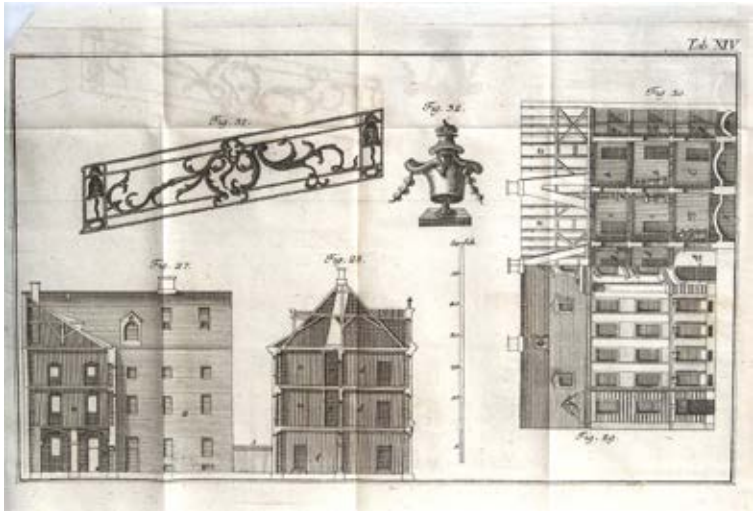
EUR 1.600.-

First edition of this handbook on building construction and interior design.

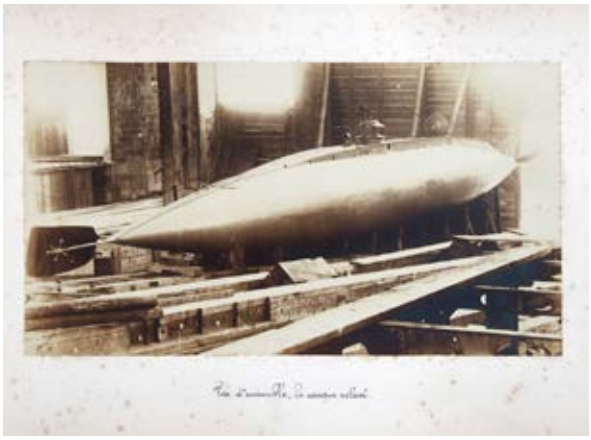
Lukas Voch (1728–1783) was a german architect, engineer and water engineer working in Augsburg / Bavaria. He was trained by his father who was a teacher and private lecturer for commercial arithmetic. He began to travel and to study engineering, especially in Berlin where he studied surveying, hydraulics, road construction and water engineering. After his return he worked privately and for the public as architect and engineer in Augsburg. He was a prolific author writing many manuals and books for the private customer as help in practical engineering and construction questions.- Baader; Stetten's Kunstgeschichte der Reichsstadt Augsburg I, 133; Veith Bibliotheca Augustana XI, 219–223; Meusel's Lexikon verstorbener Schriftsteller XIV, 255–260; not in Roberts/ Trent; Rouse, Historic Writings Hydraulics no.185 (for another work by the author)







Yellow Submarine

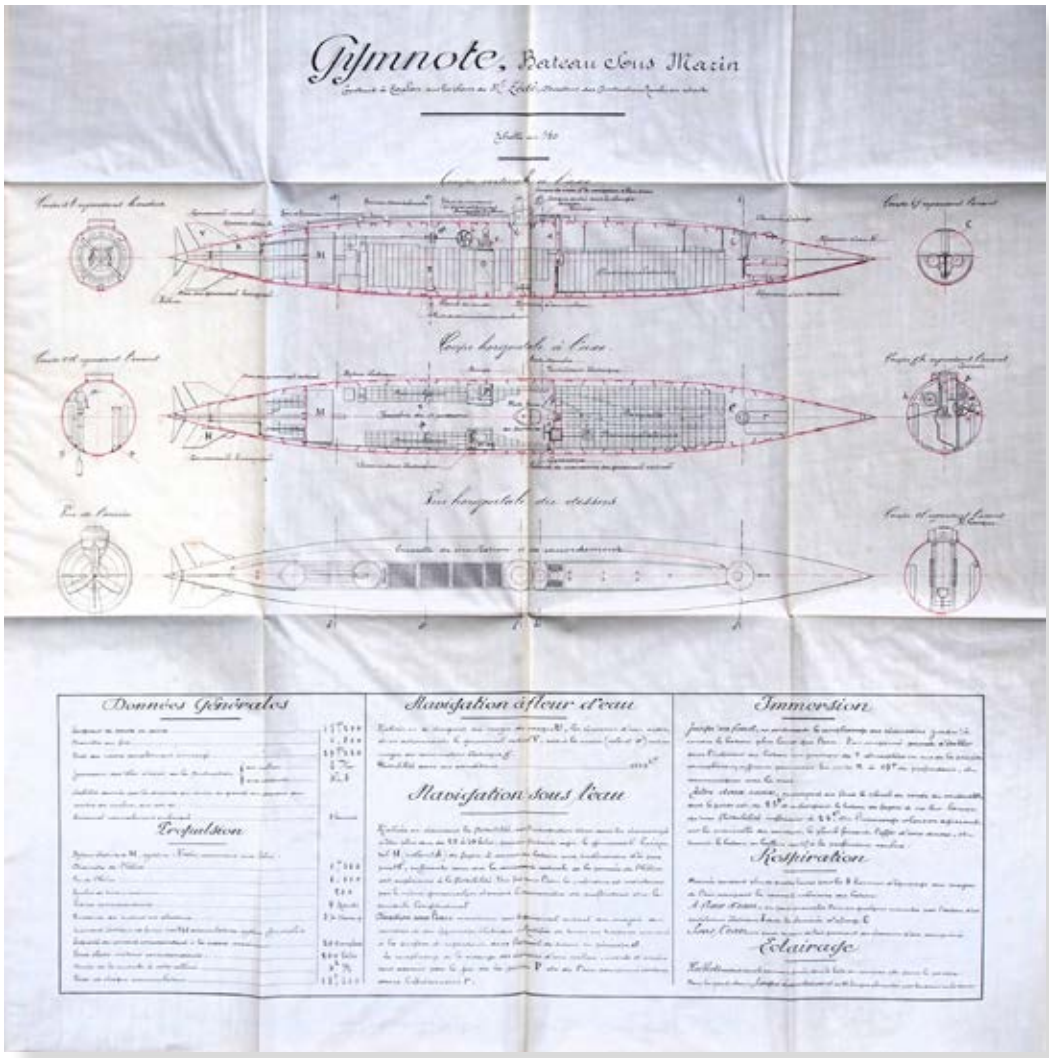


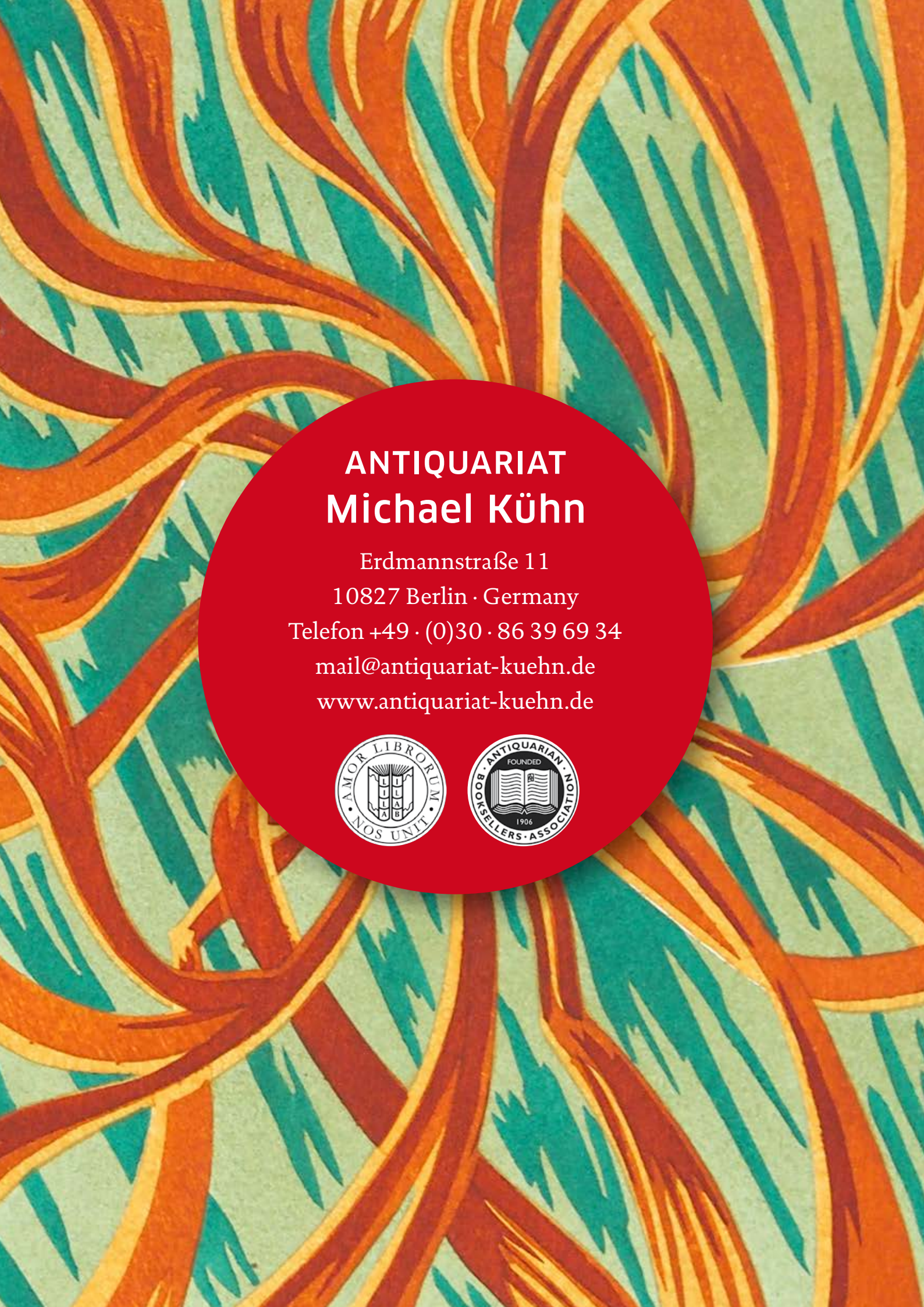
ZÉDÉ, Gustave.

Gymnote. Bateau sous-marin construit sur les plans de Mr. Zédé, directeur des constructions navales en retraites. Photographies prises pendant les expériences (= manuscript title to front cover). No place and date (Toulon, around 1888). 7 original photographs, albumen ca 135 x 246 mm, pasted recto onto 7 white cardboard mounts, each with manuscript caption. Cont. stiff cardboards with manuscript title to front cover. Spine covered with blue paper. Oblong 4to (312 x 227 mm). Covers spotted and dust-soiled. With : Gymnote. Plan et renseignements divers. Manuscript design of the submarine in black and red ink on a special white fabric paper, depicting 3 longitudinal views of the interior of the submarine and 6 smaller elevations of exterior front and rear views. Lower part of the sheet with a table listing technical details of the submarine. Folio (ca 510 x 510 mm). Folded and mounted into cont. black ribbed cloth with manuscript orange title label to front cover. (218 x 140 mm). Spine with tiny hole.

EUR 7.500.-

An unique (?) item. The Gymnote was one of the world's first all-electric submarines and the first functional submarine equipped with torpedoes. Launched on 24 September 1888, it was developed in France following early experiments by Henri Dupuy de Lôme, and, after his death, completed by Gustave Zédé (1825–1891) and Arthur Krebs (1850-1935). Krebs, a French pioneer in automotive and aircraft engineering, collaborating with Charles Renard, he piloted the first fully controlled free-flight made in the French Army airship La France, which was designed in 1884. The flight covered 8 km in 23 minutes. On its seven flights the La France dirigible returned five times to its starting point. For the Gymnote, Arthur Krebs developed the electric engine, the first naval periscope and the first naval electric gyrocompass. The name „Gymnote“ refers to the Gymnotids, the „electric eels“. The submarine was built with a steel single hull, a detachable lead keel, and three hydroplanes on each side. She made over 2,000 dives, using 204 cell batteries. She was armed with two 355 mm torpedoes. Gymnote was partly inspired by the earlier development of the submarine Plongeur, the world's first mechanically powered submarine. Mounts of album foxed, else in fine condition, the photographs in good contrasting prints showing the hull and various dives in the harbor of Toulon.





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