ANTIQUARIAT
Michael Kühn

Berlin

March 2021

Pioneer of Ethnology

KRAFT, Jens.

Die Sitten der Wilden; zur Aufklärung des Ursprungs und Aufnahme der Menschheit von Jens Kraft, … Aus dem Dänischen übersetzt. – Kopenhagen: in der Mummischen Buchhandlung, 1766. 8vo (174 x 102 mm) 354 pp. with two engraved plates at the end. Contemporary paper card boards imitating mottled calf, three morocco lettering pieces, red edges, titled stamped and stamped whited, else fine copy.

EUR 1.500.-

Die Sitten
der
Wilden,
zur Aufklärung
des Ursprungs und Aufnahme
der Menschheit,
von
Jens Kraft,
ehmaligen Königl. Dän. Justizrath und Professor
der Mathematik und Philosophie auf der Ritter-
akademie zu Sorõe.

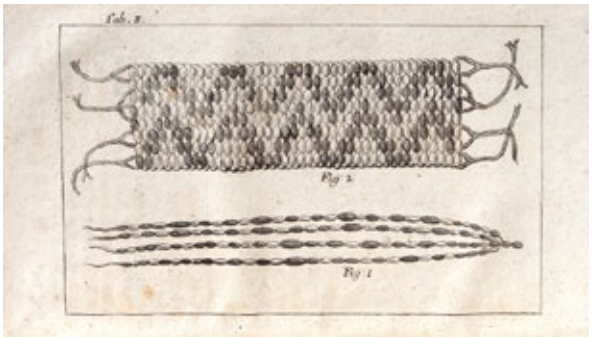
Aus dem Dänischen übersetzt.

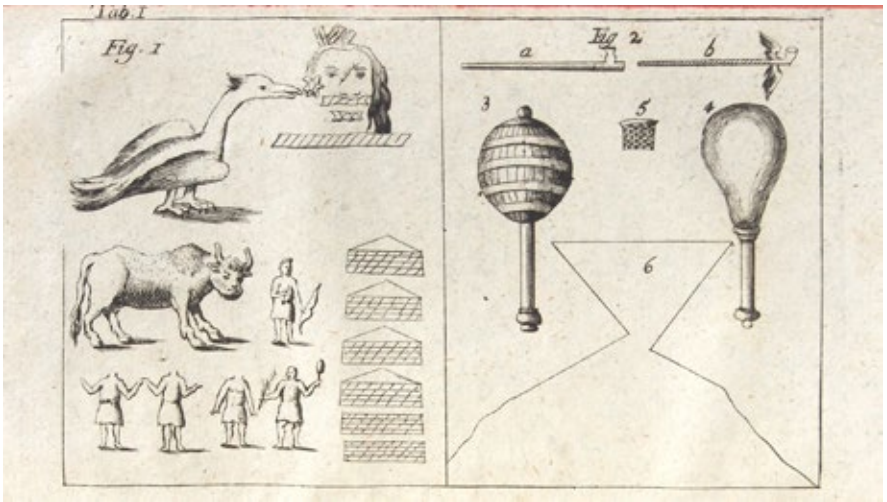
Kopenhagen,
In der Mummischen Buchhandlung,
1766.

Scarce first German edition of this pioneering work translated as „Brief Account of the Principal Institutions, Customs and Ideas of the Savage Peoples, to Inform about the General Origins and Development of Humanity“, considered the true beginning of scientific ethnology and anthropology. From the library of Franziska von Hohenheim (1748–1811) with her monogram on spine.

„Kraft's broad cultural interests were also reflected in a book on the life and manners of primitive peoples which is regarded as a pioneer work in social anthropology. It was written in the belief that a study of savage cultures would reveal the general origin of human institutions and beliefs.“ (DSB)

A traveling grant enabled Jens Kraft (1720–1765) to study philosophy with Christian Wolff in Halle/ Germany, and mathematics and physics with the Bernoulli's in Basel & France. Later he often expressed his admiration for Wolff, Daniel Bernoulli, Clairaut, and d'Alembert, whose works changed his general scientific outlook. On his return in 1746, he was admitted as a fellow of the Royal Danish Academy of Science and Letters. The following year he became the first professor of mathematics and philosophy in the reestablished academy for the nobility at Sorø (North of Copenhagen), where he remained until his death. An eminent teacher, Kraft's lectures and private colloquia helped to diminish the prevailing influence of Cartesianism, and to bring Danish science back into the mainstream of the eighteenth century. Though essentially a mathematician and natural philosopher, Kraft had a variety of interests. He was also concerned with theology, philology and antiquities, building up a comprehensive knowledge within the field of human studies. His main (Lockean) thesis is „that what the savage peoples of the present age are, the whole world once used to be.“ Against this background Kraft compares the non-civilized or „savage“ tribes of North and South America with ancient cultures, heathen nations and the old Norse peoples, thus offering an explanation of the general development of human culture: how it originates, and, more importantly, why, in some cases it did not progress beyond a certain level. Kraft shows that man's natural mode of development is a slow, uncertain process, quickened only by the comparatively recent methodological and practical advances of science – advances in great part due to the so-called mathematical or deductive method.- VD18 11147547.





Early Tourist Guide to Rome

Sadeler, Aegidius.

Vestigi delle antichita di Roma Tivoli Pozzuolo et altri lvochi. – Praga: Aegidio Sadeler, 1606. Engraved title and 50 engraved plates. Image size ca. 275 x 160 mm. Very fine copy with ample margins. Cont. Roman calf bindiing richly gilt all over. Spine on five raised bands, richly gilt in compartments. Gilt edges. Oblong folio (235 x 340 mm).

EUR 6.500.-

A classical work with views of the antiquities of Rome, Tivoli, Pozzuolo and surroundings, a beautifully engraved collection of images of Roman ruins and antiquities, including Castel Sant'Angelo, Colosseum, Trajan's Forum, various arches, temples, thermal baths, mausoleums and bridges. The final 2 plates are odd plates and represent castle Baarland in the Netherlands and castle Vysehrad near Prague. Plates 42, 43, 46, 49 are after J. Bruegel, plate 40 after P. Bruegel, plates 1–38 after Duperac, others unknown. Aegidius Sadeler (1570–1629) was a Flemish engraver from a large family of engravers. He worked in Prague and Italy. He was a pupil of Hans Sadeler and a brother of Hans and Raphael. In 1600 he started working exclusively for the court of Rudolf II in Prague. He was a famous artist in his time and named 'the Phoenix of engravers'.

The Sadeler family were the largest, and probably the most successful of the dynasties of Flemish engravers that were dominant in Northern European printmaking in the later 16th and 17th centuries, both as artists and publishers. Front fly-leaf added later, the first two leaves mounted on stubs. A fresh copy with ample margins in an Italian fully gilt and decorated Baroque calf binding presumably from the Soresini workshop in Rome.

Brunet V, 23; Graesse VI, 211; Thieme - Becker XXIX, 299; Hollstein XXI pp. 41: 151-201; cf. Guidi Vianini Tolomei in Legatura Romana Barocca 1565-1700, plate II Bottega dei Soresini with fish stamp and other stamps similar to the one used on our binding.

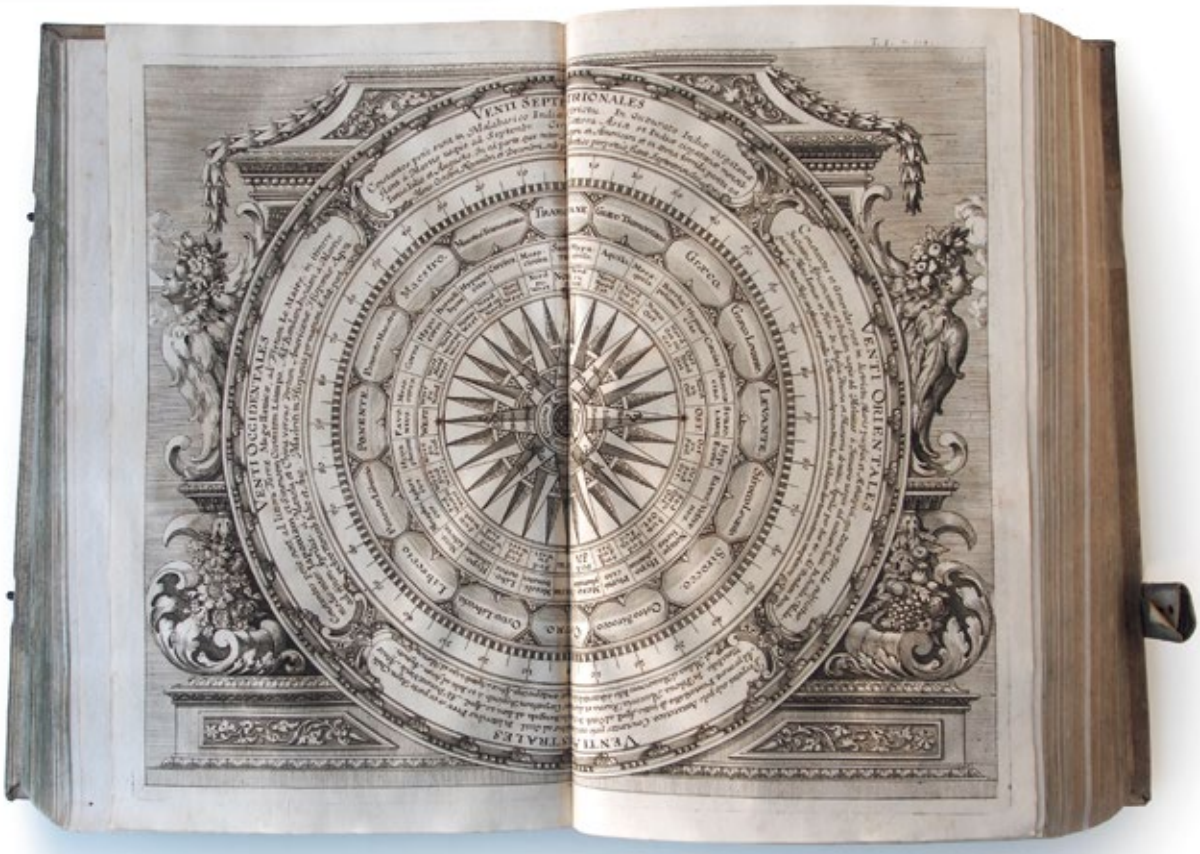
Geology, Monsters, Storms, Maps

ZAHN, Johann.

Specula physico- mathematico- historica notabilium ac mirabilium sciendorum in qua mundi mirabilis oeconomia .... 3 volumes in one,.-Nuremberg: Johann Christoph Lochner, 1696. Folio (392 x 241 mm) with 3 engraved frontispieces, 3 engraved portraits, 56 engraved plates, of which 26 are double-page, incl. one folding, and 16 double-page letterpress tables. Titles in red and black, some browning and staining to text, double-plate bound at p. 30 with a clean tear, one preliminary leaf with internal closed tear, short closed tear to the folding map in vol. I, further minor marginal tears or chips, occasional marginal staining. Contemporary German pigskin over wooden boards, tooled in blind with stamps and rolls around a central lozenge, manuscript title on spine, rubbed, lightly stained, clasp missing, front endpapers missing (?). Minor defects incl. spots inside, but overall a fine copy in first binding.

EUR 14.000.-

First edition of this superbly illustrated cosmography and compendium of mathematics and natural history by Johann Zahn (1641–1707), a cleric and optician of the Premonstratensian order of Oberzell in Würzburg (Germany) best known for his experiments with optics. His standard work on optics, ‚Oculus Artificialis Teledioptricus Sive Telescopium' (1685) has extensive descriptions of telescopes, and both the camera obscura and the magic lantern, which was used for anatomical lectures. The work here is divided into three books. The first, devoted to astronomy and meteorology, includes descriptions of the theories of Copernicus and Tycho Brahe, as well as accounts of comets and the winds. Book two is concerned with the earth and contains sections on geophysics, geography, geology, mineralogy, precious stones, botany and zoology. The third book is devoted to man and contains sections on anatomy, intelligence and learning. Johann Zahn had studied at the University of Würzburg from 1656 most probably with Caspar Schott (1608–1666) and later with the optician & microscopist Franz Griendel von Ach (approx. 1631–1687). who between 1655 and 1670 he lived in the Capuchin monasteries of Salzburg, Munich, Kitzingen and Würzburg. In Nuremberg Griendel opened a workshop in which he offered a variety of optical instruments. His „Specula physico – mathematico – historico . . . is an overview of the entire natural sciences incl. cosmology, meteorology, geology, astronomy, history, a sort of condensed version of all of Athanasius Kircher's books, although in content different. In the first volume in the under the heading meteorscopic investigation, related to the sphere of air one finds a section about the causes and forecasts of the floods. He describes his observations „in noster Franconia" from the year 1682 and lists memorable floods from Genesis VII. to „Calabria in1692". The work is located throughout Europe, but especially in Germany, in many libraries. Unfortunately, the engraver could not be determined with certainty, but it could well have been the above-mentioned Georg Christoph Eimmart. The book includes celestial maps after Hevelius, maps of the sun and moon from Eimmart, and world maps, one after Athanasius Kircher. Cartographic plates include maps of the Solar System, a pair of Celestials, the sun, moon & Venus, the world and Mediterranean showing sea currents, a pair of hemispheres and an ornate wind rose. Zoological plates include illustrations of sea-monsters, demons, mermen, unicorns and bizarre breeds of men. Zahn believed that demons were an active force in the world and could inhabit or influence plants and animals. In the mammoth cabinet of historical and scientific curiosities shown here, he cites numerous examples of demonic forces at work in nature, such as the case of Slovenian dormice who, according to Zahn, met with the devil underground and bore his signatures on their ears. Zahn also included illustrations of giant snakes, a unicorn, and more than a dozen quasi-human figures with wings, snouts, tails, claws, and double heads. A chronology, beginning in the year 123 and ending in 1692, lists dozens of examples of „monstrous" births. Although clearly cases of severe birth defects, it is easy to imagine how reports of such cases were exaggerated in the re-telling.



ANTABSINTHIVM
CLAVENÆ
Idest
QVOD ABSINTHIVM VMBELLIFERVM,
in Monte Seruæ Belluni,
Et alijs Italiæ Montibus ortum sit idem cum Absinthio Alpino Vmbellifero Caroli Clusij,
Compositum ac Editum a POMPEIO SPRECCHIS Pharmacopola Veneto.
CVM PRIVILEGIO.
VENETIIS, M DC XI.
Apud Antonium Turinum.

SPRECCHIS (Sprecchi), Pompeius (Pompeo).

Antabsinthium clavenae id est quod absinthium umbelliferum, in Monte Seruae Belluni, et alijs Italiae Montibus ortum sit idem cum Absinthio Alpino Umbellifero Caroli Clusij, ...– Venetiis: Antonium Turinus, 1611. 4to (200 x 150 mm) [8], 120 pp., [2] with one full-page woodcut on 4v showing the plant, head-pieces and initials. Page 65/66 has a paper flew (while printing) in the text, missing on each side four to six letters. Near contemporary Carta rustica, some traces of use, dustsoiled and spotted, handwritten title on spine faded, old ink underlinings and notes by previous maybe contemporary hand owner. Otherwise fine.

EUR 3.000.-

An answer to Nicolao Clavena's „Historia absinthii umbelliferi" on Antabsinthia clavennae or silvery yarrow. Nicholas Clavena, an apothecary at Belluna, wrote a treatise on the virtues of this plant, which he found on Mount Serva. The book is an answer to Nicholas Clavena by his rival Pompeo Sprecchis. The plant was first discovered on the summits of the lofty Alps of Austria and Stiria, growing in the crevices of the rocks and frightful precipices, by Carolus Clusius, who has given a description and good figure of it in his Stirpes Pannoniae, drawn however from a cultivated specimen, as he says he sent seeds and young plants to his friends in Holland from which his figure was executed. Nicolao Clavena supposed it to be different from that described by Carolus Clusius. He also obtained a patent for preparing a conserve (syrup) of it. This gave rise to a severe attack from his rival Pompeio Precchis. Both these authors have given original figures of this species, but neither of them are nearly equal to that of Clusius. According to Clusius it has not only the hoary appearance, but the bitter taste and scented seeds of the wormwood; Clavena however denies that this plant possesses either of these properties. It was cultivated by James Sutherland in the Edinburgh Botanic Garden in 1683, however it is a rare plant, being, like most alpine plants, rather difficult to preserve. From the mid sixteenth century botanical fieldwork became increasingly common in the core zone of European nature studies (mainly Italy, France, the Alpine region and parts of Germany). So many students of nature went out into the wild on short excursions (and increasingly on longer expeditions) that it becomes impossible to discuss or even name most of them. Field excursions as part of university education and of the medical Grand Tour had spread far outside the core zone of Europe by the late sixteenth century. The diversification of field work in Europe from about the middle of the sixteenth century can be seen clearly in its increasing use as a method of discovering and obtaining rare plants for the living collections of the European élite, who vied with each other for possession of rarities and novelties. This coincided with the birth of plant hunting as a professional activity. Both the idea and the practice of the regional botanical survey and the flora as a descriptive genre had become accepted in Europe by the 1590s to early 1600s, and were spreading to parts of Europe outside the core area of natural studies. Some of these explorations were undertaken on the edge of scientific research and plant hunting in the service of collecting.

„Nicolao Clavena „Besitzer der Engelsapotheke in seiner Vaterstadt Belluno zu Anfang des 17ten Jhdt. Er fand auf dem Monte Serva eine Pflanze, die er Absinthium umbelliferum nannte und woraus er einen eigenen Kräuterzucker und Syrup verfertigte, zu dessen alleinigem Verkaufe die Republik ihm unter dem 31. Oktober 1608 ein Privilegium ertheilte. . . . Clavena hielt sich für den Entdecker der später nach ihm benannten Achillea, doch gönnte ihm Pompeius Sprecchis diese Ehre nicht, denn in seiner Schrift beweiset er, dass die Pflanze auch auf dem Monte Baldo wächst und schon Clusius bekannt war." (Ersch/Gruber)

BL Italian, 17th cent., S. 865; Kelly. Cat. of James Sutherland's library 277. KVK: Erlangen-Nürnberg, Hannover; only four copies in Italian Libraries; Oxford, BL, National Library Scotland, Kew Gardens, Royal Society; Paris, Strassbourg; OCLC: only Folger, NLM.

Primavera – Dragon Arum

Blaschek, Franz.

Drawing of Arum Dracunculus. Charcoal brush drawing, watercolor painting with opaque colors on yellowish strong paper, watermarked: C & I. Honig. Signed and title by Fr. Blaschek. sheet size: 585 x 443 mm.

EUR 3.000.-

Fine drawing of Arum Dracunculus (Dragon Arum) by Franz Blaschek (1787–1849), an Austrian flower painter and lithographer, who studied with Johann Baptist Drechsler and Sebastian Wegmayr at the Vienna Academy of Arts. From 1819 to 1827 he worked as painter for the natural history collection (k.k. Naturalien-Kabinett) in Vienna. He was represented with works at the Academy exhibitions in the years 1835 to 1846 and was considered an important flower painter.

Aram Dracunculus is an endemic plant to the Balkans, extending as far as Greece, Crete, and the Aegean islands, and also to the south-western parts of Anatolia. The first real attempt to classify the common aroids was made by Tournefort in 1719. The first major system of classification for the family was produced by the Austrian botanist Heinrich Wilhelm Schott (1794–1865), who published Genera Aroidearum in 1858 and Prodromus Systematis Aroidearum in 1860. He was a participant in the Austrian Brazil expedition and in 1828 he was appointed Hofgärtner (royal gardener) in Vienna. This study might be inspired by him.

„Bock is the second of the German Fathers of Botany“ (Hunt)

BOCK (TRAGUS), Hieronymus.

De stirpium, maxime earum, quae in Germania nostra nascuntur, usitatis nomenclaturis, propriisque differentiis, neque non temperaturis ac facultatibus, commentariorum libri très... [Au colophon] Argentorati, excudebat V. Rihelius, 1552. 4to (227 x 170 mm) [34] Bll., 1200 pp., [32] Bll. with numerous woodcuts (about 550) and a portrait by David Kandel. [Sign. a-c 8, d 10, A-Z 8, Aa-Zz 8, AA-ZZ 8, AAa-KKk 8] Contemporary blind-stamped pigskin over wooden boards, dated 1554, rulled borders with portraits of the apostles on cover, handwritten label on spine: Hieronymi Tragi Herbarius, book shelf label on cover, two clasps, first pages with small water spot in white borders at edges, pp. 463 with missing edge, pp. 881 torn without loss in white border, but overall in fine to mint condition.

EUR 12.000.-

First Latin edition, translated by David Kyber and illustrated by David Kandel of Strasbourg, who was young and self-taught, and many of his figures were taken from Fuchs and elsewhere, which is a pity because his own designs are often competent and original, especially several of the trees. The first German edition was published in 1539 (without illustrations), the second appeared in 1546 and was the first to include illustrations in the text (477 woodcuts). The present edition is the most complete, with nearly one hundred additional woodcuts, and is enhanced with valuable prefatory texts by Conrad Gesner and Benoit Tixier, including a bibliography of botanical works. With full-page woodcut portrait of Bock by David Kandel (with a satyr's mask crowned with a goat's horn) and more than 500 large woodcuts of plants. Hieronymus Bock (Tragus) was born in 1498 at Heidesheim, south of Heidelberg, and intended by his parents for a monastic life. He choose, however, to study medicine and was appointed by Count Palatine Ludwig to superintend his gardens. On the Count's death he became a Lutheran pastor at Hornbach, where he remained until his death in 1554. The great achievement of Bock – one in a field in which Brunfels and Fuchs were no rivals, and no progress had been made since the days of Theophrastus – was a pioneer of descriptive botany (phytography):

„When he described a plant, his ideal evidently was to give a concise account of the life-history, rather than to limit attention to the flowering epoch – a phase to which systematic descriptions are still to often confined. The stress which Bock lays on the developmental sequence from season to season of the year comes out conspicuously in what he says of the lesser celandine (Ranunculus ficaria). His description of the leaves and roots is adapted from Dioscorides, but his account of the flower and of the life-history is his own. He explains that the plant appears about the end of February, on moist hills, in vineyards, and in certain meadows, and is rendered conspicuous by its green hue. Like arum and the orchids kind, it comes to life afresh every year, with new roots, leaves and flower. ...“ (Arber, 1953. 326) Bock recognized the corolla, stamens and pistils as essential parts of many flowers, and was probably the first botanist of his day to feel the need of some kind of classification. He mistrusted superstitions and folklore until he had personally checked them, but in one matter he found that the gossip of old crones was right and Dioscorides wrong: ferns did produce seed at midnight on Midsummer's Eve.

„Bock's descriptions of flowers were remarkably clear, even without the benefit of illustrations, and they indicated that he comprehended things by which his predecessors had been completely baffled. He .. is probably the first botanist of the 16th century to feel the necessity for some sort of classifications.“ (Hunt).- Index Aurel. 102.591; VD 16, B 6026; Nissen 183; Stafleu/Cowan 576; Heilmann S. 195 f.; Hunt I, 66.; Durling 597; Wellcome I, 911; USTC 662799.

The First Photographic Moon Atlas made in the USA

HOLDEN, Edward (ed.)

Observatory Atlas of the Moon. Lick Observatory. Published by the gift of W. W. Law, Esq. of New York City. Scale III Paris feet 38, 36 inches to the Moon's diameter [Edited by Edward S. Holden, Dir. of Lick Observatory]. – [Mount Hamilton / Santa Cruz, CA: Lick Observatory, 1895–96] Folio [520 mm] 19 sheets each with one photogravure. Image-Size: 315 x 235 mm. Text below image. No explanatory text given. (= all published). Some sheets creased in edges, one plate with surface faults on image and remounted title Label. Later half calf period style.

EUR 14.000,-

Exceedingly rare, first photographic Moon Atlas, made in the USA, and preceeding the famous Puisseux / Loewy Photographic Atlas made in Paris and the later photographic Moon Atlas by Weinek in Prague.

Only 19 plates were edited and send out in installments (in single sheets), no text published, than production ceased.

As Holden wrote on 1. Oct. 1896 to G.C. Comstock: „The sheets will be sent, from time to time, to the principal Observatories of the world, and to a few individuals. As the edition is limited, it is requested that the sheets may be carefully preserved, since it will not be practical to supply duplicates of lost numbers. When the series of sixty (or more) plates is completed, an index-map, etc., will be distributed; and the Atlas can be bound if desirable. It is requested that the receipt of each sheet may be acknowledged."

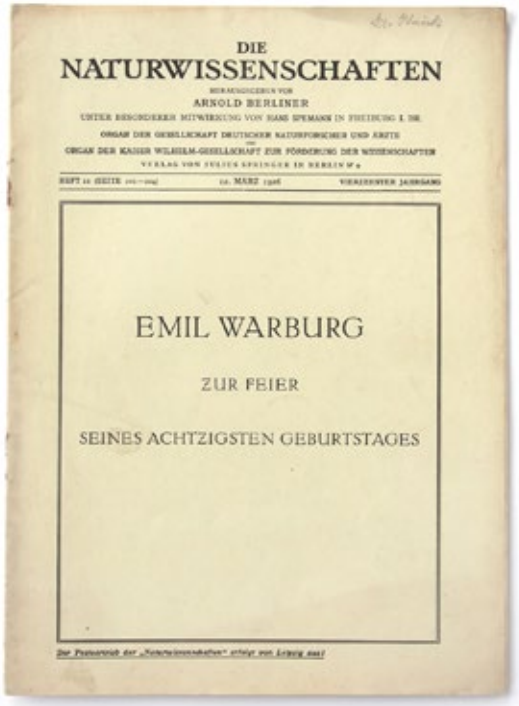
In 1897, Edward Singleton Holden, the Director of the Lick Observatory, began issuing in serial form the plates of a projected photographic lunar atlas. The plates were printed in photogravure, and the scale was a little over 3 feet to the moon's diameter, the same as the Mädler & Lohrmann map, half the size of the visual Schmidt map. There was no particular arrangement to the plates, and after the nineteenth plate was issued [of a projected 60 sheet map], production ceased - perhaps because the plates were inferior to those of the Paris atlas, or because Ladislaus Weinek of Prague was in the process of issuing another atlas based on the Lick negatives.

"At that time Lick Observatory boasted the largest refractor in the world, a 36-inch instrument with a primary lens made by Alvan Clark & Sons. Holden oversaw the production of a lunar atlas from photographs taken by him and others with the instrument, and made occasional visual studies of planets and nebulae. However, he was principally Lick's administrator, doing little original astronomical research, but supervising what was, at that time, probably the most talented group of observational astronomers ever assembled [Burnham, Barnard, Keeler]." [Peter Wlasuk].

"It is interesting to compare this atlas with the one just issued by the Paris Observatory [Loewy/ Puiseux]... If we regard the plates in these two atlases as pictures, the advantage is altogether with the Paris heliogravures; they are larger, more brilliant, more impressive. But pictorial effect is evidently no just criterion of scientific value, and if we regard the atlases from the latter standpoint, we see that each has certain advantages of its own. In the Paris photographs the enlargement has, perhaps, been pushed beyond the limit of usefulness, and it would seem that everything which appears on the plates would be shown equally well if the scale were only half as great. If this is so, the impressive appearance above referred to has been gained at the expense of handiness. Further, an examination of the Lick Observatory plate shows that brilliancy of effect has been deliberately sacrificed to secure other and more solid advantages. The printing has been carried so far that details appear in even the highest lights, with the result that, while much is shown that otherwise would have been lost in the process of reproduction, scarcely any pure white is found in the picture, and a general flatness of effect is produced. Each atlas has, therefore, its own special value." [Keeler in: Astrophysical Journal, vol. 5 (1897), 150-52.

not in Illuminating Space Sale [2012]; Linda Hall Moon 28; BEA I, 518-519. KVK: Stabi Berlin [1 plate; war loss ?]; Hamburg [19 plates]; Genf, Zürich, Bern; COPAC: BL London, OCLC: a few copies as might be expected.

Einstein on Meandering Rivers



DIE
NATURWISSENSCHAFTEN

HERAUSGEGEBEN VON
ARNOLD BERLINER

UNTER BESONDERER MITWIRKUNG VON HANS SPEMANN IN FREIBURG I. BR.

ORGAN DER GESELLSCHAFT DEUTSCHER NATURFORSCHER UND ÄRZTE
—
ORGAN DER KAISER WILHELM-GESELLSCHAFT ZUR FÖRDERUNG DER WISSENSCHAFTEN

VERLAG VON JULIUS SPRINGER IN BERLIN W 9

HEFT 11 (SEITE 201—224) 12. MÄRZ 1926 VIERZEHNTER JAHRGANG

EMIL WARBURG

ZUR FEIER

SEINES ACHTZIGSTEN GEBURTSTAGES

Die Zeitschrift der „Naturwissenschaften" erscheint von Leipzig aus!

EINSTEIN, Albert.

Die Ursache der Mäanderbildung der Flußläufe und des sogenannten Baerschen Gesetzes; in: Die Naturwissenschaften, vol. 14 (Heft 11 from 12. März 1926), pp. 223–224. The whole Issue offered (pp. 201–224). Original Wrappers, sewing clams rusted, else quite fine. In modern folder.

EUR 1.200.-

First edition of Einstein lucid paper on meandering rivers, written as contribution to Emil Warburg's 80th Birthday. „I have always believed that Albert Einstein possessed a ken surpassed by few, and one must admire his ability to simplify seemingly complex ideas. He usually did this via illustrative ‚thought experiments' and facile analogies. Many subjects are covered in his writings; fortunately for geologists, meandering rivers is one of them. At least one author, James Thomson (1876), preceded Einstein in the description of helical flow in some rivers and the resultant meandering pattern. However, Einstein was the first to understand how helical flow helps to determine meander length and to promote down-current migration of the meanders. Einstein's explanation for the formation of helical flow is the most lucid I've read (p. 250): I begin with a little experiment which anybody can easily repeat. Imagine a flat-bottomed cup full of tea. At the bottom there are some tea leaves, which stay there because they are rather heavier than the liquid they have replaced. If the liquid is made to rotate by a spoon, the leaves will soon collect in the center of the bottom of the cup. The explanation of this phenomenon is as follows: the rotation of the liquid causes a centrifugal force to act on it. This in itself would give rise to no change in the flow of the liquid if the latter rotated like a solid body. But in the neighborhood of the walls of the cup the liquid is restrained by friction, so that the angular velocity with which it rotates is less there than in other places nearer the center. In particular, the angular velocity of rotation, and therefore the centrifugal force, will be smaller near the bottom than higher up. The result of this will be a circular movement [helical flow] of the liquid of the type illustrated in [the figure] which goes on increasing until, under the influence of ground friction, it becomes stationary. The tea leaves are swept into the center by the circular movement and act as proof of its existence. [The tea leaves are homologous to the sediment that comprises point bar deposits.] Einstein goes on to explain how helical flow develops in a meandering river, and that because the higher-velocity portions of the stream will be driven to the outside (concave) portion of the river bend, erosion will be greater there. He also noted that because the helical flow possesses inertia, the circulation (and the erosion) will be at their maximum beyond the inflection of the curve. Hence, the wave-form of the river will migrate in a down-current direction. Finally, Einstein explained that the larger the cross-sectional area of a river, the slower the helical flow will be absorbed by friction; which explains why larger rivers have meander patterns with longer wavelengths. Several authors subsequently described and quantified the points made by Einstein, however, I have only read one reference to Einstein's paper – a short comment by Schumm that the formation of river meanders has attracted some of the world's greatest thinkers. Several textbooks state that rivers meander as a result of helical flow, but none that I have read give the original reference or acknowledge Einstein's contribution". (Kent A. Bowker, 1999)

Weil 150

[Heft 11.
12. 3. 1926.] EINSTEIN: Die Ursache der Mäanderbildung der Flußläufe. 223

nen gefunden werden, normale e-Werte gefunden werden, wenn stark verdampfende Teilchen genommen werden. Da wohl kaum behauptet werden kann, daß der Ladungswert der Teilchen in Wirklichkeit vom Verdampfungsprozeß beeinflußt werde, so können natürlich diese Messungen auch als ein erneuter Beweis für die Nichtexistenz des Subelektrons herangezogen werden.

Die Ursache der Mäanderbildung der Flußläufe und des sogenannten Baerschen Gesetzes.

Von A. EINSTEIN, Berlin.

Es ist allgemein bekannt, daß Wasserläufe die Tendenz haben, sich in Schlangenlinien zu krümmen, statt der Richtung des größten Gefälles des Geländes zu folgen. Ferner ist den Geographen wohlbekannt, daß die Flüsse der nördlichen Erdhälfte die Tendenz haben, vorwiegend auf der rechten Seite zu erodieren; Flüsse auf der Südhälfte verhalten sich umgekehrt (BAERsches Gesetz). Versuche zur Erklärung dieser Erscheinungen liegen in großer Zahl vor, und ich bin nicht sicher, ob dem Fachmann irgend etwas, was ich hierüber im folgenden sage, neu ist; Teile der darzulegenden Überlegungen sind jedenfalls bekannt. Da ich jedoch niemand gefunden habe, der die in Betracht kommenden ursächlichen Zusammenhänge vollständig gekannt hätte, halte ich es doch für richtig, dieselben im folgenden kurz qualitativ darzulegen.

Zunächst ist es klar, daß die Erosion desto stärker sein muß, je größer die Strömungsgeschwindigkeit unmittelbar an dem betreffenden Ufer ist, bzw. je steiler der Abfall der Strömungsgeschwindigkeit zu Null hin an einer ins Auge gefaßten Stelle der Flußwandung ist. Dies gilt unter allen Umständen, gleichgültig ob die Erosion auf mechanischer Wirkung oder auf physikalisch-chemischen Faktoren (Auflösung von Bodenbestandteilen) beruht. Wir haben daher unser Augenmerk auf diejenigen Umstände zu richten, welche die Steilheit des Geschwindigkeits-Abfalles an der Wandung beeinflussen.

In beiden Fällen beruht die Asymmetrie bezüglich des ins Auge zu fassenden Geschwindigkeitsgefälles indirekt auf der Ausbildung eines Zirkulationsvorganges, auf den wir zunächst unser Augenmerk richten wollen. Ich beginne mit einem kleinen Experiment, das jeder leicht wiederholen kann.

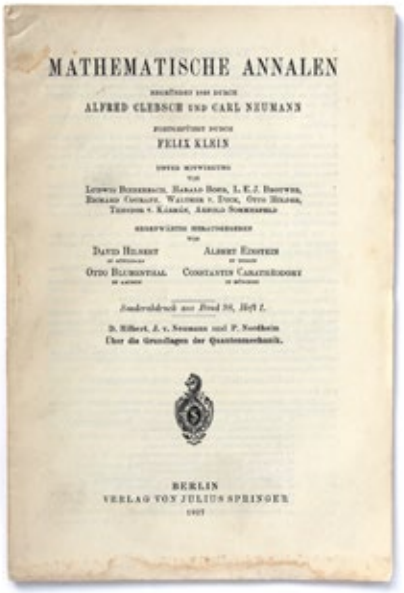
Es liege eine mit Tee gefüllte Tasse mit flachem Boden vor. Am Boden sollen sich einige Teeblättchen befinden, die dadurch am Boden festgehalten sind, daß sie etwas schwerer sind als die von ihnen verdrängte Flüssigkeit. Versetzt man die Flüssigkeit mit einem Löffel in Rotation, so sammeln sich die Teeblättchen alsbald in der Mitte des Bodens der Tasse. Der Grund dieser Erscheinung ist folgender: Durch die Drehung der Flüssigkeit wirkt auf diese eine Zentrifugalkraft. Diese würde an sich zu keiner Modifikation der Strömung der Flüssigkeit Veranlassung geben, wenn diese rotierte wie ein starrer Körper. Aber in der Nähe der Wandung der Tasse wird die Flüssigkeit durch die Reibung zurückgehalten, so daß sie dort mit geringerer Winkelgeschwindigkeit umläuft als an anderen, mehr im Innern gelegenen Stellen. Im besonderen wird die Winkelgeschwindigkeit des Umlaufens und damit die Zentrifugalkraft in der Nähe des Bodens geringer sein als in größerer Höhe. Dies wird zur Folge haben, daß sich eine Zirkulation der Flüssigkeit von dem in Fig. 1 dargestellten Typus ausbildet, die so lange anwächst, bis sie unter der Wirkung der Bodenreibung stationär geworden ist. Die Teeblättchen werden durch diese Zirkulationsbewegung nach der Mitte der Tasse mitgenommen und dienen zu deren Nachweis.

Fig. 1.

Analog ist es bei einem Flusse, der eine Krümmung erleidet (Fig. 2). In allen Querschnitten des Flußlaufes wirkt, wo dieser gebogen ist, eine nach der Außenseite der Biegung (von A nach B) gerichtete Zentrifugalkraft. Diese ist aber in der Nähe des Bodens, wo die Strömungsgeschwindigkeit des Wassers durch Reibung reduziert ist, kleiner als in größerer Höhe über dem Boden. Dadurch bildet sich eine Zirkulation aus von der in der Figur angedeuteten Art. Aber auch da, wo keine Flußbiegung vorhanden ist, wird sich eine Zirkulation von der in Fig. 2 dargestellten Art ausbilden, wenn auch nur in schwachen Beträgen, und zwar unter dem Einfluß der Erddrehung. Diese bewirkt nämlich eine quer zur Strömungsrichtung gerichtete Corioliskraft, deren nach rechts gerichtete Horizontalkomponente pro Masseneinheit der Flüssigkeit $2vD\sin\varphi$ beträgt, wenn v die Strömungsgeschwindigkeit, D die Umdrehungsgeschwindigkeit der Erde und φ die geographische Breite bedeutet. Da die Bodenreibung eine Abnahme dieser Kraft nach dem Boden hin bewirkt, so veranlaßt auch diese Kraft eine Zirkulationsbewegung von der in Fig. 2 angedeuteten Art.

Nach dieser vorbereitenden Überlegung kommen wir zurück auf die Frage der Geschwindigkeitsverteilung im Flußquerschnitt, welche ja für die Erosion maßgebend ist. Zu diesem Zweck müssen wir uns zuerst vergegenwärtigen, wie die (turbulente) Geschwindigkeitsverteilung in einem Flusse zustande kommt und aufrecht erhalten wird. Würde das vorher ruhende Wasser eines Flußbettes durch Anbringen eines gleichmäßig

Quantum Mechanics


MATHEMATISCHE ANNALEN

ALFRED CLEBSCH UND CARL NEUMANN

FELIX KLEIN

DAVID HILBERT ALBERT EINSTEIN

OTTO BLUMENTHAL CONSTANTIN CARATHÉODORY

Sonderabdruck aus Band 98, Heft 1.

D. Hilbert, J. v. Neumann und P. Nordheim

Über die Grundlagen der Quantenmechanik.

BERLIN

VERLAG VON JULIUS SPRINGER

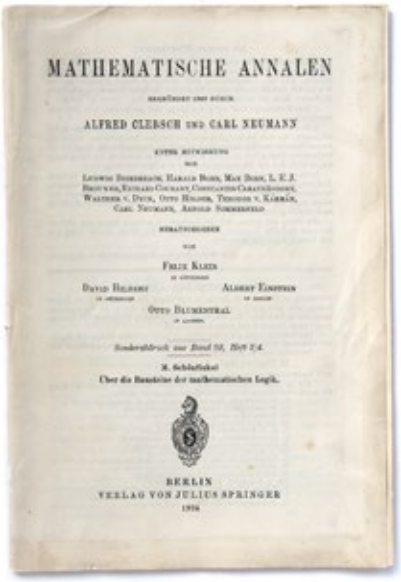
HILBERT, David; Johann (John) von NEUMANN; Lothar NORDHEIM.

Über die Grundlagen der Quantenmechanik. Sonderabdruck aus Band 98, H. 1 (d.) Mathematische Annalen. – Berlin: Julius Springer, 1927. 8to. 30 pp. Original wrappers, lower part on wrappers and first page little water-stained, else fine.

EUR 2.000.-

Exceedingly rare Off-Print issue of Hilbert and von Neumann first ideas on the foundations of quantum mechanics. Von Neumann would then carry out Hilbert's program in a set of papers on the mathematical foundation of quantum mechanics (1927-1930), which were extended and summarized in his landmark book of 1932.
During the Wintersemester 1926/27 Hilbert gave a two-hour lecture every Monday and Thursday morning on the mathematical foundations of quantum mechanics, a résumé of which, edited by his assistant Lothar Wolfgang Nordheim, a former pupil of Max Born, and John von Neumann, who had just arrived in Göttingen after his Ph.D. in Budapest. Hilbert, von Neumann, and Nordheim pointed out that their result is in full agreement with Born's probabilistic interpretation of quantum theory.

„It was most fortunate for the development of Statistical Transformation Theory in Quantum Mechanics that Heisenberg to pure mathematicians was answered, at the right moment, in Göttingen by Hilbert himself. Since he had been consulted on numerous mathematical aspects of the theory ever since its inception, quantum mechanics was no terra incognita to him. In fall of 1926 he began a systematic study of its mathematical foundations. Hilbert's approach was, of course, that of a pure mathematician. In his quest for logical rigor he elaborated Jordan's semi-axiomatic theory, based as it was on the notion of probability amplitudes. He first investigated the physical requirements which these amplitudes have to satisfy so as to lead to results in agreement with experience, and then searched for an analytical apparatus in terms of which these requirements could be formulated and satisfied. . . . Although Hilbert's contention concerning the finality of the analytical apparatus was soon to be disproved, his conception of a separate analytical apparatus through the interpretation of which empirical relations can be brought into the form of mathematical statements became a basic element of the methodology of modern theoretical physics." (Jammer, Conceptual development (1966) pp. 309-312); Landmark writings in western mathematics, pp. 892-93)
KVK: only Kiel; not in COPAC or OCLC.


MATHEMATISCHE ANNALEN

ALFRED CLEBSCH UND CARL NEUMANN

FELIX KLEIN

DAVID HILBERT ALBERT EINSTEIN

OTTO BLUMENTHAL

Sonderabdruck aus Band 92, Heft 3/4.

M. Schönfinkel

Über die Bausteine der mathematischen Logik.

BERLIN

VERLAG VON JULIUS SPRINGER

SCHÖNFINKEL, Moses.

Über die Bausteine der mathematischen Logik. Sonderabdruck aus (Mathematische Annalen), Band 92, Heft 3/4. – Berlin: Julius Springer, 1924. 8° (230 x 160 mm) pp. 305-316 Original-Wrappers, used and creased, spine weak, overall quite fine.

EUR 2.000.-

First edition, extremely rare author's presentation offprint issue of his famous paper on the elements of logic, inventing thereby combinatory logic, an elegant and powerful logical theory that is connected to many areas of logic, and has found applications in other disciplines, especially, in computer science.
„On Tuesday, December 7, 1920, the Göttingen Mathematics Society held its regular weekly meeting – at which a 32-year-old local mathematician named Moses Schönfinkel with no known previous mathematical publications gave a talk entitled "Elemente der Logik" ("Elements of Logic").A hundred years later what was presented in that talk still seems in many ways alien and futuristic – and for most people almost irreducibly abstract. But we now realize that that talk gave the first complete formalism for what is probably the single most important idea of this past century: the idea of universal computation. Sixteen years later would come Turing machines (and lambda calculus). But in 1920 Moses Schönfinkel presented what he called "building blocks of logic" – or what we now call "combinators" – and then proceeded to show that by appropriately combining them one could effectively define any function, or, in modern terms, that they could be used to do universal computation. Looking back a century it's remarkable enough that Moses Schönfinkel conceptualized a formal system that could effectively capture the abstract notion of computation. And it's more remarkable still that he formulated what amounts to the idea of universal computation, and showed that his system achieved it. But for me the most amazing thing is that not only did he invent the first complete formalism for universal computation, but his formalism is probably in some sense minimal. I've personally spent years trying to work out just how simple the structure of systems that support universal computation can be – and for example with Turing machines it took from 1936 until 2007 for us to find the minimal case." (Stephen Wolfram).

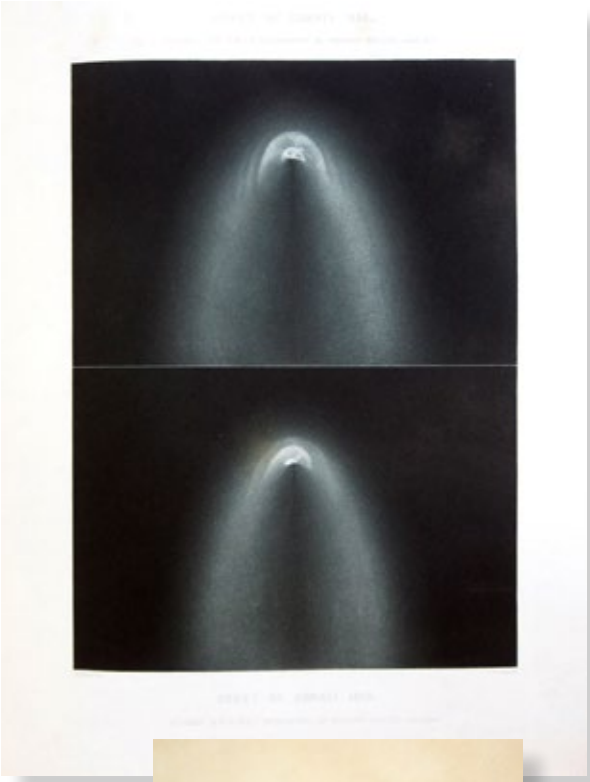
The Russian mathematician and logician Moses Ilyich Schönfinkel (1889–1942) studied mathematics at Odessa with Shatunovskii, who worked in geometry and the foundation of mathematics. From 1914 to 1924, Schönfinkel was a member of David Hilbert's group at Göttingen University. On 7 December 1920 he delivered a talk to the group where he outlined the concept of combinatory logic which Heinrich Behmann later revised and published in 1924 in the Mathematische Annalen. In 1929, Schönfinkel had one other paper published, on special cases of the decision problem (Entscheidungsproblem), that was prepared by Bernays. After he left Göttingen, Schönfinkel returned to Moscow. By 1927 he was reported to be mentally ill and in a sanatorium. His later life was spent in poverty, and he died in Moscow some time in 1942. His papers were burned by his neighbors for heating.

Not James Bond

BOND, George Phillips

Account of the Great Comet of 1858. – Cambridge: Welch, Bigelow and Company, 1862. (Annals of the Astronomical Observatory of Harvard College, III) 4to. (305 x 240 mm). XX, 372 pages with 41 plates (numbered 1–51; comprising 31 engravings on pale blue paper, 9 line engravings [of which four folding], and one folding lithograph). Publisher's purple cloth, covers bordered in blind, spine lettered in gilt, expert repairs to top and bottom of spine.

EUR 3.900.-



Maybe the finest book on comet observation. Presentation copy of the famous monographic study of G. P. Bond, beautifully illustrated with 51 engravings of the telescopic and naked-eye appearance of the head and tail of Donati's Comet: this work made Bond the first American to be awarded the Gold medal of the Royal Astronomical Society. The subscribers list quote only 25 persons.

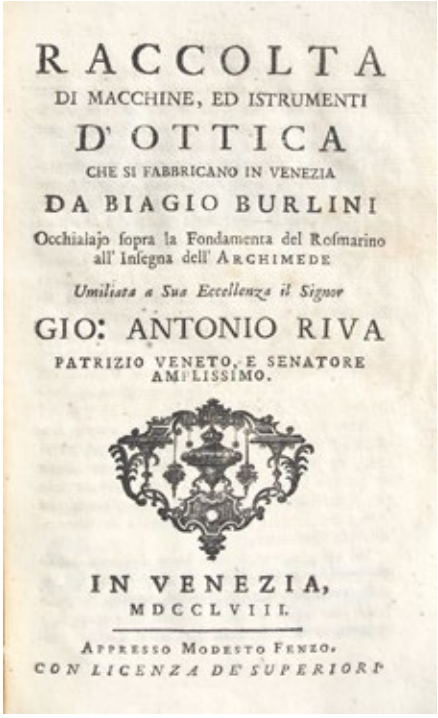
Donati's comet, discovered in Florence on June 2, 1858, was one of the most spectacular astronomical events of the nineteenth century. Its extended sword-like tail was a spectacular sight that inspired several literary and artistic representations, especially in Great Britain and France. In the Eastern world, the influence of Donati's comet on contemporary society is particularly significant in Siam and Japan.

Known for his important early work in comet and nebula observations and in astronomical photography, George Phillips Bond (1825–65) was the second director of the Harvard Observatory from 1839 to 1859 succeeding his father William Cranch Bond upon the latter's death in 1859. By the 1850's Bond had developed a reputation as a first rate astronomer, and the Harvard Observatory had become the de facto national observatory for many.

„Bond's ... comprehensive and handsomely illustrated monograph on Donati's Comet of 1858 ... won widespread acclaim and in 1865 brought him the gold medal of the Royal Astronomical Society, the first ever awarded to an American." (DSB). The separately published work was issued as volume three in the series Annals of the Astronomical Observatory of Harvard College. The images of the comet are unusual and almost photographic looking engravings. In the Introduction, Bond writes about the engravings: „... the engravings have been executed by Mr. James W. Watts, of Boston; no part of the work is more essential to an exact and intelligible history of the Comet, and certainly none stands so little in need of commendation. The style of engraving adopted for the the steel plates, to give positive effects upon a dark ground, is seldom called in requisition excepting for the delineation of astronomical objects, and it is consequently almost a distinct branch of art."

The two Bonds collaborated (along with the photographer John Adams Whipple and here the engl. photographer Underwood) in early attempts to photograph the heavens. From 1849 to 1851 they experimented with daguerreo-types and in 1850 they succeeded in recording the first image of a star (Vega) on a daguerreotype. In 1851 they succeeded in taking a series of beautifully clear images of the moon. Beginning in 1857 Bond took a series of between 200 and 300 collodion photographs through the large telescope incl. the first photographs of a comet.
Inscribed by the author to the grandson of the famed mathematician Nathaniel Bowditch (1839-1863), the eldest grandson of the famed mathematician and astronomer of the same name, no doubt in memory of the elder Bowditch's contributions to Harvard and American science, as well as his uncle, J. Ingersoll Bowditch's considerable financial support for the publication. Bowditch the younger joined the Union army after the Battle of Ball's Bluff, commissioned a Lieutenant in the First Massachusetts Cavalry. He died in March 1863 in action at the Battle of Kelly's Ford.- Provenance: Nathaniel I. Bowditch (presentation inscription) BEA I, 147/48; DSB II, 284.

Copy with two additional, unknown Plates



RACCOLTA
DI MACCHINE, ED ISTRUMENTI
D'OTTICA
CHE SI FABBRICANO IN VENEZIA
DA BIAGIO BURLINI
Occhialajo sopra la Fondamenta del Rosmarino all' Insegna dell' ARCHIMEDE
Umiliata a Sua Eccellenza il Signor
GIO: ANTONIO RIVA
PATRIZIO VENETO, E SENATORE AMPLISSIMO.

IN VENEZIA,
MDCCLVIII.

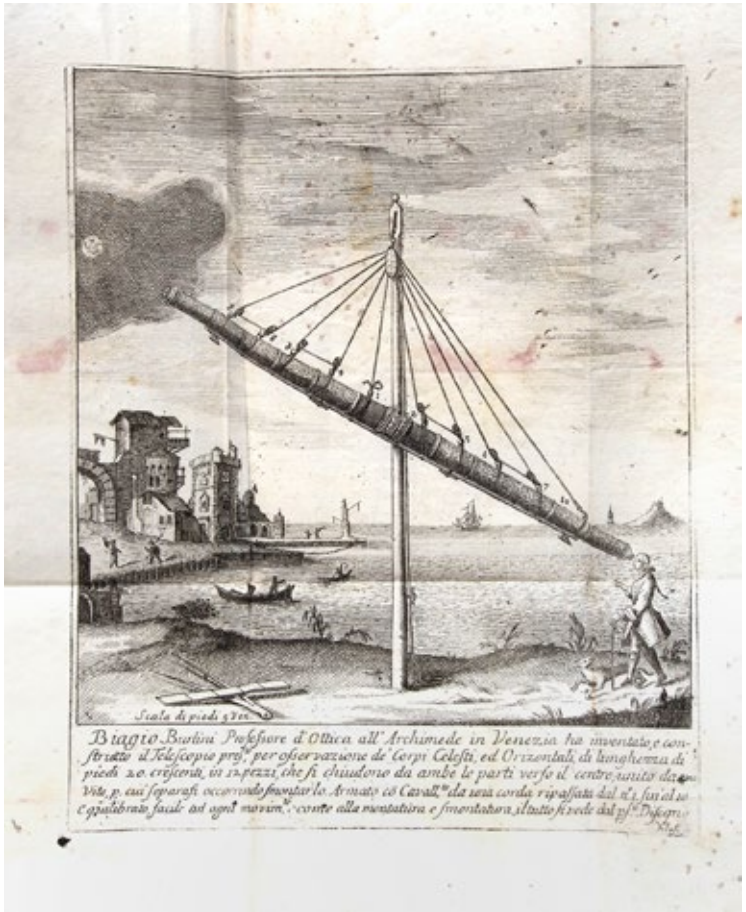
APPRESSO MODESTO FENZO.
CON LICENZA DE' SUPERIORI

BURLINI, Biagio (Biasio).

Raccolta di macchine, ed istrumenti d' Ottica che si fabriccano in Venezia da Biagio Burlini, occhialajo sopra la fondamenta del Rosmarino all' insegna dell' Archimede … . – Venezia (Venice): Modesto Fenzo, 1758. (210 x 140 mm). 23 pp., (1, blank) with engraved frontispiece by G. Filosi showing the workshop, and one fold. engraved plate showing 22 produced instruments by the Burlini workshop. (bound with is:) Engraved plate by G. Filosi, sc. showing a telescope with 5 lines of text below the image, reading: "Biagio Burlini … ha inventato, e construtto il telescopio prese(ent)e…". (Plate size: 235 x 195 mm). (bound with is:) Engraved plate by G. Filosi, sc. showing a sort of magnifying glasses with 9 lines of text below the image, reading: „Biagio Burlini … ha nuovamente costruito varj polledri…". (Plate size: 260 x 130 mm).

EUR 5.800.-

Exceedingly rare work, especially with the two additional plates, by the Venetian optical instrument maker Biagio (or Biasio) Burlini (1709–1771), active in the 1740's to 1760's in Venice, who presents twentytwo optical instruments of his own design on the plate, including a concave mirror, microscopes, telescopes, binoculars, opera glasses, magic lantern, etc. The plates are engraved by Filosi showing his canal-side workshop and his optical instruments. The frontispiece shows presumably Burlini himself demonstrating a microscope to three gentlemen. His telescopes and other optical items enjoyed a high reputation.- Schmitz. Handbuch zur Geschichte der Optik, vol. II, 218; Cicognara 5647; Alberto Lualdi. Biagio Burlini, un ottico del'1700 veneziano; in: Nuncius XIV (1999), 213-220; Lualdi, Venetian Makers of Optical Instruments of the 18th-19th Centuries. Part 1 Biagio Burlini, in: Bulletin of the Scientific Instrument Society 76 (2003), 35-37; Wellcome 274; ICCU 014605; Dt. Museum; Harvard; Wellcome; Düsseldorf



ESPOSIZIONE
DELLE COMUNI, E NUOVE SPEZIE
DI CANNOCCHIALI, TELESCOPJ, MICROSCOPJ, ED ALTRI ISTRUMENTI DIOTTRICI, CATOTTRICI, E CATODIOTTRICI
Perfezionati ed inventati da
DOMENICO SELVA
OTTICO IN CALLE LARGA A S. MARCO
Con un Discorso teorico-pratico sulla formazione e su i difetti della Visione; sulla utilità, e sul buon uso ed abuso degli Occhiali.
DEDICATA ALL' ILLUSTRISS. SIG.
CO: FRANCESCO ALGAROTTI
CIAMBERLANO DI S. M. IL RE DI PRUSSIA, E CAVALIERE DELL'ORDINE DEL MERITO.
LA FELICITÀ DELLE LETTERE
IN VENEZIA, MDCCLXI.
Presso GIAMBATISTA PASQUALI.
CON LICENZA DE' SUPERIORI.

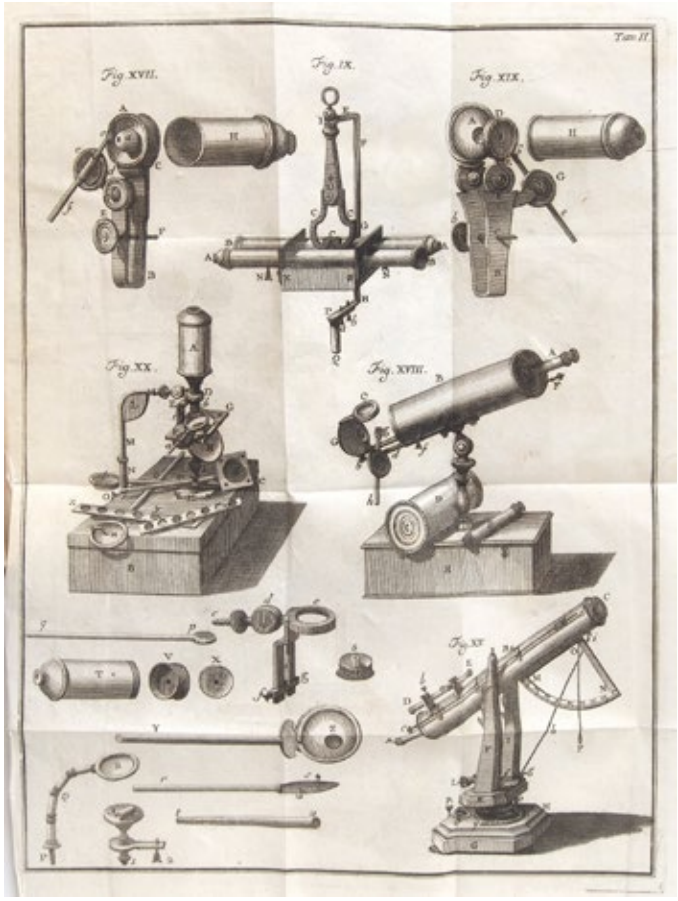
SELVA, Domenico & Lorenzo.

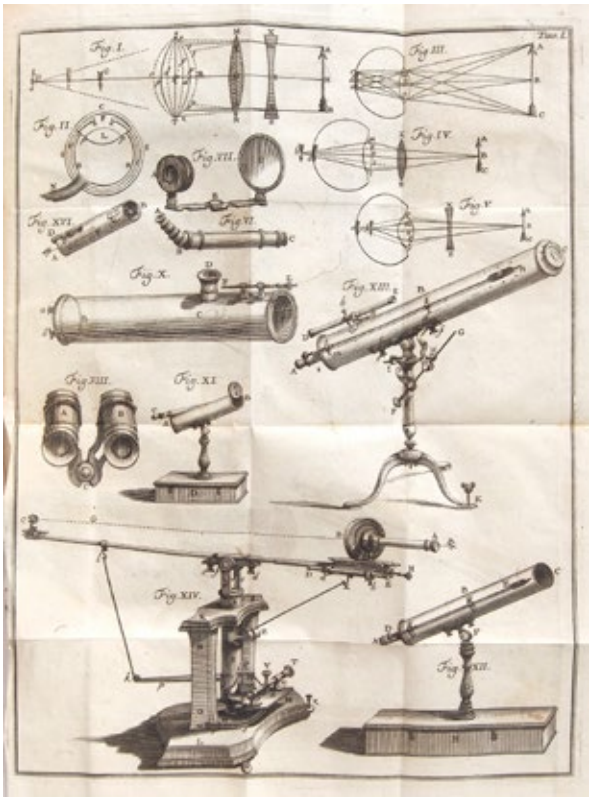
Esposizione delle comuni, e nuove spezie di Cannocchiali, Telescopj, Microscopj, ed altri Istrumenti Diottrici, Catottrici, e Catodiottrici Perfezionati ed inventati da Domenico Selva ottico [...]. – Venice, 1761. 8vo (125 x 110 mm) XV, [1], 78 pp., , blank[2] with two fold. engraved plates showing instruments. Carta rustica, clean and fine copy. Inner front cover with Ex-Libris Ex Bibliotheca Manfredi Principis Collalti ac Sancti Salvatoris. Title with a typographic woodcut vignette depicting Minerva with the motto "The happiness of letters". Fine, genuine copy in excellent condition.

EUR 3.800.-

Extremely rare on the antiquarian market. First edition of the description of telescopes and other optical devices produced by the Selva workshop in Venice near San Marco, dedicated in print to Francesco Algarotti (1712–1764). Selva describes terrestrial and astronomical telescopes, a helioscope, used to observe the sun and sunspots, theater eyepieces, binocular telescopes, but also objects of more popular fashion such as lenses, mirrors, prisms and magic lanterns. The work, published by Lorenzo Selva under his father's name, commemorates the exploits of Domenico Selva, an important Venetian optician with a laboratory near Piazza San Marco. Lorenzo Selva collaborated for thirty-three years with his father Domenico, continuing the activity after his death. He introduced important constructive innovations in the working of lenses and in the realization of very sophisticated instruments. Selva's workshop, in fact, „supplied optical objects of every kind to the possessions of the Republic, and extended its trade to the Levant, Spain and Portugal [...] and was in close contact with the most famous mathematicians of its age, like Boscovich, Stratico, Toaldo" (Santini, 1844. 10).

From the book and the remaining objects in different collections, one can deduce the great variety of optical instruments produced. Although Selva himself claimed to be a specialist in the construction of refracting glasses and telescopes, there are reflecting telescopes, microscopes, optical levels, reflecting mirrors and lanterns, camera obscura's, magic lanterns and optical games known. During his work he paid particular attention to the preparation of achromatic lenses and, having learned from the Croatian physicist and astronomer Boscovich that in England the use of flint glass had been discovered for this purpose, he obtained pieces of such glass with which he built seven telescopes that were unanimously recognized as being of better quality than those produced in England. The Selva's were unquestionably the best opticians in Italy in the eighteenth century, capable of supplying quality instruments that were sometimes better than the renowned English instruments to curious people and scientists. The Museo Galilei held an incomplete reflecting telescope of the Gregorian type. Although the instrument is signed by Domenico Selva, the attribution cannot be made with certainty. His son Lorenzo states that all their instruments – even those that he had made himself – were signed with the name of his father. (Alberto Lualdi; in Dizionario Biografico degli Italiani, 2018. Vol. 91; Jed Z. Buchwald; Robert Fox (eds.) The Oxford handbook of the history of physics. 2013. pp. 347.





Earliest published Account of Guericke's Experiments with the Vacuum

SCHOTT, Gaspar (Kaspar)

P(adre) Gasparis Schotti,… Mechanica Hydraulico – Pneumatica qua praeterquam quod Aquei Elementi natura, proprietas, vis motrix, atque occultus cum aere conflictus,… opus bipartium, cujus pars 1.: Mechanicae Hydraulico– pneumaticae theoriam continet. Pars. 2: Ejusdem praxin exhibet, machinasque aquarias innumeras,… Accessit Experimentum novum Magdeburgicum, quo vacuum alii stabilire,… Frankfurt am Main: Johann Godefried Schönwetter, Herbipoli (Würzburg): Henricus Pigrin, 1657. Quarto (210 x 165 mm) Engraved title, half–title, bookbinder announcement, blank leaf, 14 lvs. incl. title, 488 pp., [8] lvs. Illustrated with an engraved title page, 46 full–paged engraved plates (‚iconismus') of instruments, machines and experiments; 13 pages of printed music, and 77 woodcut illustrations of mechanical devices and instruments. The images numbered XXXIX and XL are on one plate. Four plates bound with from another work of Schott (iconismus XXVII (383), XXXII (399), XXXIII (407), XXXV (413)). On page 336 a handwritten note in ink. Contemporary calf, gilt spine in compartments, morocco lettering piece. Browning throughout due to paper quality, Ex Libris on inner front cover: A. Kohnholtz, inner back cover with ink inscription of the first owner: Senes, bought in Paris.

EUR 6.800.-

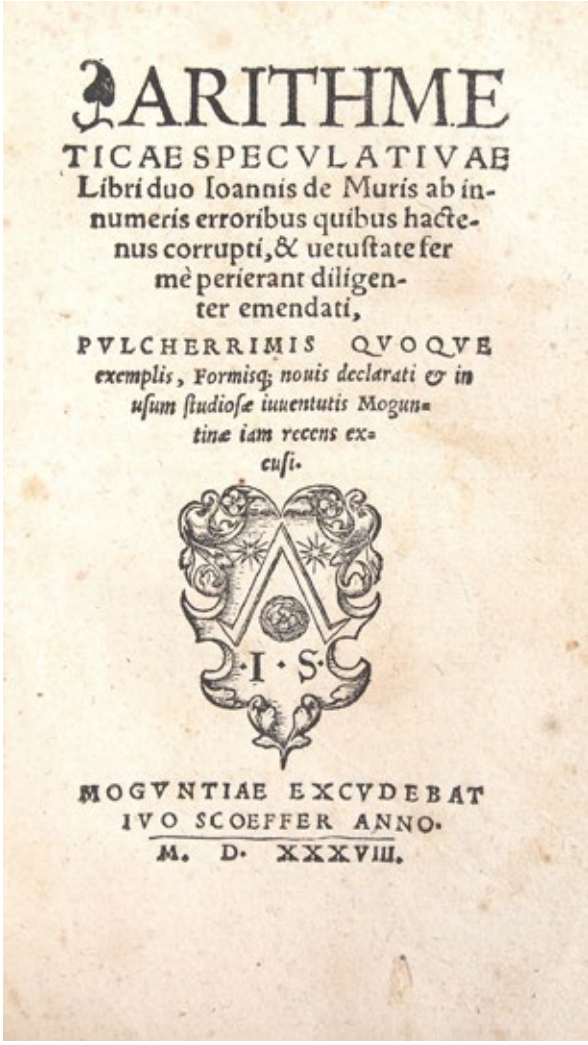
First edition of the first book by the Jesuit Gaspar Schott (1608–1666), a pupil of Athanasius Kircher which summarize his work on pneumatic and hydraulic machines. The first part, purely theoretical, is the counterpart to the second, where hydraulic machines are presented both technically and aesthetically, illustrated by engraving and woodcut, such as water clocks, the water organ at the Villa Aldobrandini at Tivoli, and the organ in the Quirinal Palace. The appendix contains the first description of Otto von Guericke's (1602–1686) experiments on the air pump as well as on atmospheric pressure, experiments known as the "Magdeburg hemispheres" and published by Guericke first in 1672.

„Schott first published what had originally been intended as a brief guide to the hydraulic and pneumatic instruments in Kircher's Roman Museum, expanding it into the first version of his Mechanica hydraulico-pneumatica. But he added as an appendix a detailed account of Otto von Guericke's experiments on vacuums, the earliest published report of this work." (DSB).

This work's assembly of both theoretical and practical parts is indicative of the porous nature of disciplines at the time. Through the frontispiece and the numerous engravings, scientific thinking thus fits closely with artistic development, testifying to the baroque fascination with hydraulic systems and fountains, an art that was particularly appreciated in the 17th century.

"The crowd of curious people who came to visit the Kircher practice, full of a large number of pneumatic and hydraulic machines, gave Schott the idea of producing the description. When working on it, he remembered the other machines that he had seen himself, or that had been described in books; and the collection of these different machines formed this first work." (Mercier de Saint-Léger).

The work also contains a remarkable development on the use of the hydraulic mechanics in music through the illustrated presentation of an astonishing water organ. Furthermore, Schott is the first physician to understand the importance of the Guericke research of which he presents a report that he adds in extremis before the first publication (see p. 441: Experimentum novum Magdeburgicum). Enriched by this unpublished appendix, Mechanica hydraulico-pneumatica then becomes a work was that particularly sought after by scientists and amateurs of the time. Thanks to this intuition, Schott attracts the attention of his peers, and notably of Guericke and Boyle, with whom he begins detailed correspondence, allowing a dynamic circulation of ideas and discoveries. The book marks an important milestone in the technological advances, since it is from reading about Guericke's experience that Robert Boyle (1625–1691) builds and perfects the first air pump in 1659, two years after the publication of the present work.- not in Rouse, HWH; not in Roberts/Trent; Norman 1910.


ARITHME
TICAE SPECVLATIVAE
Libri duo Ioannis de Muris ab innumeris erroribus quibus hactenus corrupti, & uetustate fermè perierant diligenter emendati,
PVLCHERRIMIS QVOQVE
exemplis, Formisq; nouis declarati & in usum studiosæ iuuentutis Moguntinæ iam recens excusi.
·I·S·
MOGVNTIAE EXCVDEBAT
IVO SCOEFFER ANNO·
M. D· XXXVIII.

MURIS, Johannes de.

Arithmeticae speculativae libri duo Ioannis de Muris: ab innumeris erroribus quibus hactenus corrupti, & vetustate fermè perierant diligenter emendati, pulcherrimis quoque exemplis, formisq., novis declarati et in usum studiosae iuventutis Moguntiae iam recens excusi. – Moguntiae (Mayence): excudebat Ivo Sc(h)oefer, anno 1538. 8vo (160 x 105 mm) (Coll.: A8 – F8) 88 pp., 4 Bll. (incl. colophon page with two nice tail-pieces, one incorporating the initials I. S., 2 blank leaves with contemporary handwriting, one leaf with Ivo Scoeffer's arms) with title page with woodcut arms, and over 30 text woodcuts. Later vellum period style, but a well preserved copy with minimal restorations, minimal brown spotting.

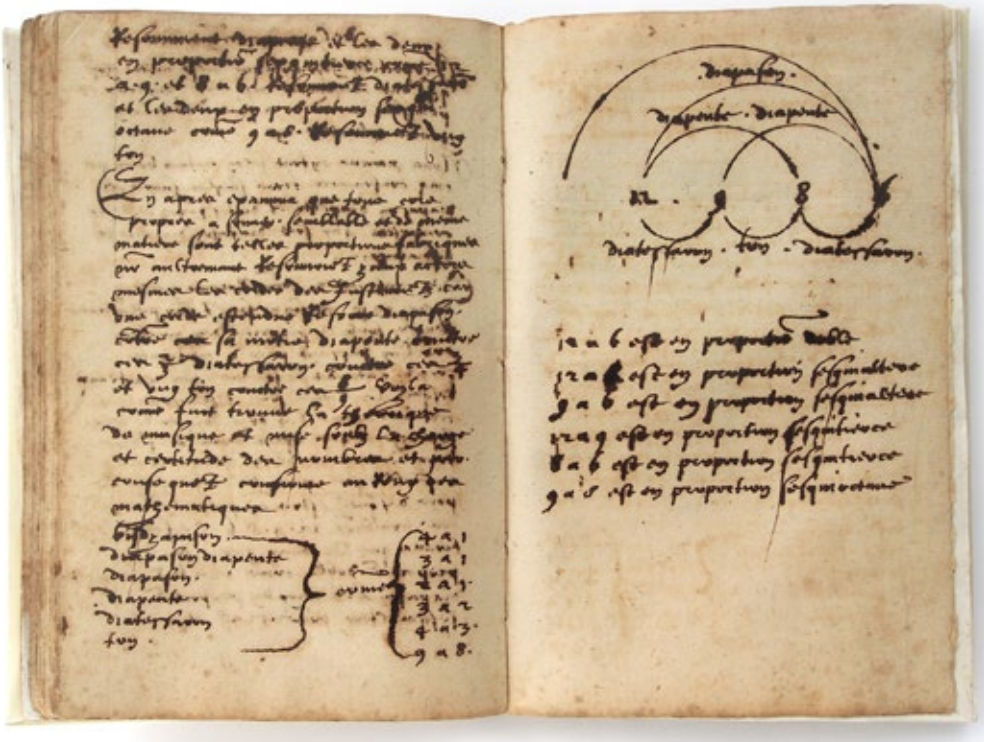
EUR 5.000.-

Of great rarity, only two copies at auctions in the last 40 years, an enlarged edition of Johannes de Muris' Arithmetica speculativa probably edited by Peurbach or Tannstetter. This is the second edition of the arithmetic of this popular mediaeval teacher. It is more complete than the first edition of 1515, but does not give the marginal references to Boethius. Johannes de Muris writings on arithmetic were in use until the 16th century.

The French philosopher, astronomer, mathematician and music theorist Johannes de Muris (ca.1290–ca.1355) is believed to have been related to Julian des Murs who was secretary to Charles V. of France. The suggested birth year for Muris is based on a murder of a cleric on September 7, 1310, which Muris was allegedly a part of. Muris would have been at least 14 to assume the responsibility for the crime, suggesting his birth year to be sometime in the 1290s. He was convicted and banished to Cyprus for seven years for punishment. An explicit of his writings indicate that he was a resident in the Collège de Sorbonne until around 1325. During this time it is believed that he travelled freely, making trips to the town of Bernay to observe the solar eclipse of 1321. However, the double monastery of Fontevraud Abbey was where he settled in March 1326. He remained associated with the institution until 1332 or 1333 when he returned to Évreux. In 1342 he was one of six canons of the collegiate church in Mézières-en-Brenne. In 1344, he was invited to Avignon by Pope Clement VI. to participate in the calendar reform. Much of his writings were finished in the early decades of his life with a major gap in activity that can be filled with astronomical observations. Though his mathematical and astronomical writings – his most comprehensive being Quadripartitum numerorum from 1343 – were well regarded, influential, and transmitted in many manuscripts, his musical writings were more widely circulated. Muris wrote five treatises on music: Notitia artis musicae (1319–21), Compendium musicae practicae (c. 1322), Musica speculativa secundum Boetium (1323), Libellus cantus mensurabilis (c. 1340), and Ars contrapuncti (post 1340) (all dates are suggested by U. Michaels). Many of the surviving manuscripts of these treatises are from the 15th century and of Italian origin, suggesting his wide influence both geographical and temporal. Around the year 100 A.D., Nicomachus of Gerasa wrote a textbook on theoretical arithmetic, which offers in systematic presentation what was required in the Greek schools of about that time in terms of arithmetic knowledge. This introduction to arithmetic is the earliest extant work that treats numbers not as geometrical entities, as they appeared with Pythagoras, but as a purely arithmetical body of doctrine. It contains general properties of numbers, furthermore a theory of polygonal numbers and proportions. At the beginning of the sixth century, the Roman Boethius produced a Latin edition of Nicomachus' Arithmetic, which was preserved throughout the Middle Ages in all monastery schools as the first of the four mathematical sciences of the Quadrivium.The Roman philosopher Boethius, De institutione arithmetica (On Arithmetic) was the principal mathematical textbook of pre-12th century Western Europe. Rather than a practical manual of calculation, it comprises a philosophical discussion of numbers, their relationships and meanings. One of the text's most influential features was

its division of the mathematical sciences into arithmetic, music, geometry, and astronomy, which it together designated as the quadrivium.

At the end of the 15th and the beginning of the 16th century, various works were published in print in the manner of the writings of Boethius, such as in 1496 by Faber Stapulensis an independent adaptation of the Jordanus Nemorarius from the 13th century, and in 1515 by G. Tannstetter the Arithmetica communis of Johannes de Muris, written around 1325 (republished in 1538 by Peurbach in enlarged form) and in 1495 by Ciruelo the Arithmetica speculativa of Thomas Bradwardine, written in the first half of the 14th century, the content of which is very close to the Arithmetica of Johannes de Muris. The Arithmetica of Johannes de Muris remained a much-used textbook for centuries, and Nikolaus von Kues also used it during his studies (1417–1422) in Padua.- Smith, Rara 119 citing the 1515 ed.; Tomash & Williams M149; USTC 613013; VD16 ZV 8715; Adams M-1978; Busard. Die „Arithmetica Speculativa“ des Johannes de Muris in: Scientiarum Historia: Tijdschrift voor de Geschiedenis van de Wetenschappen en de Geneeskunde, vol. 13 (1971), pp. 103 - 132. RLIN reports copies at Columbia, Princeton and Folger only



36 ARITHMETICA.

multiplices suppar tientes

Dupli. Tripli.

Numeri 1. se eodem excedentes.	1	2	4	8	16	32	64	Supertripartientes	1	3	9	27	81	Supertripartientes	1	4	16	64	256
Numeri se 8. excedentes.	8	16	32	64	128	256	512												
Numeri 4. se eodem transilientes.	4	8	12	16	20	24	28	Supertripartientes	3	6	9	12	15	Supertripartientes	4	8	12	16	20
Numeri se 12. transilientes.	12	24	36	48	60	72	84												
Numeri se excedentes 5.	5	10	15	20	25	30	35	Supertripartientes	5	10	15	20	25	Supertripartientes	8	16	24	32	40
Numeri se 14. excedentes.	14	28	42	56	70	84	98												
Numeri se 7. transilientes.	7	14	21	28	35	42	49	Supertripartientes	7	14	21	28	35	Supertripartientes	16	32	48	64	80
Numeri se 21. excedentes.	21	42	63	84	105	126	147												
Numeri 4. se eodem excedentes.	4	8	12	16	20	24	28	Supertripartientes	9	18	27	36	45	Supertripartientes	32	64	96	128	160
Numeri 45. eodem se transilientes.	45	90	135	180	225	270	315												
Numeri 5. adiacentes.	5	10	15	20	25	30	35	Supertripartientes	27	54	81	108	135	Supertripartientes	64	128	192	256	320
Numeri distantes 10.	10	20	30	40	50	60	70												

IO. DE MVRIS. 37

CAPVT SEXTVM DE SPECIEBVS proportionis minoris inæqualitatis.

VIso quot sint species Maioris inæqualitatis, nota quòd tot & eædem sunt species minoris inæqualitatis, addita hac prepositione Sub, & etiam species specierum. Omnis autem inæqualitas ex æqualitate procedit, quòd patet si accipiantur tres termini æquales, ut tres unitates, uel tres binarij. Deinde accipiatur æquale primo & secundo, & constituatur in loco secundo. Deinde accipiatur æquale duobus secundis & tertio uel (quod melius est dicere) tertium cum duobus secundis, & constituatur in loco tertio. Tunc ex æqualitate prima procedit proportio dupla, & ex dupla tripla, & ex tripla quadrupla & sic in infinitum, ut hic uides.

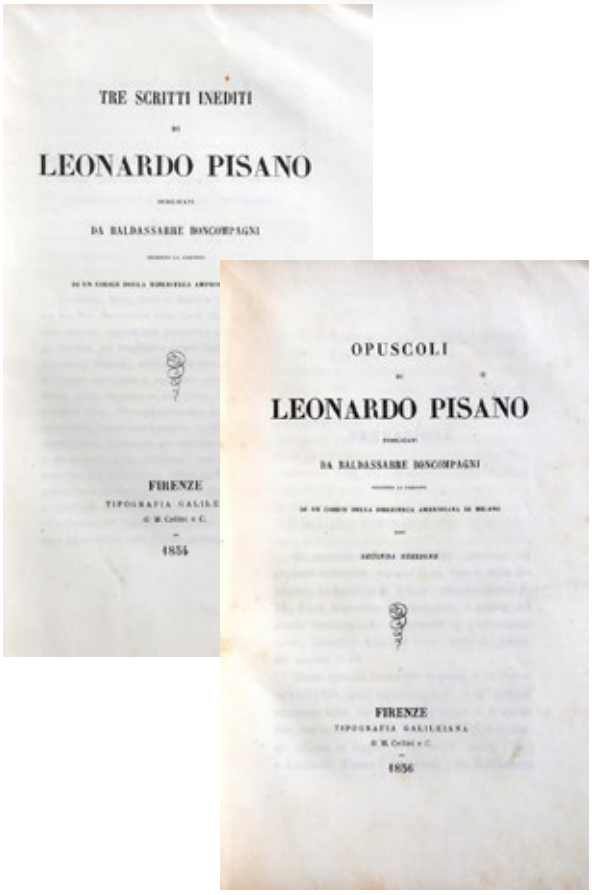
C.

Fibonacci

(FIBONACCI) BONCOMPAGNI, Baldassarre (ed.)

Tre scritti inediti di Leonardo Pisano pubblicati da Baldassarre Boncompagni, secondo la lezione di un Codice della Biblioteca Ambrosiana di Milano. – Firenze: Tipografia Galileiana, 1854. 8vo (235 x 150 mm) (4), 122 pp. with one fold. plate Original printed gray wrappers, little spotted, else fresh, fine and unopened. (with) GENOCCHI, Angelo. Sopra tre scritti inediti di Leonardo Pisano … Note analitiche di …. – Roma: Tipografia delle Belle Arti, 1855. 8vo (228 x 160 mm)126 pp, (2, last blank) Plain wrappers, little unfresh. (with:) BONCOMPAGNI, Baldassarre (ed.) Opuscoli di Leonardo Pisano pubblicati da Baldassarre Boncompagni, secondo la lezione di un Codice della Biblioteca Ambrosiana di Milano. Seconda Edizione. – Firenze: Tipografia Galileiana, 1856. 8vo (235 x 150 mm) (2), XXVIII, 127 pp., (1) with one fold. plate Original printed gray wrappers, little spotted, else fresh, fine and unopened.

EUR 900.-



Rare first edition of three small works by Leonardo Pisano (called Fibonacci) (born c. 1170, Pisa ?–died after 1240), called Flos, Liber quadratorum and (mathematical) letter to Master Theodorus (Epistola), edited for the first time by Baldassare Boncompagni after manuscripts in libraries. The first and the second edition are here with a commentary by Genocchi on the edition, together three volumes. Frederick I. of Hohenstaufen became aware of Fibonacci's work through the scholars at his court who had corresponded with Fibonacci since his return to Pisa around 1200. These scholars included Michael Scotus who was the court astrologer, Theodorus Physicus the court philosopher and Dominicus Hispanus who suggested to Frederick that he meet Fibonacci when Frederick's court met in Pisa around 1225. Johannes of Palermo, a member of the Holy Roman emperor Frederick II's court, presented a number of problems as challenges to the great mathematician Fibonacci. Of the three problems to Master Theodorus the first two belonged to a favourite Arabic type, the indeterminate, which had been developed by the 3rd-century Greek mathematician Diophantus. This was an equation with two or more unknowns for which the solution must be in rational numbers (whole numbers or common fractions). The third problem was a third-degree equation (i.e., containing a cube), x3 + 2x2 + 10x = 20 (expressed in modern algebraic notation), which Fibonacci solved by a trial-and-error method known as approximation; he arrived at the answer in sexagesimal fractions (a fraction using the Babylonian number system that had a base of 60), which, when translated into modern decimals (1.3688081075), is correct to nine decimal places. For several years Fibonacci corresponded with Frederick II and his scholars, exchanging problems with them. He dedicated his Liber quadratorum (1225; "Book of Square Numbers") to Frederick. Devoted entirely to Diophantine equations of the second degree (i.e., containing squares), the Liber quadratorum is considered Fibonacci's masterpiece. It is a systematically arranged collection of theorems, many invented by the author, who used his own proofs to work out general solutions. Probably his most creative work was in congruent numbers—numbers that give the same remainder when divided by a given number. He worked out an original solution for finding a number that, when added to or subtracted from a square number, leaves a square number. His statement that x2 + y2 and x2 – y2 could not both be squares was of great importance to the determination of the area of rational right triangles. Although the Liber abaci was more influential and broader in scope, the Liber quadratorum alone ranks Fibonacci as the major contributor to number theory between Diophantus and the 17th-century French mathematician Pierre de Fermat and later Leonhard Euler. The (mathematical) letter to Master Theodorus (Epistola) is the shortest of Fibonacci's extant writings. The mathematical contents of the Epistola are rather more speculative and recreational („problem of the 100 birds") than is the material of his two major, earlier works which have an emphasis on algebra and practical mathematics. The medieval Italian mathematician Fibonacci, also called Leonardo Pisano (born c. 1170, Pisa?—died after 1240) wrote Liber abaci (1202; "Book of the Abacus"), the first European work on Indian and Arabian mathematics, which introduced Hindu-Arabic numerals to Europe. His name is mainly known because of the Fibonacci sequence.

FAUJAS de SAINT-Fond, Barthelemy

Essai de Géologie, ou Mémoires pour servir à l' Histoire Naturelle du Globe, par B. Faujas St. Fond. 3 vols. – Paris, Gabriel Dufour, (1803 –) 1809. 8vo (205 x 130 mm) [4], 493 pp., [1]; [4], [1]–400 pp., [2] p. ; [4], pp. [401]–731, [3], with 30 engraved plates (partly folding and five with hand-coloring resp. printed in color). Bound in contemporary full polished calf, spine gilt decorated, two red morocco labels, ruled gilt borders on covers, one volume with minor defect at lower spine. Fine and very fresh copy.

EUR 3.800.-

Scarce first edition, second issue of Faujas St. Fond's last work, which contains a summation of his life-time study and research of paleontology, geology, mineralogy and vulcanology. The first volume of Faujas' Essai de Geologie (1803) was reprinted six years later when the second volume appeared. Faujas here drew on his 1802 course of lectures at the Museum d' Histoire Naturelle and devoted most of the first volume to descriptions of fossil remains of fishes and animals, some of which he compared to living species. He called the mastodon, which did not yet have that name, an elephant with „dents molaires protuberantes", referring to the animal's molar teeth, which were different from the teeth of mammoth or modern elephant. Faujas knew that Peale had assembled a mastodon skeleton in Philadelphia, but Faujas associated the animal almost exclusively with Big Bone Lick near the Ohio River. Faujas devoted a chapter of his book to the Megatherium of South America and the Megalonyx discovered in Virginia, which he considered to be the same animal. Faujas informed Thomas Jefferson that he was delaying the completion of the second volume of the Essai De Geologie to incorporate information brought back by the Lewis and Clark expedition. Barthélemy Faujas de Saint-Fond (1741–1819) practiced law until 1778 when he left the legal profession to become an assistant naturalist under Daubenton at the Museum d'Histoire Naturelle. Beginning in 1793, Faujas was professor of geology at the Museum. H served on a commission of scholars in the mid-1790s that seized the holdings of museums in countries that had fallen under french control, including the significant natural history collections of the former stadtholder of the Netherlands. Faujas became interested in the study of fossils and in theories of evolution and extinction. From the specimens sequestered in the Low Countries, he composed a monograph on fossils that had been found in the chalk mines at Maastricht. He also studied prehistoric bison bones. The French geologist and traveller Barthélemy Faujas de Saint-Fond is today more known as the author of the first full-length account of the historic experiments with balloon flight conducted by paper manufacturers Montgolfier (1783). After some unsatisfactory experiments with hydrogen gas (which dissipated too quickly from their trial models), the Montgolfier's discovered that air heated to 100 degrees Celsius became sufficiently rarified to lift a balloon and did not diffuse. Development of the hydrogen balloon proceeded simultaneously with that of the hot-air model, and on December 1783 the first passenger-carrying hydrogen balloon, designed and manned by the physicist Jacques Charles ascended for a two-hour voyage. Charles's work was financed through the efforts of Faujas de Saint-Fond. (see Carter & Muir, PMM 229).

DSB IV, 548-49; Freilich Sale no. 183; not in Ward/Carozzi; Roller & Goodman I, 387; Zittel, History of Geology pp. 126 & 132-33.

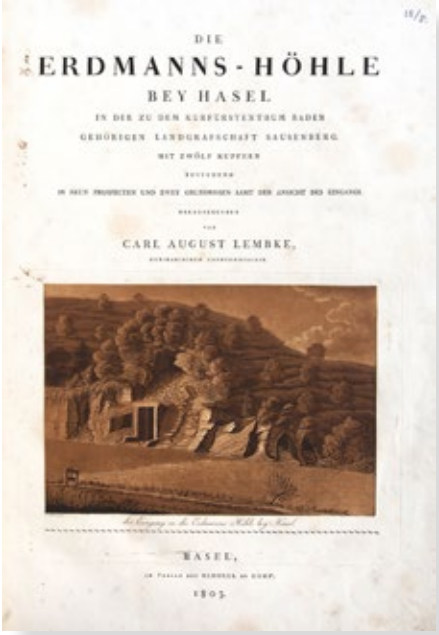
The Ores of Persia

GREWINGK, Constantin.

Die geognostischen und orographischen Verhaeltnisse des noerdlichen Persiens. Mit einer Karte und in den Text gedruckten Holzschnitten. – St. Petersburg: gedruckt bei C. Kray, 1853. 8vo (230 x 150 mm) (4), 148 pp. with one fold. map. Near contemporary black half cloth, with original printed green wrappers bound in, fine copy.

EUR 1.200.-

Very rare description of the Northern Persian Geology by the German-Baltic geologist & mineralogist Constantin Caspar Andreas von Grewingk (1819–1887) after specimens collected by Friedrich Buhse and preserved in St. Petersburg mineralogical collection. From 1837 Grewingk had studied mineralogy and geology in Dorpat, continued his studies in Berlin with Weiß, Gustav & Heinrich Rose and Rammelsberg, and in the winter of 1843/44 in Freiberg. In December 1843 he acquired the Dr. phil. in Jena with a work on chromium compounds. In April 1846 he became conservator of the mineralogical collection of the Academy of Sciences in Saint Petersburg. He made some geological trips. In the summer of 1848, the young researcher traveled to Olenez and Archangel, as well as the Kanin peninsula, which had not been explored to date. In the summer of 1850 Grewingk made a geological trip through Sweden and Norway and in the summer of 1853 he explored the emerald mines in the central Ural Mountains. Based on his reports, he was appointed professor of mineralogy and geology in Dorpat in 1854. During his investigations, he also carried out archaeological research. This book is also based on stone specimens & minerals collected by the Baltic- German botanist Friedrich Alexander Buhse (1821–1898) who travelled in 1847–1849 in Transcaucasia and Persia to collect plants. Buhse had studied botany at the universities of Dorpat, Berlin and Heidelberg before he travelled with Pierre Edmond Boissier and circumscribed many species of plants. From 1856 he lived as landowner in Livonia, being president of the Society of Natural History there and Politician.- not in Schuh, Troelstra, Henze; ADB 49, 542-544. KVK: Erfurt, Berlin, Bonn; NHM London, BL London; OCLC: only Linda Hall.


DIE
ERDMANNS-HÖHLE
BEY HASEL
IN DER ZU DEM KURFÜRSTENTHUM BADEN
GEHÖRIGEN LANDGRAFSCHAFT SAUSENBERG.
MIT ZWÖLF KUPFERN
CARL AUGUST LEMBKE,
BASEL,
1803.

Cave Hunter

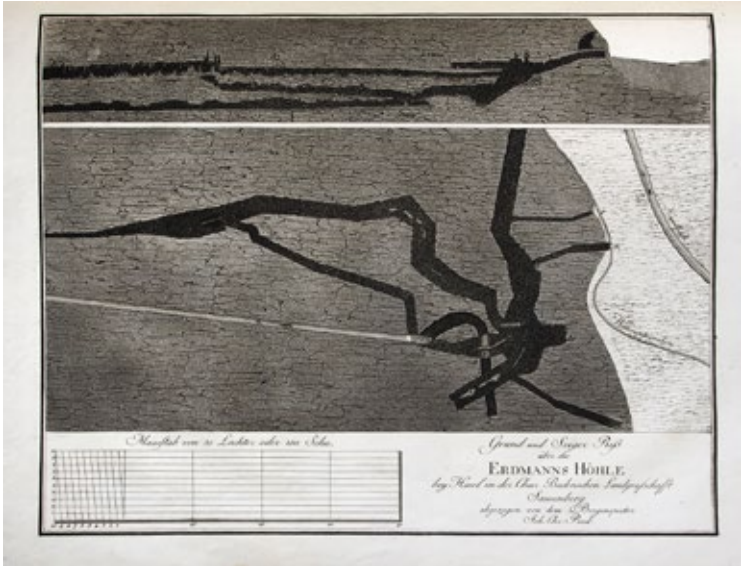
LEMBKE, Carl August.

Die Erdmanns-Höhle bey Hasel in der zu dem Kurfürstenthum Baden gehörigen Landgrafschaft Sausenberg. - Basel, Schoell et Comp., 1803. Gr.-fol. 2 Bll., 21 pp. with aquatint title-vign., 2 (1 double-page) engraved maps resp. layout and 6 (of 8) aquatint engraved plates. Green calf, ruled gilt borders, gilt edges. Rubbed and soiled, corners bumped, little spotted else fine. First binding.

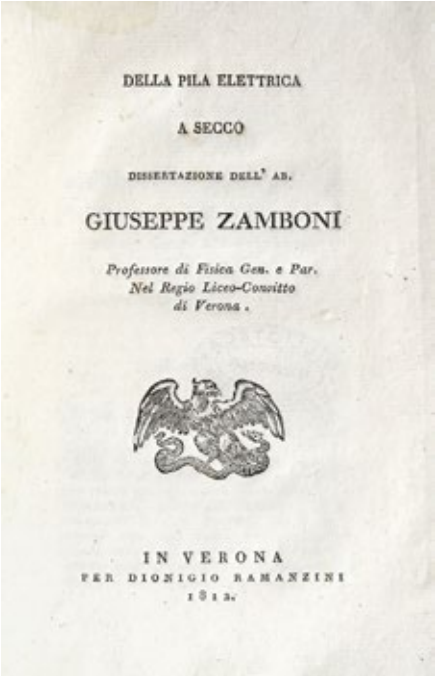
EUR 1.800.-

Exceedingly rare work on the Erdmann's cave in South Western Germany, only one copy at German auction in last 30 years (2005). Our copy is missing two aquatints (Die Todten Gruft and Der grosse Tempel), but they were never bound with this copy in its first binding.

The Erdmannshöhle near Hasel was discovered in 1754 while quarrying for Muschelkalk limestone. The cave is mentioned for the first time in a cadastral map of the French Geometer Fresson. In the year 1773 the cave was visited by Margrave Karl Friedrich with his family and specially equipped with a built-in stairs, bridges and railings. After this visit, the Erdmannshöhle was opened as a show case by order of the Margrave to the public and „to strangers and travellers". In 1782 the first scientific description was published. With a length of 2315 m, it is the longest cave in the Dinkelberg plateau. Caves are an almost perfect archive for the conservation of information concerning archaeology, paleontology, hydrology, climate, tectonics and paleoseismology. The main reason is that if a cave passage becomes inactive, cave sediments are protected against erosion and weathering for several thousands and up to millions of years. For decades, this favourable circumstance has allowed for the reconstruction of early human history by archaeological excavations, research on fossil remains by paleontologists to reconstruct Pleistocene fauna, palynological investigations by botanists to reconstruct vegetation history, and more recent paleo-climate research based on stable isotope analyses and various proxies in speleothems.- KVK: SB Berlin (missing: Grundriss der Höhle); Darmstadt, Kassel, Göttingen, Freiburg, Lörrach. Provenance: Ex Libris: Friedrich Wilhelm Herzog zu Braunschweig - Oels. (inner back cover).- Stabi Berlin (Grundriss is missing); München, Bonn, Darmstadt, Frankfurt; Freiburg, Karlsruhe. COPAC: BL, V&A Museums; BN France; OCLC: only Univ. Oklahoma.



Dry Cell Battery



DELLA PILA ELETTRICA

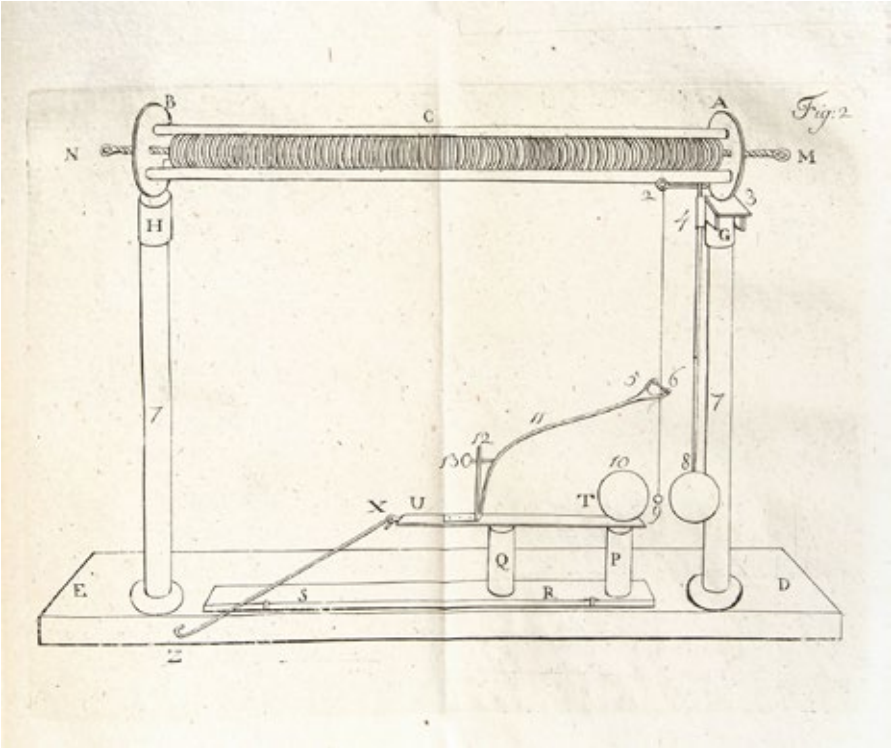
A SECCO

DISSERTAZIONE DELL' AB.

GIUSEPPE ZAMBONI

Professore di Fisica Gen. e Par.
Nel Regio Liceo-Convitto
di Verona.

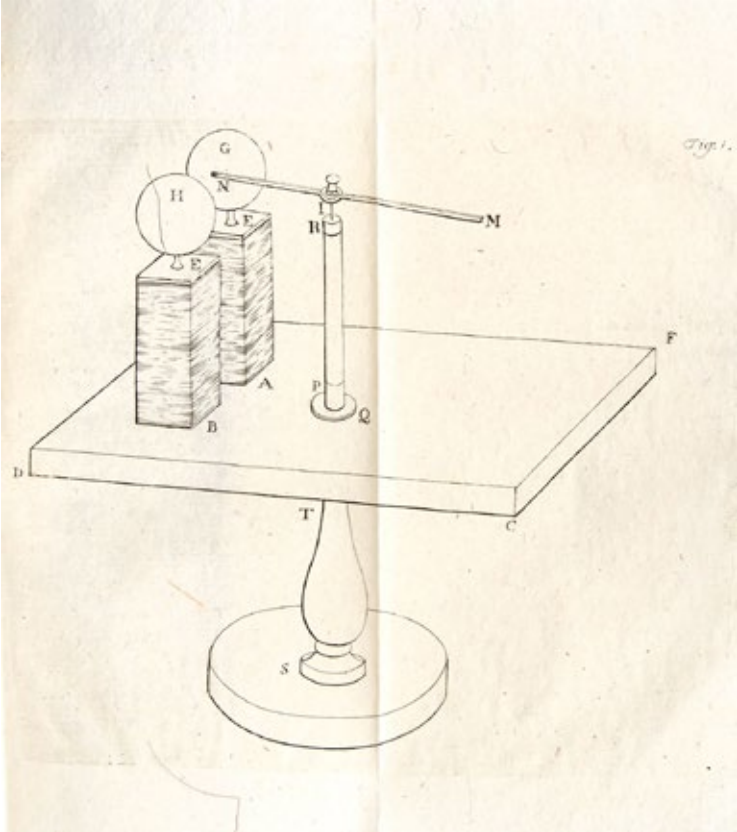
IN VERONA
PER DIONIGIO RAMANZINI
1812.



ZAMBONI, Giuseppe.

Della Pila elettrica a secco. Dissertazione dell' Ab(ate). Giuseppe Zamboni, Professore ... In Verona: per Dionigio Ramanzini, 1812. 8vo (203 x 150 mm) (2), 55 pp., (3, blank) with three fold. engraved plates . Plain gray wrappers, lower part little water-stained, but clean and wide margined copy, stamp and deceased stamp (2008) on last blank.

EUR 1.200.-



Rare first and early description of the dry cell battery to immobilize the electrolyte of an electrochemical cell to make it more convenient to use.

The Italian priest and physicist Giuseppe Zamboni (1776 –1846) invented the Zamboni pile, an early electric battery similar to the voltaic pile described here. His improved version of the dry pile (an electric battery which does not use an electrolyte), which he invented in 1812, consists of a number of paper discs coated with zinc foil on one side and manganese dioxide on the other; the moisture of the paper serves as a conductor. By pressing a large number of such discs together in a glass tube, an electromotive force can be obtained that is sufficient to deflect the leaves of an ordinary electroscope. By bringing the terminal knobs of the pile near each other and suspending a light brass ball between them, Zamboni devised what was called an electrostatic clock. The device is so named because the ball oscillating between the knobs looks like a pendulum. The Zamboni pile is not a hypothetical perpetual motion device, as all action will eventually cease when the zinc is completely oxidized or the manganese exhausted. He was appointed to the chair of physics in the lyceum of Verona.- Wheeler Gift I, 714; Gartrell 101; Bakken; Rossetti-Cantoni p. 106. KVK: at least Stabi München, ULB München; Stabi Berlin; BL London, Univ. Edinburgh, MIT, Bakken, Huntington, Chicago.

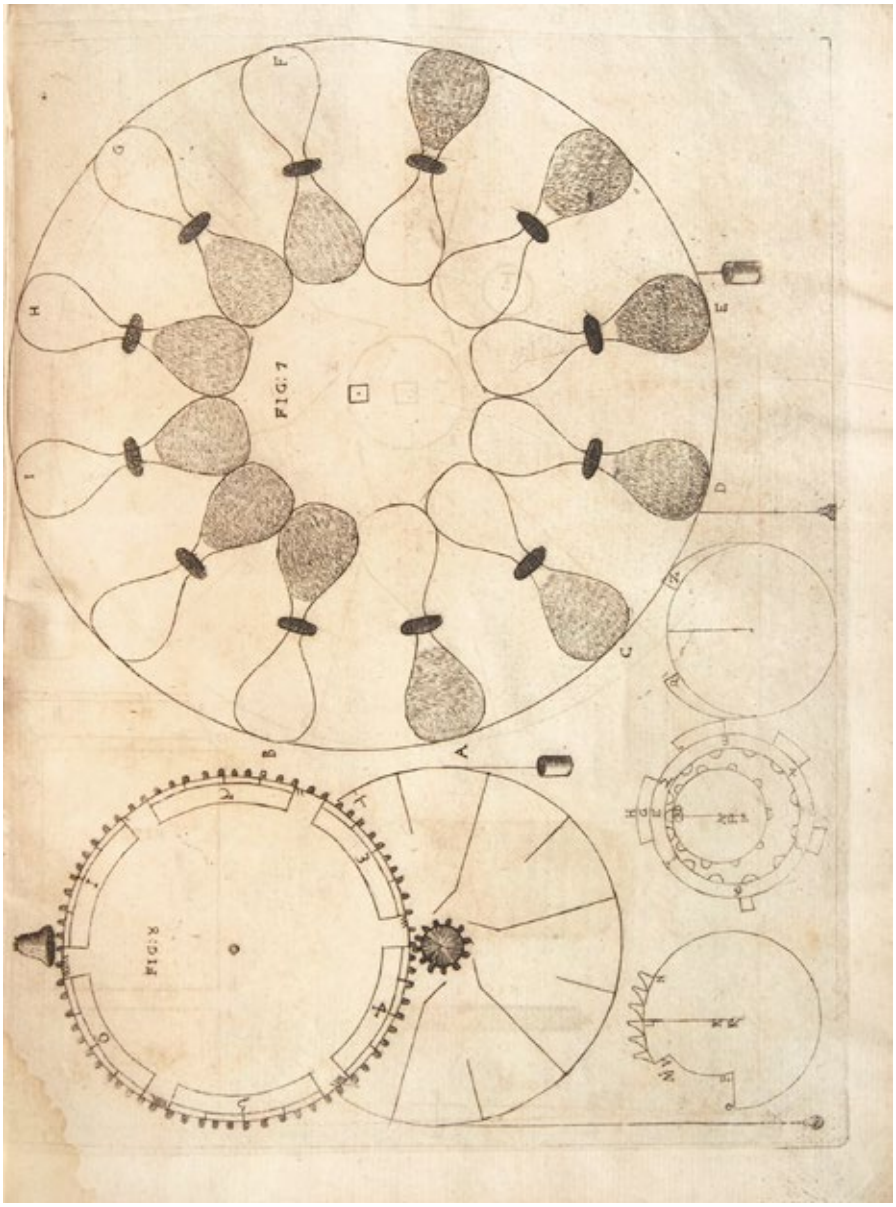
RADI, Arcangelo Maria.

Nouva scienza di horologi a polvere che mostrano e suonano distintamente tutte l' hore. – Rome: Fabio di Falco for Ponzio Bernandon, 1665. Quarto (236 x 177 mm) 42 pp. with engraved title page, verso blank, 3 leaves of plates and uncut volvelles, woodcut initials. Contemporary carta rustica, minor staining and spotting, binding neatly repaired.

EUR 4.200.-

This is the first (and perhaps) the only work on sand clocks. It describes a time-keeping mechanism, driven by weights, that is regulated by a large revolving drum gradually spilling sand from one chamber into another. The mechanism includes a system to sound the hours by striking a bell.

The author was prof. of theology & mathematics in Rome. Maybe he was related to the sculptor Antonio Raggi (1624–1686) who was working for Bernini, for whom he was to become his closest and most prolific pupil. The simple draining liquid clepsydra (water clock) was in use in Egypt by 1500 B.C. The replacement of the liquid with a fine granulated material, thus converting the clepsydra into a clepsammia (sand clock), appears not to have occurred before the mediaeval period. – Tomash & Williams R2; Riccardi II, 332. Provenance: Mediolanum (1991), Tomash Library; Sothebys sale no. 538.



Early Steam Engine – Only a Model?

BRÜCKMANN, Johann Jakob; Johann Heinrich WEBER.


Neu-Erfundene
Höchst nöthige/ und sehr Einträgliche
ELEMENTAR-MACHINE,
oder
UNIVERSAL-Mittel/
bey allerley Wasser-Hebungen.
Wodurch man ohne Wind/ ohne Flüsse/ und ohne Menschen und Thiere Kräffte/ allerley Mühl-Wercke/ vehemente, continuirliche und egale Bewegungen machen/ und die Wasser aus denen Tieffen erheben; Wie auch vom Horizont an/ in die Höhe/ über Berge und Thäler erzwingen kan.
Absonderlich aber
Können dardurch alle Hindernüssen in denen Bergwercken/ welche entweder/ vom Mangel der obern/ oder vom Überfluß der untern Wassern entstehen/ ohne die sonst lang-weilige und kostbahre
Stollen-Arbeit
Auf eine sehr bequeme/ und noch nie erhörte Weise/ vom Grund ausgehoben/ und mithin die allerwichtigste Vortheile/ welche man bißher vergeblich gesucht/ erlanget/ und sowohl bey Bergwercks/ als auch allen andern Mechanischen Operationen, pro Exempel bey Erbauung der Festungen/ Schleussen/ Fluß- oder Spritz-Brunnen/ Brücken/ Canäle, See-Häfen
Und allerley Wasser-Bauen/
Die End-Absicht/ und der intendirende Nutzen/ viel sicherer und ehender/ als mit denen andern jetzt-üblichen mechanischen Machinen und Künsten erreichet werden.
Allen POTENTATEN und STAATEN
Welchen damit gedienet/ auff sehr billige Conditiones in gebührender Submission dargebothen
von
Johann Jacob Brückmann, | Johann Heinrich Webern,
In Verlegung Johann Bertram Cramers Buchhändl. in Cassel. Zu finden in Franckfurt und Leipzig. Cum Privilegio Anno MDCCXX.

Neu-erfundene, höchst nöthige und sehr einträgliche Elementar-Machine oder Universal Mittel, bey allerley Wasser-Hebungen, wodurch man ohne Wind, ohne Flüsse und ohne Menschen und Thiere Kräffte, allerley Mühl-Wercke, vehemente, continuirliche und egale Bewegungen machen und die Wasser aus den Tieffen erheben; wie auch vom Horizont an in die Höhe, über Berge und Thäler erzwingen kan. Absonderlich aber Können dardurch alle Hindernüssen in denen Bergwercken, welche entweder, vom Mangel der obern, oder vom Uberfluß der untern Wassern entstehen, ohne die sonst langweilige und kostbahre Stollen-Arbeit Auf eine sehr bequeme, und noch nie erhörte Weise, vom Grund ausgehoben, und mithin die allerwichtigste Vortheile, welche man bißher vergeblich gesucht, erlanget, und sowohl bey Bergwercks, als auch allen andern Mechanischen Operationen … Die End-Absicht, und der intendirende Nutzen, viel sicherer und ehender, als mit denen andern jetzt-üblichen mechanischen Machinen und Künsten erreichet werden / Allen Potentaten und Staaten Welchen damit gedienet, auff sehr billige Conditiones in gebührender Submission dargebothen von Johann Jacob Brückmann. Ingenieur … und Johann Heinrich Webern, Ingenieur … Cassel: In Verlegung Johann Bertram Cramers Buchhändl., zu finden in Franckfurt und Leipzig, 1720. 4° (198 x 164 mm) 12 Bll., 38 pp. Contemporary style paper-card boards with handwritten title on spine, else fine.

EUR 2.200.-

Description of a newly invented steam engine to raise water in mines, in gardens for irrigating water, or to raise water in canals. No image given, because the authors were anxious for intellectual property theft. They praised the machine as a sort of Perpetuum mobile to find investors.

During his lifetime, Landgrave Carl of Kassel (1654–1730) seemed to have been particularly motivated by questions of hydraulics to repeatedly invest large sums in various projects designed to raise water. The experiments that Denis Papin (1647–ca. 1712) had undertaken in Kassel were very well known. Landgrave Carl brought Papin to the University of Marburg as a professor of mathematics in 1688, and Papin worked on air pumps, the improvement of ovens, especially to make better use of the heat, and even developed a submersible boat that was successfully tested at least once in the Fulda. Based on his experiments with Huygens on gunpowder machines, he decided to use water vapour as a means of propulsion instead of gunpowder. His first steam pump was to use the power of steam to displace water from a cylinder and raise it up to 20 metres through a riser. However, before the first test could take place in November 1696, the pump was so badly damaged by early ice that the machine could no longer be put into operation.

After this unsuccessful effort to build a functioning steam pump, the subject seemed to have been abandoned in Kassel for a while. Carl did not lose sight of this topic. In fact, he was well informed about Thomas Savery's work on the steam engine. In the years that followed, Savery built several pumps. Despite his belief that his pumps were suitable for mine drainage, they could only draw water up to a height of 10 metres and pump it up another 10 metres. This made their use in mines almost impossible. They could, however, be used to irrigate parks and residential areas. One such was used in London in 1715 in the York Buildings to lift water from the Thames into a water tower and then distribute it to the houses. This pump is said to have been seen in use by the Major of Artillery, Johann Heinrich Weber (c. 1680–1755) who was so impressed by this machine that he had one built in Kassel. Calvör writes in 1763 that it was probably more of a small model. Whatever the size of the steam pump, its successful test is confirmed by a letter from Lothar Zumbach von Coesfeld to Gottfried Wilhelm Leibniz dated 13 June 1715. In it he writes: Ich schicke hier die Beschreibung der Wirkungen jener Wasser-Feuer-Maschine (Machina hydraulico-pyreumatica), welche Erfindung neulich aus England der Hr. Capitän und Ingenieur Weber mitbrachte. Sie ist in vieler Hinsicht vollkommener als die des Hr. C. Savery; unser durchlauchtigster Landgraf hat sie selbst geprüft und ist Augenzeuge ihrer Wirkungen gewesen.

Zumbach also asked Leibniz if Weber could send him a description of the machine. This description arrives at Leibniz the same month. However, it is not a description of the technology, but a list of the advantages that this machine is supposed to bring. It is striking that Weber emphasizes that it should only be used in mines when there is no other possibility of raising water by means of horse or human troughs or by water wheels. He describes the machine's need for fuel as half a fathom of wood per 24 hours of operation. At the same time it could raise 6,480 onces of water 150 feet. Nothing is known about the whereabouts of Weber's steam pump. Perhaps the machine was not as useful as previously thought and was not used in a planned manner. It is possible that it was only a model and that there was no possibility to build the pump in an economically usable size. But in 1720 Weber, together with the Electoral Hanoverian artillery major Johann Jacob Brückmann (1680-1750), published a small book to advertise their newly invented elementary machine in a new attempt. The name comes from the fact that all four elements (water, fire, air, earth) are to be used to operate the machine. It is striking here that Orffyreus Perpetual Motion machine is mentioned, but not in a negative sense. In addition to many possible applications, the authors also praise the use of the machine to supply water features and in the construction of canals. They demand the gigantic sum of 100.000 Thaler as recompense for their invention, interestingly enough the same as Orffyreus had demanded for his invention. After that, their trail is lost.- Rotermund II, 673; not in Roberts/ Trent; not in Rouse, HWH; not in Phillips, Diving. see: Klotz.Johann Jacob Brückmann und Johann Heinrich Weber als Ingenieure und Erfinder: 1715–1719 (1980); Bjoern Schirmeier. Der Drang nach Energie im Spannungsfeld von Perpetuum mobile und Dampfmaschine (2017). 175-187.

KVK: Stuttgart, Leipzig, München, Dt. Museum München; Freiberg, Augsburg, Eutin, Göttingen, Hannover, Wolfenbüttel; outside Germany very rare: Kobenhavn, Basel, ETHZ, BL London; no copy in OCLC (USA)

Bugs

JABLONSKY, Carl Gustav; Johann Friedrich Wilhelm HERBST.

Natursystem aller bekannten in- und ausländischen Insekten, als eine Fortsetzung der Büffonschen Naturgeschichte. Nach dem System des Ritters Carl von Linne bearbeitet.... Bde. I - IX (of 10). - Berlin: J. Pauli, 1785 - 1801. 8vo (198 x 112 mm) and atlas (200 x 260 mm) with hand-colored engraved frontispiece in vol. one and each title-page with engraved hand-colored title-vignette. xxiv, 310 pp.; xvi, lxiv, 330 pp., (6); xiv, 325 pp., (1); viii, 197 pp., (1); xvi, 392 pp.; xxiv, 520 pp.; xi, (1), 346 pp.; xvi, 420 pp.; xvi, 344 pp. With 137 (plus 48, of 202) engraved plates by C. Darchow, Ludwig Schmidt, Heusinger and others. Contemporary red half morocco, floral gilt spine in compartments, two morocco lettering pieces, rubbed and soiled, little spotted, Ex - Libris on inner front cover, else a very fine copy.

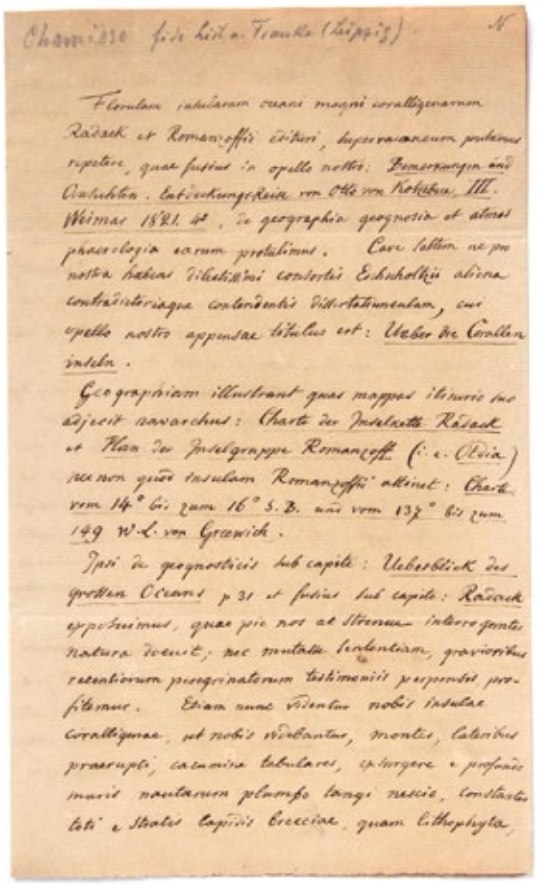
EUR 4.800.-

A very fine copy of one of the most attractive early works on coleoptera, with the first nine text-volumes (of 10) present and the137 plates to these text-volumes, lacking only the last text volume with plates. A second atlas with 48 hand-colored plates of coleoptera, bound to style, is probably not belonging to this work (the plate numbering is here VII-LIV). The entire series was published in 21 volumes, 1783–1806, divided in two parts: A. Käfer issued in 10 volumes, 1785–1806, and B. Schmetterlinge, issued in 11 volumes, 1783–1804. First and only edition of this superbly illustrated work on exotic and European coleoptera. Carl Gustav Jablonsky was private secretary to the Queen of Prussia. After Jablonsky's untimely death Herbst edited the work from volume two onwards. A great number of the plates were drawn by Jablonsky. The work should be considered a first attempt to a total survey of the coleoptera. A sequel was published to the above work dealing with butterflies. „The Frenchmen were however preceded in their illustrated compilation of the Cook voyage entomology by Johann Herbst in Berlin, whose illustrated monographs on beetles (Natursystem der Käfer) were published between 1783 and 1795. Although he may have visited London, it is more likely that Herbst saw duplicates given to Fabricius by Banks and taken by the former to Kiel, which is relatively more accessible from Berlin. His illustrations of New Zealand insects are the earliest published.“ (Andrews, The Southern Ark pp. 45). Andrews quotes the wrong dates of publication. All plates have fine old hand colouring.- Horn/Schenkling 10130; Nissen ZBI 2078; Junk, Rara I, 10: „Der eigentliche Verfasser ist der ausserordentlich fleissige Herbst, der nach dem frühzeitigen Tode Jablonsky's (im Jahre 1787) ... die ‚Käfer‘ vom 2. Bande ab bearbeitete“. Provenance: Gräfl. vom Hagen'schen Majorats-Bibliothek Möckern (Christoph Friedrich Wilhelm Graf vom Hagen)

CHAMISSO, Adelbert von.

Latin manuscript on coral reefs in brown ink on 3 1/2 pages on paper (sheet-size: 210 x 118 mm) not signed, written around 1821, beginning: „Florulam insularum oceani magni coralligenarum Radack et Romanzoffi edituri, supervaccaneum putamus repetere, quae fusius in opello nosto: Bemerkungen und Ansichten. Entdeckungs-Reise von Otto von Kotzebue, III. Weimar 1821. 4°, de geographia geognosia et atmosphaerologia earum protulimus. Cave saltem ne pro nostra habeas dilectissimi consortis Eschscholtzii aliena contradictoriaque contendentis dissertatiunculam, cui opello nostro appensae titulus est: Ueber die Coralleninseln. – Geographiam illustrant mappas itinerario suo adjecit navarchus: Charte der Inselkette Radack et Plan der Inselgruppe Romanzoff (i. e. Otdia) nec non quod insulam Romanzoffii attinet: Charte vom 140 bis zum 160 S. B. und vom 137o bis zum 149o W. L. von Greenwich. – Ipsi de geognosticis sub capite: Ueberblick des grossen Oceans p. 31 et fusius sub capite: Radack exposuimus, quae pie nos ac strenue interrogantes natura docuit …". Written in a legible hand, probably intended for a journal, at the end noted: „La suite au No. prochain."

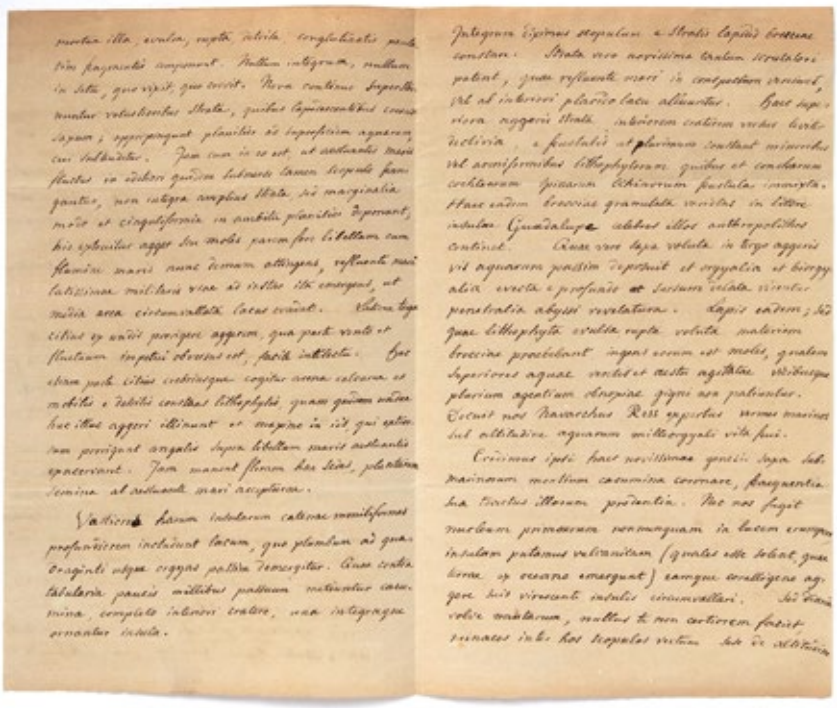
EUR 9.500.-



Chamisso's work on coral reefs was first published in French in: Nouvelles Annales des Voyages no. 19 (1821) and then in German in Otto von Kotzebue's Entdeckungs-Reise (1821) Vol. III, 31-32, 187.

„He (Chamisso) hoped to have the work published as a separate volume, but found himself ordered - by Count Rumiantsev, Russian statesman and official sponsor of the voyage - to publish it in the Kotzebue account and submit to Kotzebue's editorial direction." (Liebersohn, 2003.; Maaß, Leuchtkäfer (2016) pp.)

In an account entitled: On the Coral Islands, included as an appendix to Kotzebue's narrative of the voyage of the Rurik, Chamisso made two important observations on coral reefs that were used later by Charles Darwin to write his theory of coral reefs. First, in contradistinction to Reinhold Forster, he pointed out that corals thrived best in turbulent reef fronts, stating that „the larger species of corals, which form blocks measuring several fathoms in thickness seem to prefer the more violent surf on the external edge of the reef", a point amplified further on, that the windward „side of the reef, exposed to the unremitting fury of the ocean, should first rise above the element that created it". His second observation attempted to explain why atolls appear in wide expanses of the oceans, almost out of nowhere. That, he reasoned, was because the corals have founded their buildings on shoals in the sea or, to speak more correctly, on the top of mountains lying under the water". Further, the variation in magnitude and distribution of atoll clusters „probably depends on the size of the submarine mountain tops, on which their basis is founded." (Bowen, The coral reef era (2015) pp. 35)



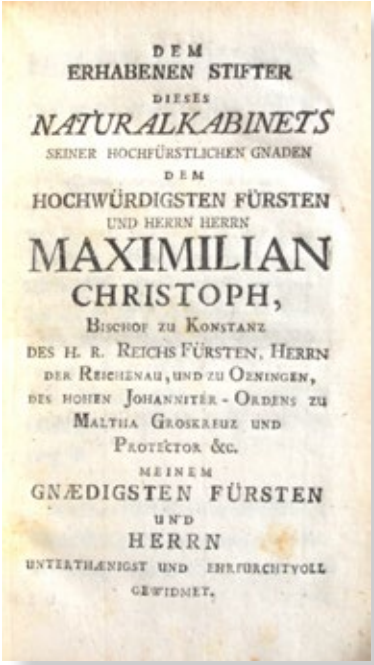
By the end of the 18th cent., investigations into the major problems of reef formations and the nature of coral (insect or plant) had advanced considerably. Significant were the investigations of Peysonnell and John Ellis which resulted in general agreement that reefs were created in some mysterious way by animals. Intensified speculation began to mount when the awesome destructive power of coral reefs received sensational publicity in James Cook's account of his successful discovery in 1770 of an uncharted coast of the mysterious and elusive Great South Land. The ship Endeavour crashed into one of the myriads of almost invisible reefs. Cook's description of the impact on 11 June 1770, the desperate efforts to beach the vessel for repairs, and the eventual discovery of a way out of the bewildering complexity of submerged reefs created a sensation, especially when it appeared in the heightened prose of Hawkesworth. Further investigation of coral reefs was checked for a time when the French Revolution of 1789 and the subsequent Napoleonic Wars pressed all fighting ships into military service. The Russians also became active once they gained control of the North Pacific with their warm water port of Vladivostok. Of early significance were the findings of Adelbert von Chamisso, the naturalist who sailed on the first voyage of the Russian ship Rurik from 1815 to 1818 under the command of Otto von Kotzebue around the Pacific from Kamchatka to Alaska, California, and then to the Hawaiian, Marshall and Marana groups situated between the north tropics and the equator.- Schmid. Chamisso 29c.

Shells from Cook's Voyages

ABEL, Johann Caspar Anton Maria

Die Conchylien in dem Naturalkabinet seiner Hochfürstlichen Gnaden des Herrn Fürsten und Bischofs von Konstanz, … nach Martini und Chemnitz systematisch eingetheilt. – Bregenz: gedruckt durch Kaspar Graf Factor, 1787. 8vo (175 x 150 mm). 8 Bll., 282 pp.; 38 pp., (2; blank) Contemporary de-Luxe green morocco, floral gilt spine, two morocco labels, gilt floral borders, gilt edges, sun-faded, little browning throughout, but a very fine copy.

EUR 3.600.-



DEM
ERHABENEN STIFTER
DIESES
NATURALKABINETS
SEINER HOCHFÜRSTLICHEN GNADEN
DEM
HOCHWÜRDIGSTEN FÜRSTEN
UND HERRN HERRN
MAXIMILIAN
CHRISTOPH,
BISCHOF ZU KONSTANZ
DES H. R. REICHS FÜRSTEN, HERRN
DER REICHENAU, UND ZU OENINGEN,
DES HOHEN JOHANNITER-ORDENS ZU
MALTHA GROSKREUZ UND
PROTECTOR &c.
MEINEM
GNÆDIGSTEN FÜRSTEN
UND
HERRN
UNTERTHÆNIGST UND EHRFURCHTVOLL
GEWIDMET.

DIE
CONCHYLIEN
IN DEM
NATURALKABINET
SEINER HOCHFÜRSTLICHEN GNADEN
DES
HERRN FÜRSTEN
UND
BISCHOFS
VON
KONSTANZ.
IN DER
HOCHFÜRSTLICHEN RESIDENZSTADT
MÖRSBURG.

NACH
MARTINI und CHEMNIZ
SYSTEMATISCH EINGETHEILT.

BREGENZ,
GEDRUCKT DURCH KASPAR GRAF FACTOR
1787.

Very rare descriptions of the shells in the Natural History Collection of the prince-bishop Maximilian Christoph von Rodt, which included shells of the Cook voyages, and was transferred in early 19th cent. to Karlsruhe. The prince-bishops of Konstanz (Southern Germany) were enthusiastic collectors who were particularly interested in shells, snails, minerals and fossils. Already during Maximilian Christoph von Rodt's lifetime (1717–1800), his collection was so well known that people from abroad traveled to Meersburg to study and visit the specimens,– especially the fossils from Öhningen were „by far the most famous thing you can find in the Constanceian". The collection was built up by the Capuchin priest Andreas Rettich von Marchthal, extended and systematized by the natural scientist Johann Caspar Abel, Rodt's private secretary, who bought some of the shells that came from the expeditions of James Cook. „Nach der Rückkehr James Cook's entwickelte sich in ganz Europa ein hochlukrativer Markt um die wissenschaftlichen Artefakte der Expedition. Darunter waren die mitgebrachten Conchylien unter den begehrtesten Objekten. Maximilian Christoph von Rodt dürfte seine Muscheln der Cook'schen Reise von dem bekannten Naturalienhändler und Sammler George Humphrey in London erhalten haben. Letzterer gilt in der Beschaffung von naturwissenschaftlichen Objekten als schillernde Figur und zugleich als sehr bedeutender Beschaffer und Verteiler. Nach Ankunft der Cook'schen Expeditionen, besonders der zweiten, hatte er von der Mannschaft und den Offizieren mitgebrachte Naturalien und Artefakte für 150 Pfund aufgekauft." During the German mediatisation and secularisation in 1803 the prince-bishops of Konstanz lost their independent status and were absorbed into the Baden State. The botanist Carl Christian Gmelin (1762–1837), director of the natural history cabinet of the Price Carl Friedrich von Baden, visited the natural history collection in Meersburg and brought it to Mannheim: „Bekanntlich wendete Maximilian Christoph sehr vieles an seine Conchyliensammlung, und dennoch kann sie noch nicht vollständig genennt werden, indem ein Stillstand im Sammeln eingetreten ist. In der Einleitung des Catalogs (a manuscript catalogue of 1787) wurde ich vorzüglich auf eine zahlreiche Sammlung von Edelsteinen und Halbedelsteinen aufmerksam, sollte dieselbe noch vorhanden seyn, so verlohnte sich seine genaue consignation davon zu haben, und sie dem .. Naturalien Cabinet dahier (Karlsruhe / Mannheim) einzuverleiben. . . . Bey weitem das berühmteste was im Constanzischen zu finden ist, sind die Oeninger Versteinerungen in einem eigenen Mergelschiefer, eine ergänzte Collection derselben wäre eine wahre Zierde für das fürstl. N. C. dahier." Later, after his visit, Gmelin wrote about the collection in Constanz (Meersburg): ‚Die Lage und Einrichtung desselben ist von der Art, daß jeder wünschen muss, sie verändert und verbessert zu sehen. Das ganze scheint von Nichtkennern gesammelt und aufgestellt zu seyn. Vom Thierreiche ist nichts da, als eine sehr ansenliche nicht geordnete Conchyliensammlung, für die es ein wahrer Verlust ist, wenn man sie länger in diesem Zustand. . . lässt, sämtliche Conchylien und sogar die seltensten Stücke liegen so dichte aneinander, daß sie mit jedemmale wie die Schiebekästen geöffnet werden sich mehr oder weniger aneinander reiben . . . Es sind bereits noch nachdem mehrere der seltensten Stücke verschleppt oder bey-Seite geschaft seyn dürften, . . . so viele Dubletten an Conchylien da, daß man zwey sehr große ziemlich complette Sammlungen daraus machen könnte. . .. Außer denen Conchylien sind ettliche Seeprodukte als Corallen und Madreporen da. . . Von Mineralien ist wenig schönes und interessantes, außer einigen Quarzkrystall grouppen, versteinerten angeschliffenen Hölzern, Agathen, Jaspissen, und Marmorn nebst mehreren Gebürgsarten und ettlichen Erzen,. . ..'

In the inventory book of the Cabinet of Meersburg, which Gmelin composed, he notes 27 mineral specimens and 67 marble slabs, which he brought from the Meersburg Natural History Cabinet to Karlsruhe. Further 21 fossilized fishes from Monte Bolca and 3 from Solnhofen. Furthermore Gmelin lists a collection of 96 larger and partly very small fossilized fishes from Oeningen, a collection of 320 small specimens of fossilized insects from the Oeningen slate, 143 specimens of petrified plant leaves and fruits from Oeningen, a considerable collection of ammonites from Meersburg, 225 cut and polished petrified woods and 104 dendrites. (In den Inventarbüchern vermerkt Gmelin 27 Mineralstufen und 67 Marmortafeln, die er aus dem Meersburger Naturalienkabinett mitbrachte. Weiter 21 Fische von Monte Bolca und 3 von Solnhofen. Ferner führt Gmelin an, eine Sammlung von 96 größeren und teils ganz kleinen Fischen von Oeningen, eine Sammlung von 320 kleinen Tafeln von ganz kleinen, kleineren und größeren Insekten im Oeninger Stinkschiefer, 143 Tafeln versteinerter Pflanzen-Blätter und Früchte aus Oeningen, eine beträchtliche Sammlung Ammoniten aus Meersburg, 225 angeschnittene und polierte versteinerte Hölzer und 104 Dendriten). (see Gaston Mayer. Akquisition der Naturalienkabinette zu Meersburg (1803) und Sankt Blasien (1807). Beiträge zur Geschichte der Badischen Landessammlungen für Naturkunde in Karlsruhe. V. in: Beitr. naturk. Forsch. Südw.Dtl. 32 (1973), pp. 195-203); Murray III, 20.

The Grandeur of Life

SLABBER, Martin(us).

Physicalische Belustigungen oder Mikroskopische Wahrnehmungen von drey und vierzig in- und ausländischen Wasser- und Landthierchen. Aus dem Holländischen übersetzt von P.L.St. Müller. Mit XVIII. fein illuminirten Kupfertafeln. Nürnberg, Adam Wolfgang Winterschmidt, 1781. 4to (250 x 200 mm). 6 Bll., 99 pp., (1) blank with 18 hand-colored, partly color-printed, engraved plates. Contemporary half-calf gilt, slight staining, some worming to rear cover, but a very fine and fresh copy. Bound with is the title of the first german edition of 1775 which is up to page 24 identical with the later edition.

EUR 3.600.-

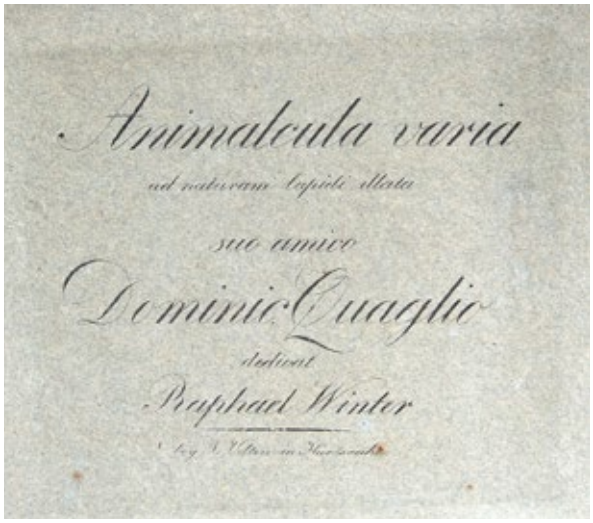
First german edition of this descriptive eighteen-part series on copepods, published in Dutch language between 1769 to 1778. The title translates as: Natural-science diversions, or microscopic observations on water and land-animals.

In 1775 the famous printer of natural history books in Nuremberg, Adam Wolfgang Winterschmidt published the first German partly edition with 6 plates and 24 pages of text, translated by Statius Müller (1725–1776). The full book was published in 1781, reprinting the first 24 pages.

Slabber illustrates here the metamorphosis of barnacles, and indicates metamorphosis in decapods and gave the first sketches of a mysid and a chaetognath. Another first was the illustration of the ‚sea-spark' (zeevonk), the ‚especially small and delicate' luminescent dinoflagellate now known as Noctiluca. This had been earlier described but not illustrated by Baker (Cole 1926). Linnaeus had shown little interest in invertebrates, since he had his hands full soring our mammals, birds and fish (to say nothing of plants). Consequently, he lumped all invertebrates into just two classes, Insecta and Vermes, or roughly, Bugs and Worms. In ensuing decades, naturalists greatly expanded their collecting efforts to include these spineless wonders. Charles Darwin was introduced to the world of invertebrates at Edinburgh, collected them on the Beagle, and would later become the world's authority on one group of crustaceans, the barnacles. (Ashworth. Grandeur of life. pp. 36)

Martin Slabber (1740–1835) was born in Middelburg, Zeeland, but as a young man moved to the nearby town of Goes, where he was at times burgomaster as well as president of the Court of Justice. From the earliest years Slabber was interested in natural history, and during leisure hours he collected and described North Sea organisms, especially the smallest forms as seen under his Cuff's microscope. Slabber had no academic background, but he made the most personal contacts with like-minded amateurs, like Job Baster, as well as the insect anatomist Pierre Lyonet (1707–1789) and the ichthyologist Martinus Houttuyn (1720–1798) during visits to the principal natural history cabinets throughout the Netherlands. Baster brought Slabber into the Dutch Academy of Sciences in 1767. Birds also attracted Martin Slabber's eye and he acquired a large cabinet of mounted specimens. In 1816 he published an essay on his bird studies.- Nissen, ZBI 3861; Horn-Sch. 20532; see Landwehr, Dutch Books with col. plates 187, Cole 1849 f.; Wellcome V, 123; Damkaer 88.


Physicalische
Belustigungen
oder
Microscopische Wahrnehmungen
in- und ausländischer
Wasser-
und
Landthierchen
durch
Martinus Slabber,
Aus dem holländischen übersetzt
von
P. L. St. Müller.
Mit fein illuminirten Kupfertafeln.
Nürnberg,



WINTER, Raphael.

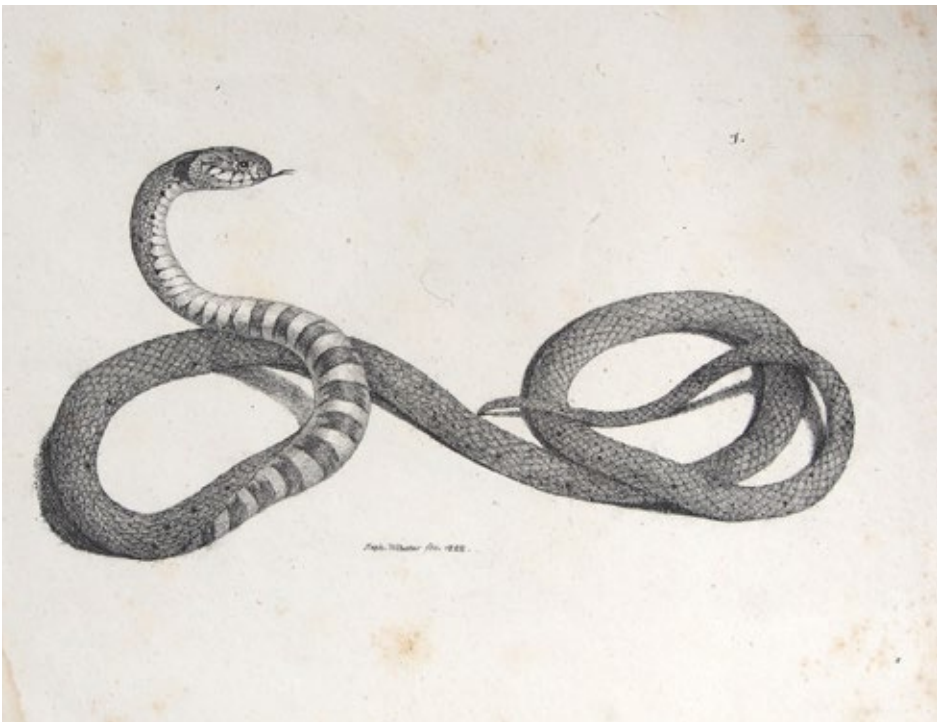
Animalcula varia ad naturam lapidi illata suo amico Dominic Quaglio dedicat Raphael Winter. – Karlsruhe: bey J. Velten, (no date, 1822) oblong 4to (270 x 205 mm) Original blue wrappers with title on wrappers, 10 lithographed plates sign. in the stone by Winter, numbered and dated 1822. Little water-stained in one corner, little spotted, overall fine.

EUR 1.400.-

Exceedingly rare suite of lithographed animals: snake, lizard, mole, mice, frogs, shell and a lobster.

The Munich based artist Raphael Winter (1784–1852) was taught by his stepfather Johann Michael Mettenleiter, who became engraver at the electoral court in 1790 after Winter`s natural father, Joseph Georg Winter, died. In 1809, Raphael was appointed the first lithographer of the lithographic institution of the royal state council. In 1818 and 1830 he traveled to Rome. Like his father, he mainly depicted animals in his drawings, watercolors and graphics.

KVK: only Stabi Berlin.



Important German Woodcut Book

LAUTENSACK, Heinrich.

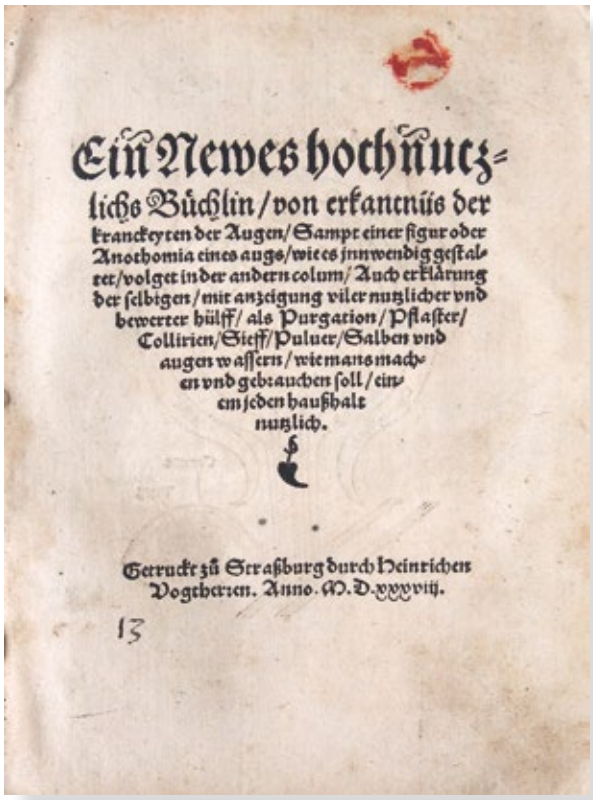
Desz Circkelsz und Richtscheyts, auch Perspectiva, und Proportion der Menschen und Rosse, kurtze, doch gruendtliche underweisung desz rechten gebrauchs. – Francfort: Egenolff Emmel for Simon Schamberger, 1618. In-folio (303 x 192 mm) (8), 54 Bll., with title in black and red, 107 text woodcuts incl. 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.

First book on the Eye



Ein Newes hochnutz-
lichs Büchlin / von erkantnüs der
kranckeyten der Augen / Sampt einer figur oder
Anothomia eines augs / wie es jnnwendig gestal-
tet / volget in der andern colum / Auch erklärung
der selbigen / mit anzeigung viler nutzlicher vnd
bewerter hülff / als Purgation / Pflaster /
Collirien / Sieff / Puluer / Salben vnd
augen wassern / wie man sie mach-
en vnd gebrauchen soll / ein
em jeden haußhalt
nutzlich.

Gedruckt zů Straßburg durch Heinrichen
Vogtherren. Anno. M.D.xxxviij.

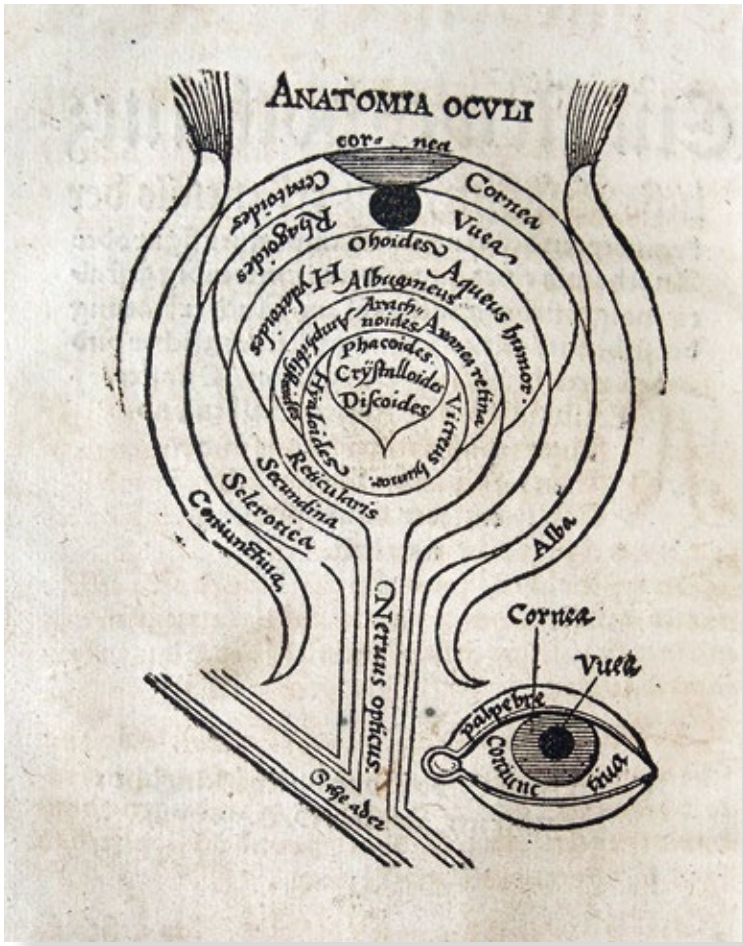
13

VOGTHERR, Heinrich (ed.)

Ein Newes hochnutzlichs Büchlin, von erkantnüs der kranckeyten der Augen, Sampt einer figur oder Anothomia eines augs, wie es jnnwendig gestaltet … Straßburg: Heinrich Vogtherr, 1538. sm.4to (192 x 142 mm) [12] Bll. / leaves. with woodcut anatomical diagram of the eye and optic nerve on verso of title, printer s device with woodcut portrait of the publisher on last leave. Old ink number 13 on title and reminisces of a wax stamp, else fine. Unbound.

EUR 9.000.-

First edition of an exceptionally work in the field of ophthalmology, maybe the first work by a modern European author. Heinrich Vogtherr's Büchlin is the first European, ophthalmology booklet published in the vernacular. It appeared in 1538 amidst a stream of other medical booklets by the same publisher. The Büchlin includes an anatomy of the eye, a description of pathophysiology, various diseases, and numerous remedies. It precedes G. Bartisch's Ophthalmodouleia but earlier texts probably influenced Bartisch more. A second edition of the Büchlin appeared in 1539. Because ophthalmology was the province of barber-surgeons, publications by learned medical authorities did not appear until relatively late. The Büchlin begins very impressively with a full-page woodcut of the anatomy of the eye. After two pages on anatomy, discussion of affections of the eye begin, with references to cataract, affections of the cornea, conjunctiva, pruritus, clearing the sight, etc. The pamphlet concludes with a little over three pages of remedies (collirium, Sieff, emplastrum pomale, and pulvis are some). Vogtherr was a versatile character; in addition to his activity as printer, author and engraver actively committed to the Protestant cause, he also executed and published works on topics ranging from urology and ophthalmology to a manual of Renaissance ornamental motifs for the use of craftsmen. Overall, his publishing activity may be seen as a conscious expression of a desire to use printing to foster the spread of ideas and knowledge in social groups that would otherwise have been unfamiliar with the world of the book. Vogtherr's scientific texts give considerable space to illustrations and diagrams (here only one), and consists of very few pages. The language is simple and is always in the vernacular. (Andrea Carlino. Knowne Thyself. Anatomical Figures in Early Modern Europe; in: RES XXVII (1995), pp. 52-69).
Lit.: Donald Blanchard. Vogtherr's Büchlin; in: Documenta Ophthalmologica XCIII (1997), pp. 73-79; Garrison and Morton (online) 6932; Albert et al. 793 (wrongly listed as by Fuchs) as IBBO 271; Durling 3336 (lacking title and colophon leaves); VD16 1189; OCLC records British Library and Strasbourg . The Büchlin does not appear in the standard ophthalmology catalogues such as Becker or BOA, nor is it in Waller or Wellcome. There is a copy in the Wilmer Collection at Johns Hopkins, and Durling mentions obtaining facsimile leaves (title and last leaf) for the NLM copy from the College of Physicians of Philadelphia.- VD16 N 1189 (BSB München, Berlin, Univ. München, Halle, Erlangen, Wien, HAB Wolfenbüttel)



Aborigines

LUCAE, Johann Christian Gustav.

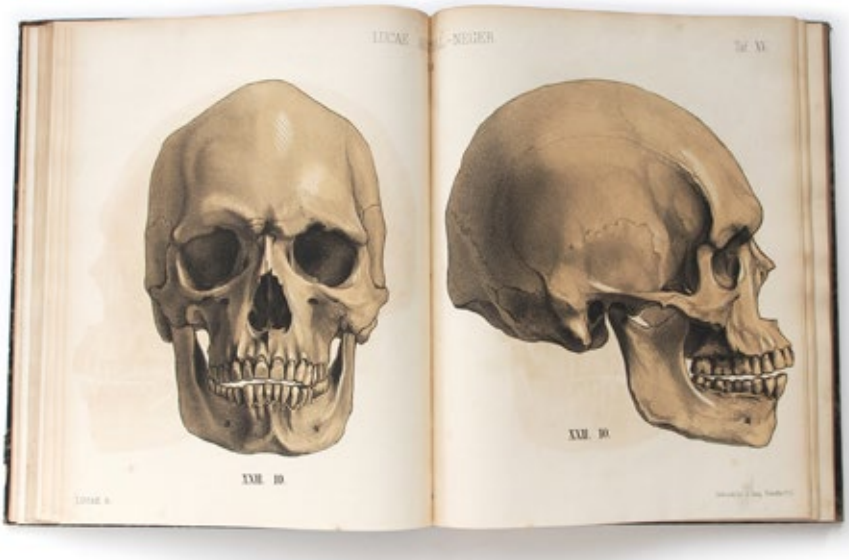
Zur Morphologie der Rassen-Schädel. Einleitende Bemerkungen und Beiträge. Ein Sendschreiben an Se(ine) Excellenz den Herrn Staatsrath und Akademiker Carl Ernst v. Baer. 2 parts in one vol. – Frankfurt a. M(ain): Heinrich Ludwig Brönner, 1861. 4to (285 x 233 mm) 56 pp., 12 double-page plates (incl. 5 tinted), 11 text figures; 50 pp. with 12 lithogr. plates (11 double-page), 7 text figures. Contemporary half calf, marbled boards, paper label on spine, library stamps on a few pages and deceased stamp, little spotted and browned due to paper quality.

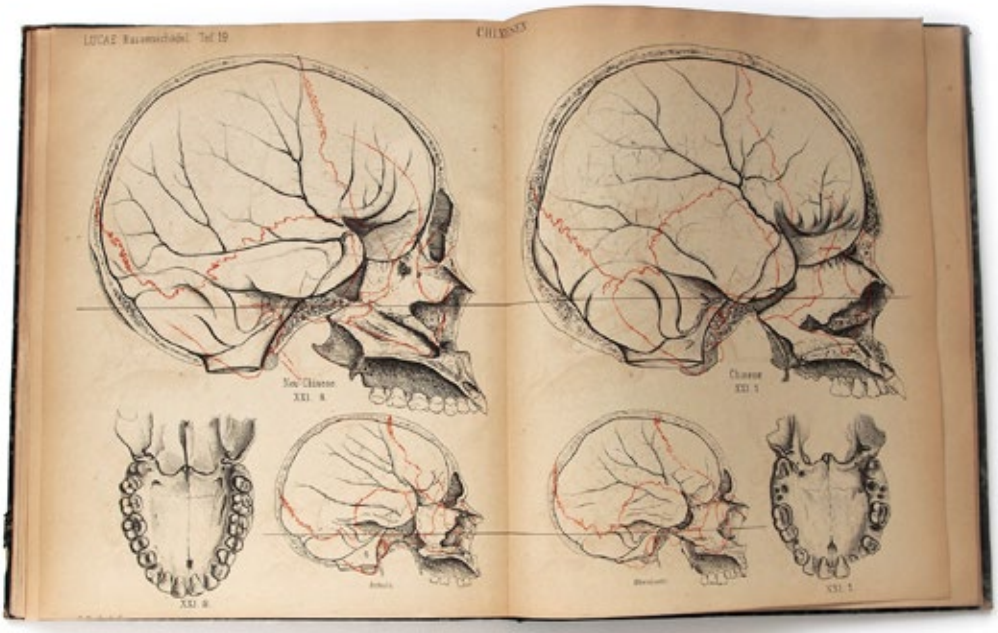
EUR 1.200.-

First edition of his phrenological and craniological work which he dedicated in print to the famous biologist Carl Ernst von Baer. In this work he described his improved methods for drawing anatomical objects with new instruments and with the use of photography which he finds inferior to drawing.

As examples he uses skulls of the collection of the Senckenberg Museum in Frankfurt, especially Australian Aborigines (Austral-Neger) in the first part and of Chinese people in the second part. As Lucae describes on the explanations of the plates: Plate 1 shows an „Australian man from Clarence River in New South Wales. His name was Jomey, was six feet high and was killed in combat“ or a woman „Broad, called Babys Mother had have syphilis“ or a man „Billey was five feet high and was killed in the face“. The native Australian were compared with indigenous peoples of New Guinea (Papuan) and European genius writers (like Wilhelm Heinse) and also ‚normal‘ workers.

The second part shows skulls of Chinese people from Java (‚half breed‘ of Malaysian women and Chinese men) and European criminals. Johann Christian Gustav Lucae (1814–1885) was a German anatomist known for his studies in the field of craniology. From 1833 he studied medicine at the universities of Marburg and Würzburg, receiving his doctorate at Marburg in 1839. After graduation he settled as a general practitioner in his hometown of Frankfurt. Beginning in 1845 he worked as a lecturer of pathology at the Senckenberg Institute of Anatomy. From 1851 he taught classes in anatomy and subsequently became director of the institute, a position he maintained up until his death. In 1863 he obtained the title of professor, and in 1869 began teaching anatomy classes at the Städel Art Institute. In collaboration with sculptor Eduard Schmidt von der Launitz, he developed improved methods for drawing anatomical objects.- ADB LII, 111; Hirsch IV, 53 f.





Measurement of Men

BILLINGS, John Shaw; MATTHEWS, Washington (photogr.)

On composite photography as applied to craniology; and On measuring the cubic capacity of skulls; On a new craniophore or use in making composite photographs of skulls in: Memoirs of the National Academy of Sciences; vol. III.; pt. 2 (13th and 14th Memoir; Extract) .- Washington: Government Printing Office, 1885. pp. 103-116 and 20 photo-chromolithographs and pp. 117-119 with 4 photo- chromolithographs. Modern half calf, period style. Thin original wrappers bound in, but fragile otherwise text and plates fine.

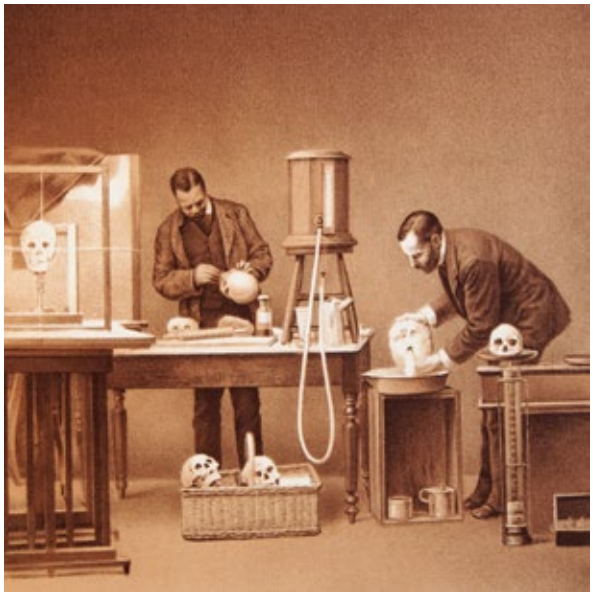
EUR 1.200.-

Beginning in 1868, the United States Army Medical Museum issued a request to Army medical personnel situated in ‚Indian country' for specimens of skulls from Native Americans. The purpose of this collection was to promote the study of craniometry, a branch of racial science commonly used to delineate the different varieties of mankind and to rank them according to their perceived intellectual attributes. The efforts of Army surgeons in amassing hundreds of crania for the Army Medical Museum were not matched by a similar level of commitment on the part of racial researchers, although the sanitarian, statistician, war surgeon, student, narrator, medical historian, administrator, librarian, teacher, and architect, John Shaw Billings (1838–1913) who established the groundwork for creating Index Medicus, the first attempt to identify and code the medical literature was deeply involved in studies on craniology and in racial studies.

The photographs by Washington Matthews (1843–1905) show 20 photo-transfer chromolithographs of skulls, a craniophore, and procedures in craniometry (six adult male Sandwich Island skulls; Six adult male Arapahoe indian skulls; Ascertaining capacity of cranial cavity by means of water).

The richly colored plates were produced by the gifted German immigrant lithographer, Julius Bien, whose reissue of Audubon's aquatints are prized by collectors. To reproduce Matthews's photographs, he screened the negatives onto photo-transfer paper, serving to transfer the images to limestone blocks. After they were burned in the blocks, the images were then extensively retouched by litho crayon. Bien's studio prospered for over 50 years and he was a founder and first president of the National Lithographers Association. (Rowley).

John Shaw Billings (1838–1913) was an American librarian and surgeon, best known as the modernizer of the Library of the Surgeon General's Office of the Army and as the first director of the New York Public Library and is known for some titles in Garrison / Morton: GM-6762 & 6763: creator of the Index Medicus, vol. 1-10, 1879-99, GM-1627: designs for Johns Hopkins Hospital, 1890; GM-1705: monograph on medical statistics, 1889; GM-5799: „The history and literature of surgery," 1895.



ANTIQUARIAT

Michael Kühn

Erdmannstraße 11

10827 Berlin · Germany

Telefon +49 · (0)30 · 86 39 69 34

mail@antiquariat-kuehn.de

www.antiquariat-kuehn.de