

Antiquariat Michael Kuehn
Erdmannstrasse 11
10827 Berlin
Germany
mail: kuehn.rarebooks@arcor.de
tel.: +49 30 86396934
mobile: +49 170 7744060

Rare Book Fair London Olympia, 28 - 30. May 2015

VAT: DE 812 539 755
Member of ILAB & Verband dt. Antiquare

A - Z

(Akademie der Wissenschaften; München)

Abhandlungen der Churfürstlich- baierischen Akademie der Wissenschaften 10 Vols.- München: Akademie, 1763 - 1776. **(und)** Neue Philosophische Abhandlungen der baierischen Akademie der Wissenschaften. 7 Vols. (= together 17 Vols.)- München: Vötter bzw. Franz, 1778 - 1797. 4°. with numerous engraved plates. Contemporary calf, finely bound set, very decorative. Fine set in original binding. GBP 3500.-

Seltene frühe Folge der Abhandlungen der bayerischen Akademie der Wissenschaften, in 17 Bänden.

Enthält mathematische, physikalische, meteorologische, technische, historische und geographische Abhandlungen. Beiliegend ein Widmungsbrief von Karl Albrecht von Vacchieri, von 1779-1802 Direktor der historischen Klasse, dat. 1797. In the **first volume** one finds: Johann Heinrich Lambert's Abhandlung von dem Gebrauche der Mittagslinie bey Land- und Feldmessen, Peter von Osterwald. Kurze Einleitung wie die geometrischen Operationen bey Aufhebung geographischer Landkarten vorteilhaft, ... with two plates showing scientific instruments by Johannes Brauchle, I. Kennedy's Abhandlung von den Morästen, Carl August Scheidt. Versuch einer praktischen Anleitung Steinkohlenlager in ihren Gebürgen aufzusuchen, ... und Jacob Christian Schäfer. Abbildung und Beschreibung zweyer wahren und falschen Versteinerungen.

Second volume: Albrecht Euler. Beantwortung einiger arithmetischer Fragen und Albrecht Euler. Auflösung der Aufgabe aus der gegebenen Höhe des Kegels die Figur seiner Grundfläche zu finden,...; Carl August Scheidt. Versuch einer bergmännischen Erdbeschreibung, worinnen der ganze Erdboden als ein Flötzwerk, ...; Carl August Scheidt. Beschreibung eines neu erfundenen Kunst- und Feldgestänges; C.A. Scheidt. Beschreibung einer Maschine, womit Marmor und andere Steine zu großen Gebäuden geschnitten werden können. Wolfgang Thomas Rau's. Versuch einer Abhandlung von dem Nutzen und Gebrauche des Kochsalzes bey Menschen, Thieren, ...; Johann Friederich Le Petit. Abhandlung von den Kupfererzen, ...; Dominicus von Limbrunn. Versuch einer Verbesserung der Landkarten von Baiern, Peter von Osterwald. Bericht über die vorgenommene Messung einer Grundlinie von München bis Donau, ... et al.

third volume one finds: Johann Albrecht Euler. Abhandlung von der Bewegung ebener Flächen, wenn sie vom Winde getrieben werden; Johann Albrecht Euler. Von der Abbildung der Gegenstände durch sphärische Spiegel; Johann Heinrich **Lambert**. Abhandlung von den Barometerhöhen und ihren Veränderungen; Clarus Mayr. Abhandlung vom Flußsand und über eine neue Gattung Pflanzenseide; Benno Ganser. Über Benutzung der Torferde, und Johann Peter Spring. Abhandlung von Erzeugung der bisher noch unbekannt ge-wesenen Naphta aus dem gemeinen Kochsalz, et al.

fourth vol. (1767) one finds: Carl August Scheidt. Abhandlung über die Preisfrage von der vorteilhaftesten Bauart der Oefen und Pfannen bey Salzwerken, Johann Gottlob Angermann. Abhandlung über die Preisfrage von der vortheilhaftesten Bauart der Oefen und Pfannen bey Salzwerken; Johann Heinr. G. von Justi. Abhandlung über: Was tragen die Pflanzen selbst zur Zubereitung ihres Nahrungssaftes bey, ... ; Johann Albrecht Euler. Beantwortung der Preisfrage: In was für einer Verhältniss sowohl die mittlere Bewegung des Mondes, ...; Georg Kraz. De ratione motus medii et distantiae mediae lunae.

fifth vol. (1766) one finds: Wenceslaus J. G. Karsten. Abhandlung von den Logarithmen verneinter Größen. Wenceslaus J. G. Karsten. Theorie von den Projectionen der Kugel zum astronomischen und geographischen Gebrauch; three essays by Albrecht Euler (Versuch, die Figur der Erden durch Beobachtungen des Mondes zu bestimmen and Nachricht von einer besonders magnetischen Sonnenuhr); Karl A. Scheidt. Versuch einer Abhandlung von Scheidung und Aufbereitung geringhaltiger Aerze (Erze) bey Bergwerken (1765), Anton Rüdiger. Durch Erfahrung und vorsichtiges Nachsinnen gefundenen Wahrheiten, welche die sammelnde Lebenskraft aller Dinge, die innere Beschaffenheit der ersten Anfänge der Körper ...; Peter von Osterwald. Entwurf eines neuen Kalenderform; Johann Heinrich Lambert. Beschreibung der von Herrn Georg Friedrich Brander ... neuerfundenen Glasmicrometer; Georg Friedrich Brander. Beschreibung eines neuerfundenen dioptrischen Sectors,...; Georg Friedrich Brander. Beschreibung einer ganz neu verfertigten Libelle oder Nivellierwage; et al.

eight vol.: W. J. G. Karsten. Abhandlung von den Projectionen der Kugel; Karsten. Von der archimedischen Wasser-schraube; Wilhelm Heinrich S. Buchholz. Abhandlung die Verbesserung des Spießglas-Schwefels betreffend; Karsten über die Theorie der Saugwerke; Karsten. Versuch eines evidenten Beweises der allgemeinen mechanischen Grund-sätze; Amorth. Frage, wo so viele Ausgüßungen der Flüsse in Baiern herrühren ?, Leonard Gruber. Analytische Beyspiele und Anwendungen der verschiedenen Wendungen der krummen Linien; Leonhard Gruber. Einige Grundsätze der Theorie der Centalkräfte in Rücksicht auf die Astronomie; Leonhard GRuber. Ein Brief von der Berechnung des im Jahre 1769 erschienenen Kometen; Carl August Scheidt. Versuch von dem unterirdischen Baue bey Bergwerken; Matthias Brunnwiser. Versuche mit mineralischen sauern Geistern aus den Hölzern Farben zu ziehen und Entdeckung verschiedener vegetabilischen Farbmaterialien, Seiden- und Wollenzeuge schön gelb zu färben; Clarus Mayr. Über Austretung der Flüsse.

ninth vol. Augustin Torporch. Abhandlung von den Kegelschnitten; Wenceslaus J. G. Karsten. Unter-suchungen über die ersten Gründe der Photometrie; Carl A. Scheidt. Kurze Betrachtungen über einige Ursachen des allgemein werdenden Holzmangels in Deutschland ... ; Mathias Brunnwiser. Lithologische Beobachtungen; Benedict Arbuthnot. Abhandlung, von den Kräften der Körper und der Elemente; Xaver Epp. Abhandlung von dem Zusammenhang der Theile in den Körpern, und dem Anhang der flüßigen Materien an die Solide; Johann Georg Model. Entdeckung des Seleniten, in der Rahbarbar; Benedict Stattler. Solutio problematis ... a quibus viribus exceptio illa a legibus hydrostaticis oriatur...; Benedict Arbuthnot über Abwendung der Hochgewitter; Johann Helfenzrieder über Wasserwehre und Wasserbau;

new series, 1. Vol: I. Kennedy. Vom Bezoar; Leonhard Gruber. Von der Polhöhe; Johann Helfenzrieder. Be-schreibung einer neuen Art eines astronomischen Quadranten mit Gläschen, ...; Joseph Weber. Vom Luftphelektrophor; Franz Karl **Achard**. Chemische Untersuchung verschiedener Edelgesteine; van Swinden. De paradoxa phaenomeno magnetico ...; Phil. Fischer. Von einer neuen Art die Salpeterminerale zu machen. **New series, 2. Vol.:** (van Swinden) Dissertatio de Analogia electricitatis et magnetismi; Cölestin Steiglehner. Beantwortung der Preisfrage über die Analogie der Electricität und des Magnetismus; Franz von Paula Schrank. Naturgeschichte der Miniraupen in den Fliederblättern; I. Kennedy. Versuche mit dem Eise; Franz von Paul Schrank. Nachricht von einigen kaotischen Thieren. **New series, 3. Vol:** Johann Lorenz Böckmann. Abhandlung über eine ganz neue Erscheinung an den sogenannten Glasbomben, ...; Kennedy. Ab-handlung von dem Baumsteine; Anton Dätzl. Erläuterung der lambertischen Methode, Sonnenfinsternisse zu verzeich-nen; Franz Zallinger von Thurn. Abhandlung von der krummlinichten Bewegung der Körper, ...; Johann Baptist de **Lasarre**. Dissertatio catadioptrica elaborata; Franz Xaver Epp. Abhandlung über das Schweremaaß (mit Abbild. neuer Barometer); Franz Schrank. Botanische Bemerkungen; J. B. de la Sarre. Abhandlung von den Haupteigenschaften der sphärischen Spiegel und Linsen; Joseph Boslarn über die Erfindung des Biers. **New series, 4. Vol.:** Kennedy. Abhand-lung von einigen in Baiern gefundenen Beinen; Georg Grünberger. Ueber Wittwegesellschaftsberechnungen; Johann Philipp Ostertag über Blitzableiter und die Kenntnisse der Alten von der Electricität; Eberhard Schröter vom Steigen und Fallen des Barometers; Kaspar Steer. Vom Steigen und Fallen des Mercurius im Barometer; Joseph Stark. Dissertatio de mutationibus mercurii in barometro; Johann Helfenzrieder Abhandlung von eini-gen Verbesserungen der einfachen Luftpumpe ... **New series, 5. Vol:** Placidus Heinrich. Abhandlung über die Wirkung des Geschützes auf Gewitterwolken; Heinrich Placidus. Ueber die Preisfrage: Kömmt das Newtonische, oder das Eulerische System vom Lichte mit den neuesten Versuchen und Erfahrungen der Physik mehr überein ? ; sowie von Benedict Arbthnot zum selben Thema, I. Kennedy An-merkungen über di Witterung; Johann Helfenzrieder. Beyträge zu Verbesserung der Uhrmacherkunst in Rücksicht auf große Uhren; et al. **New series, 6. Vol:** Anselm Ellinger. Ueber die Anwendung und Wirksamkeit der Elektricität ...; Placidus Hinrich. Oscillationes Mercurii in tubo torricelliano; Adrian von Riedl über Mittel wider das Aus-treten der Flüsse in Baiern; Benedict Arbuthnot. Ursache der Veränderungen in dem Steigen und Fallen des Mercu-rius; I. Kennedy über die Verwandtschaft des Fuchses mit dem Hunde; Placidus Schärfl von Versteinerung des Holzes; **New series, 7. Vol:** Johann Helfenzrieder. Fortsetzung der Beyträge zur Verbesserung der Uhrmacherkunst in Rücksicht auf große Uhren; Georg Grünberger. Beyträge zur Theorie der Wagnerey; Joseph Baader. Theorie des Englischen Zylindergebläses; I. Kennedy. Anmerkungen über das Singen der Vögel; Anmerkungen über Justi,... Geschichte des Erdkörpers ...; Placidus Heinrich. Abhandlung über die mittlere Kraft und Richtung der Winde; Franz Maria Baader. Ueber einige Neuerungen in die Naturkunde ... - Geist und Gestalt A. III. Kirchner 329. Geist und Gestalt A. I. Kirchner 235.

(Alberti, Giuseppe Antonio)

„Pirotechnia“. (cover title) Manuscript written with ink by an legible hand on paper with watermark. (278 x 200 mm) 90 numbered pages, two blanks. The plates or drawn images within text. Carta rustica, title on cover. Paper with watermark: Crown, ring with three stars within, G.P. GBP 4500.-

Early manuscript version of Giuseppe Antonio Alberti's *La pirotechnia ossia trattato dei fuochi d' artificio* of 1749, "the first work in Italian to deal exclusively with the subject of fireworks for pleasure. The book claims to have modernised and improved the inventions of Frézier, Hanzelet, Henrion, Ozanam and Simienowicz" (Philip, *Bibliography of Firework Books*, p. 3).

We think it is an early draft by the author for the printed text. The manuscript is partly a verbatim transcript of the written text, and partly it is different. The images correspond to the printed text, but the plate numbering is different and some images are changed with mounted new images. At the end is a thanks to God for the help which would be unusual if a transcript.

The text is based upon Biringuccio's *Pirotechnica* but Biringuccio's emphasis was on metallurgy and melting rather than fireworks. Alberti describes the technical aspects of recreational fireworks, with sections on the ma-terials; how to construct combustibles; uses, not only for festivals but also for street lamps resistant to wind and water, and for

illuminating and decorating theater productions; spectacular aquatic fireworks; and special effects, including how to form sun, moon, and star shapes. The illustrations show firework apparatus, including launching devices, air rockets, spin-wheels, bombs, etc., numbered to the corresponding descriptions in the text, "uno dei trattati di pirotecnica più comprensibili e la sua lettura stimola la curiosità e l'interesse nel lettore amante della materia ... denso di curiosità scientifiche" (Di Lorenzo, *Il teatro di fuoco*, p. 106). Giuseppe Antonio Alberti (1712-1768) was a surveyor, architect and hydrostatic expert, and author of several books. He had studied mathematics, especially practical geometry and from 1756 to 1758 he worked as surveyor in Bagnacavallo, then moved to the region of Umbria, where he worked for the last ten years of his life. He designed and built several surveying instruments and published several books on technical subjects ranging from applied mathematics to civil engineering to fireworks.

His book "I giuochi numerici fatti arcani, palesati" (1747) is a manual on mathematics and conjuring, containing puzzles, mathematical games, magic squares, tricks with cards, coins and dices, ropes, cups and balls, sleight of hand rope tricks and even devices constructed to perform sophisticated sideshow illusions. - Lotz, *Das Feuerwerk*, p. 131. Berlin Katalog 3304. Mazzuchelli, *Scrittori d'Italia*, I, 306. Fantuzzi, *Scrittori bolognesi*, I, 144. Morrazzoni, *Il Libro Illustrato Veneziano del Settecento*, p. 211 (with 20 plates only).

the earliest work in greek astronomy to survive (DSB)

Autolycus (Giuseppe D'Auria, ed).

Autolyçi De vario ortu et occasu astrorum inerrantium libri duo nunc primum de graeca lingua in latinam conversi; scholiis antiquis & figura illustrati, de Vaticana Bibliotheca deprompti ... Roma: ex typographia Vincentij Accolti, in Burgo 1588. Quarto. (12), 70 pp., (2) with 35 woodcut illustrations within text. New vellum period style, fresh copy and fine copy. GBP 3400.-

Exceedingly rare first latin & only D' Auria edition made from manuscripts in the Vatican Library. The first greek edition appeared in 1572 in Strasbourg. Giuseppe d' Auria (Joseph Auria or Doria), about whom we know very little, is believed to have lived in Naples around 1590, where he was renowned as a mathematician. His name may be derived from Italian Doria. He translated Heron and Diophantos from greek manuscripts into latin and edited new translations of books by Autolycus (*Sphaera*), Theodosius and Euclid's *Phaenomena*. Forcadell made a french edition and in Mersenne's work we find another latin edition.- Jöcher I, 662. Riccardi. „L' autore ha il merito di essere stato uno dei primi e migliori traduttori delle opere dei matematici greci la cui merce si apprestava all' Europa il rinnovamento delle Scienze.“

Autolycus (360- 290 BC) three books to have come down to us, are considered the oldest original treatises on mathematics that have survived in translation in their entirety. Little is known about the life of Autolycus; he was a contemporary of Aristotle and is generally considered to have been primarily an astronomer.

The two of Autolycus treatises on astronomy to have survived are *De orto* (on rising and settings) and *De Sphaera mota* (on the moving sphere). *De orto* (here) is largely a book on observational astronomy. He is known to have relied heavily on Eudoxos for his astronomical ideas and was a supporter of Eudoxos' theory of homocentric spheres (a series of embedded spheres that held the stars and the planets and that all rotated on an axis parallel to the earth's sphere). Autolycus attempted unsuccessfully to explain the variability in brightness of Venus and Mars within the context of this theory. (Ian Durham).- KVK: only Univ. München; Aschaffenburg.

an unknown friend of Kepler

Avianus, Wilhelm, (David Auerbach, respond.).

Decas Problematum Mathematicorum Quam in celeberrima Academia Lipsiensi Autoritate spectabilis Dn. Decani Inclutae Facult. Phil. publicae Censurae subjecit M. Wilhelmus Avianus Pachra Th. Alum. Elect. Respondente Davide Auerbach Schenckenberg. Philos. Candidato. Ad diem 20. Decembr. (...) consuetis.- Leipzig: Johann Glück, 1623. Quarto. (191 x 155 mm). [15], [1, blank] pp. (Sign.: A - A4, B - B4). with two woodcut initials. New backstrip, else good. GBP 1200.-

Scarce only edition, **heavily annotated in ink** by a contemporary hand. With chapters: An Mathematicorum principia recte dicantur Hypotheses? An Mathematico demonstrare liceat per falsas hypotheses? Quid sentiendum de Regula Falsi, in qua ex binorum falsorum numerorum suppositione elicitur verus quaesitus? An globus etiam maximus non nisi unico suae superficiei puncto planum attingat? An res quae oriri & Occidere dicitur, non tantum videri, sed & revera moveri necessario debeat? An terra sit centrum Mundi? Quid sentiendum de tabella Blebeliana cum hoc titulo...? An Spaericus doctor oculorum iudicium, dum stellis motum inesse dicitant, pro infallibili habere possit aut debeat? An Motus stellarum in longitudinem & latitudinem pro duplici motu sit habendus? An distantia locorum, juxta methodum vulgarem exacte & scientifica haberi possit?

Wilhelm Avianus (died 1636) coming from a poor family in Thuringa, studied philosophy in Leipzig, became assessor at the University. We know that in 1626 he became preacher in Gerstewitz, but resigned to go back to Leipzig. After that he was director at the famous Thomas-Schule (later Bach would be here) in Leipzig, but had problems to get enough money to survive. We know that he had contact to Philipp Müller, Buxtorf and to Johannes Kepler who wrote a long letter to him regarding astrology (6. 3. 1629). In 1630 Kepler wanted to stay with him in Leipzig. He wrote a book on birth constellations in German citing often Kepler, which was republished twice after his death, a star catalogue (1629), and a few disputations on different scientific themes. His widow married in 1636 Andreas Rivinus (1601—1656).

„Wilhelm Avianus kam aus Thüringen aus armem Elternhaus, studierte in Leipzig, wo er Assessor wurde. Er "stand bey Joh. Kepler in grossem Ansehen" (Jöcher I, 647).- VD17 14:701674L (only one copy at Dresden); not in COPAC or OCLC.

Avianus, Wilhelm.

Problema Geographico- Trigonometricum De mensurandis distantijs locorum, continens praxin aureae trigonometriae sphaericae, ad normam analyticae aristoteleae revocatum, quod ex inclutae Facultatis Philosophicae in Alma Lipsiensi permissu & decreto pro loco in eadam consequendo publicae disquisitioni subjicit M. Wilhelmus Avianus Paihra-Thur. Alumn. Elect. Ad diem 28. Maii (...).- Leipzig: Johann Glück, 1624. Quarto. (191 x 155 mm). [28] pp. (Sign.: A-A4, B-C4, D2). with woodcut-initial & -vign. New backstrip. Disbound. Good. GBP 1000.-

Scarce work with chapters: De praecognitione subjecti & praedicati. I. Quid nominis sit distantia locorum? Quid mensura? De Principiis pragmatos. De arcibus seu segmentis horum circularum. De Situ locorum. De Triangulis. De applicatione horum principiorum ad ipsam distantiam locorum. De Principiis matheseos. De applicatione principiorum ad demonstrandam quantitatem seu mensuram de distantijs locorum.- VD17 547:698121L (Erfurt, Freiburg, Dresden, Zürich); not in COPAC & OCLC (USA).

Beer, Ferdinand Wilhelm (ed.; transl.).

Auserlesene Abhandlungen, welche an die Königliche Akademie der Wissenschaften zu Paris von einigen Gelehrten eingesendet, in ihren Versammlungen abgelesen, und von ihr herausgegeben worden aus dem Französischen ins Teutsche übersetzt von Ferdinand Wilhelm Beer. 2 parts in 2 vols. (= all publ.; Mémoires de mathématique et de physique; Academie d. Sciences, Paris, dt. Teilsamml.)- Leipzig: Lank, 1752 - 1754. (32), 432 pp.; (4), 368 pp., (28) with 18 fold. plates. Contemporary vellum, little spotted, inside a bit browned & a few worm holes, not really effecting the text or images, but overall a very fine copy. GBP 1200.-

Very rare german - partial - translation of Mémoires de mathématique et de physique by the french Academie des Sciences to include works by Bonnet, Grischow, Chabert, De Morogues and others. The translator Ferdinand Wilhelm Beer (1708-1760) was prof. of history at Erfurt University and worked on jewish chronology. There was a parallel translation by Wolf Balthasar von Steinwehr (1704 - 1771) from Frankfurt (Oder) University of other papers of scientists of the french Academie des Sciences, which is much more common. The volumes include in physics: Soumille on a new hour-glass, du Petit Bandin on hydraulics, Grischow on meridian between Berlin and Paris, Chabert on the longitude of Buenos Aires, Pezenas, d' Arcy, Saint Jaques on mechanical problems, in botany the famous paper by Bonnet on growth of plants, in medicine some papers, de Geer on insects, and chemical papers by Baron on borax, Menon on color dyes (berlin blue).- Kirchner 3211.

Syria, Palestine, and Egypt

[Billerbeg or Billerbeck, Franz von].

Epistola continens Hodoeporicon navigationis ex Constantinopoli in Syriam, Palaestinam et Aegyptum: et Montem Sinai &c. item de Persico Bello & circumcissione Mahometis filii Imp. Turcici, aliisque rebus Constantinopoli superiore aestate actis. [*Rostock, Stephan Möllemann ?*], 1583. Small 4to, ff. [8], with a woodcut title vignette, one 6-line woodcut initial, and two small vignettes at the end; a very good, wide margined copy in early marbled boards. GBP 12000.-

Editio princeps of this important travel account in the Ottoman empire in the years 1580-1582. Anonymously printed, the pamphlet most probably came from the press of Stephan Moellmann in Rostock. Born into a noble family in Pomerania, and well educated, Billerbeg was a historian of repute. Dated 1 October 1582, he dedicates his text to his former preceptor, the Lutheran professor and historian at Rostock and an important researcher of the Eastern churches, David Chytraeus (1530-1600). It is also to him that Billerbeg sent his first epistolary dispatch of 9 July 1581, written from Constantinople. Printed as Epistola Constantinopoli, recens scripta, de praesenti Turcici Imperii statu in 1582 it contains the traveller's description of the most important personalities of the Ottoman Empire and their war with Persia. Here, as the highlight of his two year stay with the Ottomans, Billerbeg reports of his long travel to Syria, Palestine, and Egypt. After Salomon Schweigger, whom he had met in Constantinople shortly before Schweigger's return to Germany, Billerbeg was only the second Lutheran to undertake such a journey to the Near East.

Between 1 September 1581 and 23 April 1582, Billerbeg travelled via the Dardanelles Strait to Chios, Ephes, Rhodes, and via Cyprus to Tripoli.

He then visited Damascus, the Judea and Sa-maria area, Jerusalem and Gaza. Travelling through the Egyptian desert he reached Mount Sinai and Cairo and finally Alexandria, from where he sailed back to Constantinople.

He arrived in time to witness the magnificent festival held on the occasion of the circumcision of the crown prince, Mehmet, the description of which ends the account. In August 1582 Billerbeg left Constantinople and travelled through Bulgaria, Serbia and Hungary to Vienna, where he died in 1587.

In contrast to the title vignette and the initial which were also used by Jacob Lucius the elder, the subtle vignettes at the end belong to the press of Stephan Möllemann (latinized Myliander), who printed in Rostock over a period of fifty years, until 1610. In 1579 Lucius became printer of the university in Helmstedt and it is likely that the smaller octavo edition of 11 pages of Billerbeg's text of the same year was printed by him.- VD 16 (online) ZV-2037 (two copies, both of the later, octavo, version of 11 leaves only); Yerasimos, *Les voyageurs dans l'empire Ottoman* (1991), 338; Röhrich, *Bibliotheca Geographica Palaestinae*, p. 209; see Göllner 1801 (the 1586 edition only); D. Benga; *David Chytraeus als Erforscher und Wiederentdecker der Ostkirchen* (2006), p. 163ff; not in Blackmer or Atabey.

Caratheodory's axiomatic thermodynamics

Born, Max.

Kritische Betrachtungen zur traditionellen Darstellung der Thermodynamik. Off-Print from: *Physikalische Zeitschrift*, 22. Jahrgang (1921).- (Berlin: Springer, 1921). Quarto (250 x 190 mm) 218-224, 249-254, 282-286. Backstrip. With imprint: Überreicht vom Verfasser and institutional stamp. Fine. GBP 1000.-

First edition, Off-Print-issue, of a simplification of Caratheodory's largely overseen (and complicated to read) axiomatic formulation of the first and second laws of thermodynamics with geometric and analytic arguments, published in 1909. This practically ignored the well known experimental factual bases posed by Carnot and Kelvin, to the benefit of a powerful exploitation of Pfaffian differential forms. Caratheodory's work was first recognized as important after Max Born wrote this introduction, a simplification and clarification of Caratheodory's methods.

Botanical drawings from the Jacquin circle [?]

[Botany, Drawings, Jacquin circle]

24 original hand-drawings of non-european plants. Ink & wash color drawings, titled by unknown hand. Watermark of C & I. Honig. Housed in a red morocco presentation case [around 1800-1820]. A fine survivor. 24 Tuschfederzeichnungen von außereuropäischen Blumen bzw. Pflanzen [ca. 460 x 340 mm], aufgezogen auf grauer Pappe d. Zeit. In einer roten Maroquin Kasette der Zeit [um 1800-1820] Viele Tafeln alt beschriftet bzw. kommentiert, mit Feder gezeichnet u. von alter Hand koloriert. [600 x 430 mm]. GBP 5000.-

Fine hand-drawings of non-european plants made around 1795-1800 by unknown hand. Housed in a red morocco presentation box which indicate some importance to the former owner. Some of the plants were drawn after rare published works, like Jacquin's *Plantarum rariorum horti Schoenbrunnensis* of 1797 (a rare and expensive work published in probably only 200 copies), Roxburgh's *Plants of coast Coromandel* (1795) and Smith. *Icones pictae plantarum* (1790-93), others were drawn in similar style to these works, but are not present in the published works; these drawings seem to be the original work of the owner or painter. There is no indication for which purpose the drawings were made. The painter must have had access to a good and expensive botanical library (Jacquin, Roxburgh, Smith) and had some knowledge of botanical art & studies. The captions recite different names for the plants shown and cite botanical literature like Linnaeus, the *Bot. Magazine* et al. The images are semi professional; maybe they were copied for someone important or rich to study them or to enrich the gardens.

The following plants are presented: *Heliconia humilis* (Jacquin I, pl. 49), *Bannisteria chrysophylla* (Jacquin I, pl. 105), *Haemanthus tigrinus* (Jacquin I, pl 56), *Tanaecium parasiticum* (Jacquin I, pl. 115); *Mimusops Elengi* (Roxburgh I, pl. 14), *Sterculia colorata* (Roxburgh I, pl. 25), *Diospyros cordifolia* (Roxburgh I, pl. 50), *Sirium myrtifolium* (Roxburgh I, pl. 2), *Epidendrum tessellatum* (similar in style to Roxburgh I, pl. 43), *Plumieria Rubra* (personal); *Wachendorfia paniculata* (Smith, *Icones Fasc.* 1-3, pl. 5), *Justicia coccinea* (Smith *Icones* pl. 8), *Euphorbia Punicea* (Smith *Icones* pl. 3), *Brunfelsia Americana* (not really identical to Curtis. *Botan. Mag.* 11 (1797), pl. 393), *Erica cerinthoides* (personal), *Sisyrinchium striatum* (not really identical to Jacquin I, pl. 11), *Houstonia Coccinea* (personal), *Geranium tricolour* (similar to *Botan. Mag.* VII, 1787), *Carissa Carandas*, *Capparis Pulcherrima* (personal).

with volvelle

Cantone, Girolamo.

Nuovo, e facil modo di fare Horologi Solari, Orizzontali, e Verticali a tutte l'elevationi di Polo. Come anche Portatili a Sole, Luna, e Stelle per diverse elevationi di Polo. In varie figure. Seconda impressione. 2 parts in 1.- Torino: per l' Herede del Colonna, a spese di Gio. Battista Vernoni, 1688. Quarto (280 x 230 mm) 32 pp., 40 pp. with numerous woodcuts within text and one volvelle. Contemporary vellum, traces of use, inside some dustsoiling, else a genuin & fine copy. GBP 3200.-

First edition, second printing with cancelled title. First published separately in 1670 and 1682, the publisher used the same sheets for this collected edition with cancelled titles. This work is mainly on sundials, but include other astronomical instruments. The movable volvelle is often missing.- Houzeau & Lancaster 11333 and 11542; Riccardi I, 228,3; Turner (ed.) *Ritmi del cielo e misura del tempo* 93. KVK: no copy in Germany or Switzerland; COPAC: NL Scotland (1670 & 1688 ed.); Oxford (1670; 1682 ed.); OCLC: Yale, Michigan, Harvard, Smithsonian; Getty (one part).

Californian Poppy first described

(Chamisso) Nees von Esenbeck, Christian Gottfried. (ed.)

Horae Physicae Berolinenses Collectae ex symbolis virorum doctorum... edi curavit Dr. Christianus Godof. Nees ab Esenbeck. Cum tabulis aeneis XXVII.- Bonnae (Bonn): Adolph Marcus, 1820. Folio (355 x 255 mm) with 27 engraved plates (11 hand-colored) after Ehrenburg, Guimpel, Sturm, and others, several shaved as always within neatline with loss of 2 plate numerals, small paper label in blank area of title, bleached ink stamp on dedication. Contemporary half morocco, spine gilt, morocco label. A fine copy. GBP 3900.-

A scarce collection of eleven papers on botanical and zoological subjects by nine Berlin natural historians, edited by Christian G. Nees von Esenbeck (1776-1858), a prolific German botanist, zoologist and natural philosopher, who contributed a paper, *Sylloge observationum botanicarum*, which describes several plants from South Africa. He was the author of numerous monographs on botany and zoology, described approximately 7,000 plant species (almost as many as Linnaeus himself) and his last official act as president of the German Academy „Leopoldina“ was to admit Charles Darwin as a member.

Also included is **Adelbert von Chamisso's** description of Californian poppy and other American plants, collected & observed while on Otto von Kotzebue's scientific expedition with the ship „Rurik“ to California and the greater Pacific. Other authors are H. F. Link (Algae), Rudolphi, Schlechtendahl, Klug on orthoptera, Otto on rare plants, Hornschuch on musci, Ehrenberg on fungi, lichen and canary plants, et al. With a fine Provenance: Archduke Anton Victor of Austria, with his initial in gilt on spine.

Ein Sammelwerk („Prachtwerk“) Berliner Naturforscher unter Ägide von Chr. G. Nees von Esenbeck (1776- 1858) herausgegeben, ein „best of“ Berliner Naturforscher der Zeit.

ISIS 1820, X, pp. 654-657: „Dieses mit Recht so zu nennende Prachtwerk kann als Beweis angesehen werden, dass die deutschen Gelehrten allmählig anfangen zu fühlen, dass sie sich zusammentun müssen, wenn sie mit den Ausländern Schritt kommen wollen; zugleich beweist es Buchhändlermuth und Buchhändlersinn in der kostspieligen und geschmackvollen Ausstattung eines naturhistorischen Werkes, welchem Muthe indessen etwas durch die lateinische Sprache nachgeholfen wird. Das Werk darf sich nehmlich sowohl in der Verschwendung des Papiers, als in der Pracht des Drucks, in der Genauigkeit der Zeichnungen und des Stiches und selbst der Illumination, den Werken dieser Art der Franzosen und Engländer an die Seite stellen. Die Zeichnungen sind von verschiedenen, meist von Gümpel (Guimpel), Sturm, viele Gemälde von Dr. Ehrenberg, der Stich ist von C. Müller, Jacob Sturm und Gümpel. ... Was nun die Abhandl. selbst betrifft, so verdienen alle den Ehrentitel der Neuheit, Eigenthümlichkeit und Genauigkeit. Das Werk ist also wirklich ein Zuwachs für die Wissenschaften und zwar, wie es die Natur der Prachtwerke erfordert, ein materieller, nicht ein theoretischer.“ - Nissen BBI 1437; Cowan Stafleu

overlooked master of modern photography“ (Le Mée)

Collard, Auguste- Hippolyte.

Pont Louis-Philippe et Pont Saint Louis. Vues photographiques prises pendant l' exécution des travaux en 1860, 1861 et 1862.- Paris: Pélicier, 1862. Imperial Folio. (445 mm x 600 mm) 2 typogr. Bl. text and 8 original albumin photographs (size appr. 260 x 415 mm) mounted on card. All card boards bear the blind-stamp of the photographer. Contemporary black (publisher ?) cloth, gilt titled on cover, rubbed and soiled, inside a few traces of use, but only minimal stocked or browned. Photographs a bit faded. Overall a very fine copy of a rare book. GBP 5000.-

This album documents the reconstruction of Pont Louis-Philippe and Pont Saint Louis by the „overlooked master of modern photography“ (Le Mée). As with other albums Collard published they encompassed a similar number of photographs and drawings to illustrate the main features and precise location of the documented structure.

„Collard's photographic practice is influenced by the masters it serves and can be understood as an extension of architectural drawing. ... (Some authors) called Collard's views of building sites „reportage photographiques“: they document each significant but fleeting step in the construction process as it is being superseded - overwritten and erased - by the next. ... Le Mée has also made strong claims for the explicit modernity of Collard's images, arguing that the convergence of the composition's oblique angles under the peripheral arch creates a pictorial dynamic which echoes and reinforces the bridge's energetic and muscular modernity.“ (Michaela Giebelhausen; in: Nineteenth century photographs and architecture: documenting history ... edited by Micheline Nilsen. Ashgate, 2013. pp. 107/108)

The „Vue prise“ sets out in the album the elements of the building site. The title draws the viewer's attention across the building blocks laid out in the foreground to the actual act of placing them in their designated positions. ... In this type of composition the bridge cuts dramatically across the convergent lines of Parisian topography. The architecture of Paris and of the bridge are brought into a dynamic relationship with each other, which is ultimately dominated by the new structure. ... Together they (the photographs) present the construction process as being dependent on the careful organization of building site and workforce.“ (Giebelhausen 108/109)

In the early 1850's Hippolyte Auguste Collard established a photographic studio in Paris, and in 1857 the Minister of Agriculture, Commerce and Public Works awarded him the first of many government commissions to document the rebuilding of the Pont Saint-Michel. By 1870 the studio Collard had photographed the reconstruction of every Parisian bridge, and since 1867 the prints carried the stamp: „photographe des ponts et chaussees“ in addition to the studio name. The studio's output „best typifies the Second Empire specialist in industrial imagery“. Le Mée; in: Histoire de l'art

13/14 (1991), pp. 31-44 called him „overlooked master of modern photography“. KVK: Paris Bibl. nationale; not in KVK, COPAC or OCLC.

french engineering in the Second Empire

Collard, Auguste Hippolyte.

Pont de Bercy. Vues photographiques prises pendant l'exécution des travaux en 1863 et 1864.- Paris, Rég-nier et Dourdet, 1863-1864. Folio (465 x 635 mm) Title with index of photographs, 1 text leaf, and 7 plates with mounted albumin photographs (size approx.: 415 x 260 mm). Contemporary black (publisher ?) cloth, rubbed and soiled, with gilt title on cover. Photographs a bit faded, two boards at the back with spots resp. drawings. GBP 4500.-

Very rare work, a photographic survey on the construction of Pont de Bercy in Paris by Auguste Hippolyte Collard (1812 - 1897?). Only one other copy known at Bibliotheque Nationale, Paris.

Collard documented the reconstruction of the bridge in a staccato account of the bridge's transformation. The significant moments in the bridge's construction mostly revolve around technical accomplishments intended for the engineer's gaze. Collard's photographs are „largely determined by their functions“: they show a sequence of closely crop-ped views of the different stages of work and together they present a linear narrative of change, which makes manifest the architectural achievements of the second Empire, written as a story of before and after, of progress, technology and modernity; importantly not as one of nostalgia or vandalism. (Michaela Giebelhausen; in: Nineteenth century photographs and architecture: documenting history ... edited by Micheline Nilsen 2013)

Hippolyte-Auguste Collard (1812 - after 1885), french photographer, trained as a wood frame gilder, he then specialized in industrial imagery as a photographer. He set up his first photography studio in January 1856. During the Second Empire, the reign of Napoleon III in France, he ran a photography studio for twenty years, producing sequential photographs of bridges, railroads, and aqueducts. The Ministry of Agriculture, Commerce, and Public Works was his most important and consistent patron; from 1857 to 1870 Collard photographed every bridge constructed in Paris by the ministry. He also documented the expansion of the railroad in France, competing with Édouard-Denis Baldus for that commission. In 1867 Collard sold his studio to his son.- no copy in KVK, COPAC, OCLC: only Bibl. nationale Paris (2 copies)

De Conti, Ignatio di Livio.

Anatomia della cometa dell' anno 1664; coll' occasione della quale si discorre delle comete in generale ... di Livio Ignatio de Conti, Medico.- In Venetia: Per il Valuasense (Francesco Valvasense), 1665 8° (180 mm) 104 pp. with text-woodcuts. GBP 2400.-

Exceedingly rare book on the comets 1664 & 1665 by a lesser known author, not present in Brüning.- COPAC: only Cambridge; not OCLC, KVK.

In 1664 and 1665 two bright comets appeared, and between them occurred an eclipse of the Moon. Such a triple omen was unique. One can almost hear the collective intake of breath in anticipation of the unparalleled disasters that surely must follow. Lest anyone be uncertain about the meaning of these omens, John Gadbury, an English astrologer, thoughtfully interpreted them in his book of 1665, *De Cometis*. 'These Blazing Stars! Threaten the World with Famine, Plague, & Wars,' he trumpeted. 'To Princes, Death: to Kingdoms, many Crises: to all Estates, inevitable Losses!' He can hardly have believed his luck when London was hit by the Black Death in 1665 followed by the Great Fire the year after. While London suffered, in Danzig one of the greatest astronomers of the day, Johannes Hevelius, was watching the comets with scientific detachment. He published his observations in 1668 in a volume entitled *Cometographia* in which he theorized that comets are thrown out by the planets, notably Jupiter and Saturn, and move past the Sun on boomerang-shaped curves. Unlike boomerangs, though, they never came back. One attractive feature of Hevelius's book is a series of drawings of comets. To the untutored eye they may resemble the amputated tails of small furry mammals, but they were the most accurate renditions up to that time. Hevelius' excitement at seeing the comet was matched by astronomers in various parts of Europe, including Gian Domenico Cassini (1625–1712) in Rome, Adrien Auzout and Pierre Petit (1598–1667) in France, Christiaan Huygens (1629–95) in Leiden, Robert Hooke (1635–1703) in London, and Geminiano Montanari (1633–87) in Bologna and Borelli (1608-1679) in Pisa. This comet, the first seen with such brightness in Europe since 1618, immediately stirred up so much interest amongst European astronomers because of the philosophically sensitive issues that cometary theory continued to raise in the mid- to late seventeenth century. Those issues were: the origins of comets — how they are formed; the path traced by comets — whether they have a linear, circular or elliptical trajectory; and the location of comets — their distance from the Earth. The importance of these issues rested on questions to do with the structure and organization of nature that had been asked since Antiquity, and especially since the end of the sixteenth century. This included the organization of the cosmos, the elements and movements within it, and the causes for those movements. Such speculation formed the foundations of natural philosophical thought during the Scientific Revolution.

Duration of human life

Deparcieux, Antoine.

Essai sur les probabilités de la durée de la vie humaine; d'où l'on déduit la manière de déterminer les rentes viagères, tant simples qu'en tontines: précède d'une courte explication sur les rentes à terme, ou annuités; et

accompagne d'un grand nombre de tables.- Paris, Guerin 1746. Quarto [255 x 200 mm]. [2, blank] [VI], [2 approbation, errata, avis au relieur], 132 pp. (including a table on pp. 102), 22 tables (table 3 on 3 pages, table 4 on 2 pages, tables 6-13 double-page, tables 16-21 half-page), [1 privilege du roi] [bound with:] Objections faites a M. Deparcieux, sur son Livre des probabilités, avec les reponses a ces objections [drop title]. [No place or date, privilege dated 1746.] 16 pp., [2, blanks] Contemporary calf, rubbed, extremities little worn, gilt spine in compartments, red label, red edges, marbled endpapers. The usual browning & only a few paperspottings. Very fine copy with ample margins. GBP 2000.-

First (and only) edition, first issue, with the objections of the same year but not with the additions of 1760, which is only present in later bound copies. The Essay on the probabilities of the duration of human life is one of the major books in the history of statistics and probability theory. Deparcieux had studied various schemes for life insurance, including that developed by the Neapolitan banker Lorenzo de Tonti, whereby upon the death of a participant his share (or only its dividends) is distributed to the remaining members. For the construction of mortality tables Deparcieux studied the life expectancy of members of restricted groups like religious communities, in order to exclude the effects of migration. His tables were used in France for decades. Deparcieux was a scientist and mathematician, member of the French Academie des Sciences and professor at the College de France. He was also a mechanical engineer with particular interest in hydrodynamics and as such best known for his project for the supply of water for Paris, the Canal de l' Ourcq, carried out during the Empire.- Kress 4801 / 4801a; Einaudi 1529; INED 1346; McCulloch pp. 246.

In 1746, Antoine Deparcieux (1703–1768) published *Essai sur les probabilités de la durée de la vie humaine* [An Essay on the Probabilities of the Duration of Human Life]. Deparcieux analyzed in detail empirical observations. As a mathematician and physicist, he can be considered, after Halley and Struyck, one of the founders of the estimation of longevity and all the issues surrounding that concept. He criticized the methods of his predecessors and showed what, according to him, were “good” data. Although he only had lists of annuitants or ecclesiastical registers at his disposal and no data from the government or state, Deparcieux constructed his calculations with careful regard to the value and quality of the figures used. He also envisaged a specific project to collect data about infant mortality. His work holds an important place in the history of French statistics.

mapping the milky way

Easton, Cornelis.

La voie lactée dans l' Hémisphère boréal. Cinq planches lithographiées, description détaillée, catalogue et notice historique avec une préface par H. G. van de Sande Bakhuyzen, Directeur de l' Observatoire de Leyde.- Dordrecht: Blussé et Cie; Paris: Gauthier Villars et fils, 1893. Folio (275 x 355 mm) 71 pp, (1) with Errata sheet (2 pp.) with 5 plates. Printed Half-cloth folder, rubbed and soiled, inside stocked. Overall a good but no superior copy. GBP 2000.-

Rare first edition of Cornelis Easton's (1864-1929) drawings of the Milky Way. Easton's contributions to astronomy deal mostly with the description and interpretation of the Milky Way. At the age of seventeen, as an amateur astronomer, he made his first drawings of the distribution of its brightness. The subsequent perfection and Easton's interpretation of these drawings gained him international fame and, in 1903, an honorary doctorate in physical sciences from the University of Groningen, at the proposal of the famous astronomer J. C. Kapteyn.

The drawings aimed, first of all, at the representation of the northern Milky Way as a whole; detailed descriptions of certain regions of the sky published by such authors as Heis and Otto Boeddicker did not allow the construction of a homogeneous overall picture. The drawings were first published at Paris in 1893, under the title *La Voie Lactée, dans l'hémisphère boréal*. Subsequent work deals with the comparison of those drawings with the distribution of the stars, and with the problem of the structure of the Milky Way stellar system. Counts of the faint stars in the *Bonner Durchmusterung* (around ninth-magnitude) revealed close correlation between their distribution in the sky and the drawings.

In his attempts to interpret these findings, Easton adopted the hypothesis that the Milky Way system resembles other celestial objects showing spiral structure, and he proposed various solutions putting the center of the galaxy in the direction of the constellation Cygnus. The work is synthesized in “A Photographic Chart of the Milky Way and the Spiral Theory of the Galactic System,” in *The Astrophysical Journal* (37 [March 1913]). This concept of the galactic spiral structure has not survived subsequent research, which has led to the establishment of the galactic center in the direction of Sagittarius. But Easton's work inspired, and was highly esteemed by, such contemporary professional astronomers as Kapteyn, Pannekoek, and Seeliger. (A. Blaauw in: DSB III,)

Engelmann, Richard.

Radierungen (Rückentitel). O.O. u. J. (um 1920). Fol. (435 x 330 mm). 6 signed original Etchings / engravings by Richard Engelmann on brown paper mounted under Passe-partout. Original- Half vellum Portfolio with gilt printed title on spine, rubbed and soiled. GBP 2000.-

Very rare portfolio (Nr. 18 of 20 copies) by the Jewish - German artist and sculptor Richard Engelmann (1868-1966) who was influenced by Fritz Mackensen (Worpswede) and who was professor of sculpture at Weimar Arts Academy (Hochschule für bildende Kunst) until 1930. The right-wing Architect, Art critic and Academy President Paul Schultze-Naumburg removed him from the Academy and in 1935 the Nazi's do not allow him to work further on: „... da Sie Nichtarier sind und als solcher die für die Schaffung von deutschen Kulturgütern erforderliche Zuverlässigkeit und Eignung nicht besitzen.“

His work is mainly in sculpture: portraits of Felix Graf Luckner, Arnold Böcklin, Ernst Haeckel, Max Reger and Walter Eucken, a Pieta in remembrance to fallen soldiers in Apolda (removed from the Nazi's), a sculpture in the gardens of Henry van de Velde (Gera), some works in Weimar, Görlitz, Berlin.

Seltene, in Braun gedruckte Radierfolge des hauptsächlich als Bildhauer tätigen Künstlers. Im Deckel der Mappe eigenhändiger Eintrag mit Unterschrift: "Diese 6 Radierungen von meiner Hand erscheinen in einer Auflage von 20 Exemplaren. Dieses Exemplar trägt die Nummer: 18".- Thieme-B. X, 544. no copy OCLC.

First book on the discovery of fossil humans

Esper, Johann Friedrich.

Ausführliche Nachricht von neu entdeckten Zoolithen unbekannter vierfüßiger Thiere, und denen sie enthaltenden, so wie verschiedenen andern denkwürdigen Grüften der Obergebürgischen Lande des Marggrafthums Bayreuth. Von Johann Friedrich Esper.- Nürnberg: Georg Wolfgang Knorrs seel. Erben, 1774. Folio (406 x 260 mm) (8), 148 pp., with one text engraving showing the cave within landscape and 14 handcolored engraved plates by V. Bischoff, J. A. Eisenmann and A. Hoffer. Contemporary halfcalf, gilt spine in compartments, red morocco label, red edges, minor soiling else a very fine and clean copy. Excellent state of preservation. GBP 6000.-

The first book on the discovery of fossil humans, a „magnificent monograph“ (Rudwick). Esper discovered fossilized remains of extinct animals and human bones in the cave of Gailenreuth in Bavaria. Though initially considering that man lived side-by-side with these animals, Esper adopted the diluvian interpretation that the fossils were brought together during the Biblical Flood.

Johann Friedrich Esper (1732-1781), a lutheran pastor and amateur naturalist who lived and worked not far from certain caves in Bavaria (Gailenreuth). The book was published simultaneously in German and a French translation was made for Esper by the professor of anatomy at Erlangen University. These editions made the work accessible and wellknown to naturalists throughout Europe. The entrances of most of the Bavarian caves were well up on the steep sides of the valleys, so that the bones could hardly have been swept in by the present rivers, even in times of flood. Esper assumed in the usual way that they dated from the earth's general devastation (allgemeine Verwüstung) during the Deluge, but he was baffled by the problem of their emplacement: „it remains inconceivable to me“, he admitted, „how such an immense quantity of animal skeletons has got into the caves described.“ Esper was equally baffled by the identity of the animals. He thought the most abundant bones might be those of large bears, along with hyenas and even lions: not what was found in the region, even in its dense Teutonic forests. But the bones did not seem to match exactly those of any species known to him. Local naturalists had told him they agreed. He therefore inferred that the species must either be undiscovered or extinct. In face of all this uncertainty, Esper evidently felt he should simply describe the bones in detail and illustrate them with a set of proxy pictures that might one day enable others to solve the problem. In fact he also sent real specimens to naturalists such as Buffon, Daubenton, Camper and Hunter. His descriptions showed osteological competence, and the engravings were superb— ABC records only three copies of the French edition (1774) selling at auction since 1975, and none of the first edition in German. Green sale (2008) had a copy of the first German edition. Nissen ZBI 1318.

mathematics, music & harmonics

Euclides (attr. Cleonides).

Eukleidou eisagōgē harmonikē. Tou autou Katatomē Kanonos / Euclidis Rudimenta mvsices. Eiusdem Sectio regulae harmonicae. E Regia bibliotheca desumpta, ac nunc primum graece & latine excusa, Ioanne Pena Regio mathematico interprete. (...)- Parisiis (Paris): Andream Wechelius, sub Pegaso, in vico Bellouaco, anno salutis, 1557. Quarto (205 x 135 mm) [2], Bl. 5 - 16, 10 Bl. Contemporary wrinkled vellum, two ties, with Ex Libris: Ex Musaeo Hans Fürstenberg, little spotted, else a very fine, genuine copy. GBP 3900.-

Editio princeps of Euclid's *Introduction to Harmony*, one of two musical treatises traditionally attributed to Euclid.

"It is now universally accepted that the *Introduction to Harmony* is the work of Cleonides, a pupil of Aristoxenus..." (DSB). Cleonides' treatise is the clearest account of the technical aspects of Aristoxenus's musical theory.

Edited by Jean (de la) Pena (1528-1558 or 1568) a scholar and mathematician from the Provence, who had been studied at College Royal. He translated Euclid's *Optique* and edited Theodosios Tripolis in Greek. Kepler criticized him in his *Dioptrice*.- Gregory 85; Adams E, 1023; Hoffmann II, 168.

Der französische Mathematiker Jean Pena übersetzte sowohl die harmonica introductio von Kleonides als auch die Sectio canonis von Euklid. Die falsche Zuschreibung des Textes von Kleonides erscheint häufiger in der Überlieferung. Pena's Übersetzungsarbeit scheint durchaus wichtig für die Verbreitung der antiken musiktheoretischen Inhalte gewesen zu sein (vgl. Geschichte der Musiktheorie 7, 320). Der Drucker setzte zunächst den gesamten Text in griechische Typen, im zweiten Teil dann die lateinische Übersetzung.- RISM BVI 296; Gregory-Sonneck 85; Gesch. der Musiktheorie 7, 25; Davidsson 1962, pp. 27; Nicht Damschroder/Williams.

Manuscript on sun-dials

(Fine, Orange; follower)

Horologiographie ou Traicte des horologes solaires .. French manuscript on paper by an anonymous hand in brown ink. Pages religated, images within text very finely drawn. Sheet-size: 259 x 180 mm. 17 Bll., 3 blank

Bll., 6 Bll. (tables, image). Strong uncut paper, no indication of the author or the date is given. Watermark: similar to a winegrape. Probably France, 17th century. GBP 3000.-

This manuscript has been done in the circle of Fineus or by a follower using the images of Fineus Protomathesis. The image within the text and of the sun dial at the end of the manuscript are copies from Oronce Fine Protomathesis (1530 - 1532), a collection of texts on practical mathematics. In fact, it is the first time that much of the text has appeared in print and it is divided into four sections: Arithmetic, Geometry / Surveying, Cosmography (earth-centered astronomy) and gnomonics / dialing. Oronce Fine (Orontius Fineus Delphinatus, 1494-1555) was a professor of mathematics at the Collège de France in Paris. Although he wrote and published extensively, Smith comments that Fine's works were soon forgotten and that he died in poverty. Fine was a popularizer who wrote mathematical works for the educated, literate public of his day. Fine's books are notable as examples of the finest French printing during the 16th century. Fine was an accomplished artist as well as a mathematician, and he is known to have designed (perhaps even cut) many of the wood blocks used to illustrate his books. Each of the parts of Protomathesis was subsequently re-issued, that on sundials appearing in 1560. The collection epitomises Fine's main interests as a populariser and teacher of practical mathematics, as also the important place held by dialling in such studies. The work was translated into Italian by Cosimo Bartoli (Venice 1587) and re-issued in 1670. Among the many types of sundials described in this book are a multiple dial and a navicular. A very rare ivory navicular signed "Opus Orontii F. 1524" - the only scientific instrument certainly attributable to Fine, and perhaps the only one he ever constructed - is in the private Portaluppi collection at Milan.

mathematical chronology

Frankenberger, Reinhold.

Dissertatio Chronologica Pro Chronologiae Scaligerianae veritate: Primario ... Dn. Johannis Jacobi Haynlini Soli Temporum sive Chronologiae Mysticae Secundario vero Virorum ... Petavii, Maestlini, Kepleri, Petri Cru-geri, Nicolai Müllerii, Samuelis Petiti, Vossii, Butneri &c. Novitatibus Chronologicis opposita / Et non tantum Scholiis necessariis verum etiam brevi contra ... Wilhelmi Langii de Annis Christi Tractatum nuper editum Appendice aucta a M. Reinholdo Franckenbergero ... Wittebergae: sumptibus auctoris, typis Johannis Rohneri, (1652). Quarto. (mm) [4] Bl., 144 pp. Later red half calf period style. Browning throughout, and a few annotations within text. GBP 1000.-

Rare work by the German historian Reinhold Franckenberger (1585 - 1664) from Wittenberg, published in three versions in 1644, 1652, 1670, defending Scaliger's work on mathematical chronology. After his study at Wittenberg University he travelled within Germany, to France, England, Netherlands and Denmark, where he met Christian Severin. Since 1616 he was prof. of history at Wittenberg University.

The breakthrough in modern chronology came in 1583, when the French scholar Joseph Justus Scaliger published a multi-volume work titled: *De Emendatione Temporum*, which provided dates for the main historical events of humankind. This colossal enterprise treats in detail the astronomical bases of more than fifty calendars. His second and last treatise was *Thesaurus Temporum*, a collection and arrangement of all available ancient chronological sources.

Despite their deficiencies, his historical timetables survived and were later used to build all Eastern chronologies, including those of India, China, and Japan. Apart from simple arithmetic operations aimed at understanding various calendars, the early use of mathematics in chronology was mostly reduced to the computation of eclipses. Scaliger based his method on the astronomical and calendrical information he gathered from ancient sources, aiming to fix some historical landmarks, which he could then connect to other events. Since total solar eclipses, for instance, could be computed with reasonable accuracy, he interpreted the ancient descriptions of such celestial phenomena to place them in time.

But Scaliger's most important contributions are with understanding calendars, most of which were long forgotten during his time. Such studies are multidisciplinary. To reach the point when mathematics can be of any use, he had to first unravel the calendar's language and the deeper meaning of the nomenclature. Scaliger started almost from scratch. Scaliger's work was attacked from the very beginning, but apart from being subject to fine tuning, it survived unscathed.- VD17 39:121192Z KVK: Dresden, Weimar, München, Göttingen, Erfurt; COPAC: Oxford; Glasgow (shorter 1644 ed.), OCLC: ?

to influence Mendel & Darwin

Gaertner, Carl Friedrich von.

Methode der künstlichen Bastardbefruchtung der Gewächse und Namensverzeichniss der Pflanzen, mit welchen von dem Verfasser Versuche angestellt wurden. Besonderer Abdruck aus den Versuchen und Beobachtungen über Bastarderzeugung im Pflanzenreich. Auf Kosten des Verfassers.- Stuttgart: gedruckt bei K. F. Hering & Comp., 1849. 83 pp. Plain wrapper, back cover missing. Stamped on cover and title, inner cover with handwritten dedication by Gaertner to his friend Gustav Jaeger. GBP 900.-

Privately printed and distributed extract out of his book on hybridization (probably published shortly after by Schweizerbart), exceedingly rare, with handwritten dedication by Gaertner to Gustav Jaeger.

Gaertner's work on hybridization influenced Gregor Mendel as well as Charles Darwin in their ideas about genetics and evolution. Gärtner is mentioned 17 times in Gregor Mendel's short famous paper *Experiments on Plant Hybridization* and 32 times in the first edition of Charles Darwin's "*The Origin of Species*".

Carl Friedrich von Gärtner (1772 - 1850) was a well-known German botanist, and the son of Joseph Gaertner. He was a pioneer in the study of hybrids, and he is considered an important influence for Gregor Mendel and Charles Darwin.

Gärtner, who was a protestant, challenged the doctrine of Linnaeus of the "new special creation" which stated that new species of vegetation could arise through hybridization. He defended the stability of species, and argued that although the transmutation of species was evidently possible, the new species would not last because of a *law of reversion* which prevented them from spreading freely.

„In 1849 Carl Friedrich Gärtner attributed the variability resulting from hybridization to the interaction of the "inner natures" of the parent species. Gärtner believed a formative force (Bildungskraft) caused the form of a species, and in hybridization the forces of the different species interacted; often over time one force would predominate, and over generations the progeny would gradually return to that force's type. If two specimens appeared similar, the way to discern whether they belonged to the same species was to cross them with yet another species. If both specimens gave rise to similar progeny when out-crossed, that proved the specimens belonged to the same species, i.e., had the same inner nature. If the specimens produced different progeny when outcrossed, they belonged to different species. Upon further crossing of hybrids, he found bewilderingly many combinations of traits, for which he vainly sought a law.“ no copy in OCLC or COPAC.

manuscript lectures notes of 1824

Gay-Lussac, Joseph Louis.

Cours de Chimie at Ecole Polytechnique. Salle 9. (and) Cours de Chimie. Ecole Polytechnique, Salle 2; 2eme annee. Manuscript lecture notes by Juchault de la Moriciere (1806-1865) of lectures held by Gay-Lussac and partly Louis Jacques Thenard at Ecole Polytechnique in Paris. Cahiers 1 to 10. and Resumé and Cahiers 1 to 5 (Paris, without date, but probably 1824) Quarto. (230 x 170 mm) 23 ff., 26 ff.; 25 ff.; 27 ff.; 27 ff.; 27 ff.; 26 ff.; 27 ff.; 20 ff.; 24 ff. Resumé: 18 ff.; 17 ff.; 20 ff. (mainly blank); 24 ff.; 24 ff.; 24 ff.; 22 ff.; 27 ff. (mainly blank); 21 ff.; 20 ff. blank. Contemporary half vellum, handwritten spine label: „Ecole polytechnique. 1.e et 2.e annees ... Cours de Gay-Lussac. Chimie. Lamoriciere.“ Some browning and little used, but a fine survivor. GBP 6000.-

Very rare manuscript lecture notes by an student of Ecole Polytechnique of lectures held by Gay-Lussac in Paris in Chemistry. Probably read in the year 1824 (no date given), because the student inscribed at the Ecole Polytechnique in this year. Notes at the side of the handwritten text indicate that partly Thenard took over the lessons.

Joseph Louis Gay-Lussac (1778–1850) grew up during both the French and Chemical Revolutions. His comfortable existence as the privately tutored son of a well-to-do lawyer was disrupted by political and social upheavals: his tutor fled, and his father was imprisoned. Joseph, however, benefited from the new order when he was selected to attend the École Polytechnique, an institution of the French Revolution designed to create scientific and technical leadership, especially for the military. There his mentors included Pierre Simon de Laplace and Claude Louis Berthollet, among other scientists converted by Antoine-Laurent Lavoisier to oxygen chemistry. Gay-Lussac's own career as a professor of physics and chemistry began at the École Polytechnique.

He shared the interest of Lavoisier and others in the quantitative study of the properties of gases. From his first major program of research in 1801–1802, he concluded that equal volumes of all gases expand equally with the same increase in temperature: this conclusion is usually called "Charles's law" in honor of Jacques Charles, who had arrived at nearly the same conclusion 15 years earlier but had not published it. In 1804 Gay-Lussac made several daring ascents of over 7,000 meters above sea level in hydrogen-filled balloons—a feat not equaled for another 50 years—that allowed him to investigate other aspects of gases. Not only did he gather magnetic measurements at various altitudes, but he also took pressure, temperature, and humidity measurements and samples of air, which he later analyzed chemically. In 1808 Gay-Lussac announced what was probably his single greatest achievement: from his own and others' experiments he deduced that gases at constant temperature and pressure combine in simple numerical proportions by volume, and the resulting product or products—if gases—also bear a simple proportion by volume to the volumes of the reactants. This conclusion subsequently became known as "Gay-Lussac's law." With his fellow professor at the École Polytechnique, Louis Jacques Thénard, Gay-Lussac also participated in early electrochemical research, investigating the elements discovered by its means. Among other achievements, they decomposed boric acid by using fused potassium, thus discovering the element boron. The two also took part in contemporary debates that modified Lavoisier's definition of acids and furthered his program of analyzing organic compounds for their oxygen and hydrogen content.

Graminaeus, Theodorus.

Weltspiegel / oder / Allgemeiner widerwertigkeit / deß fünfften Kir=chen Alters / kurtze verzeignuß. / Darinnen Deß Cometen / oder außgerekter Ruthen / so im Jar Christi 1577. den 11. Novembris, am hohen Himmel vernomen / stand / lauff / und bedrewung zuersehen / so Physicè, Astrologicè, Metaphysicè, oder aber Formaliter erklet und außgelagt wirt. Durch Theodorum Graminaeum, LL.L. AmpliBimi Senatus Colo-niensis, Mathematicarum Ordinarium.- Cologne (Köln): Ludovicus Alectorius und die Erben Jacob Soters, 1578. quarto (182 x 142 mm) 4 nn. Bl., 96 pp. (Sign.: A-A4, B-H4, K, J2-J4, K-M4) with title in red & black, title-woodcut, full-page woodcut, and 12 text woodcuts (star charts et al.) & diagrams with text. (bound with:)

Nicolaus Winckler. Cometa Pogonias qui anno labente 1577. Mense Novembri et Decembri apparuit, demonstratus unà cum parallaxi, distantia à Centro terrae, & significatione eius. Autore D. Nicolao Vuinckle-ro, Halae Sueuorum Physico.- Nürnberg: Katharina Gerlach & Erben Johannes Montani, 1578. 12 nn. Bl. (Sign.:

A4-C4) with four text woodcuts on title and within text. Eighteenth century german half calf gilt spine in compartments, two Ex- Libris (20th. cent.) on inner cover: of Hanns-Theo Schmitz-Otto and anon. Fine condition. GBP 8000.-

Two rare works on the great comet of 1577 -1578 with fine woodcut constellations.

When in 1577 a huge comet appeared whose tail spread in a great arc across the sky, observers all over Europe, Tycho Brahe among them, made measurements of its changing positions. The resulting literature was huge, and if the verdict was by no means unanimous, it was clear that the opinion that comets were heavenly bodies had become respectable in learned circles. The rising authority of Tycho Brahe, based on his noble birth and his miraculous instruments, gave added impetus to the change of opinion. Over the next two generations the perfection of the heavens was abandoned, as were the crystalline spheres of which they were supposedly composed. But placing comets in the heavens raised new questions. What were their paths? What was their nature? Through much of the seventeenth century the debate ranged.

I.) Theodorus Graminaeus (Theodor Gras; ca. 1540-1596) offers an example of the fluid status of mathematics and its practitioners in the early modern period. Born at Roermond, Graminaeus studied at Cologne, where he became a professor of mathematics in 1566. As a professor, Graminaeus also acted as printer and publisher of mathematical, religious and other works. In 1575 he obtained a licentiate in law. Around the same time, he became tutor of Johann Wilhelm, Crown Prince to the United Duchies of Jülich, Cleve and Berg. In 1582, he left his position at the university of Cologne and appears to have entered the service of Johann Wilhelm full time. After the latter's succession as duke (1592), Graminaeus got an administrative position in the Duchy of Berg. Graminaeus wrote a dozen works on a variety of subjects, including the calendar, comets, the Antichrist, witches, and publicity for the dukes of Cleve.

He did not aim at exactness and objectivity. Even his mathematical works bear the stamp of his religious beliefs and embody religious and political values. Tycho Brahe (who refuted Graminaeus's work on the nova of 1572 at some length) already felt that they lacked rigour. Graminaeus felt he lived in a very dark age. He had witnessed the religious troubles at his birthplace, Roermond, in 1566-1567 and since that time abhorred Protestantism. In his work, he tried to read the signs of the time by finding patterns in world history based on astrological models and ancient prophecies. (In this, he appears not to have been unique among Catholics at Cologne.) At the court of Cleve, he put himself decidedly on the side of the Roman-Catholic faction. As the Counter- Reformation, led by the Jesuits, gained momentum in the United Duchies, his expectations became somewhat less gloomy.- VD 16 G-2809; Brüning 427; Houzeau- Lancaster 5608; Zinner 2822; Warner, Sky explored, 98. 2: „Contains a map of a comet from Nov. 11 to Dec. 27, 1577, and figures of the constellations Capricorn, Ophiucus, Sagittarius, Pegasus and Cassiopeia“; Rosenthal 3584; BM, German Books 365; Hellman 45. KVK: München, Gotha, Göttingen, Wien, Wolfenbüttel, et al.; COPAC: BL London; OCLC: Oklahoma, Harvard, Yale.

II.) Nikolaus Winckler (1529 - 1613) town medicine (Stadtarzt) of Schwäbisch Hall from 1560 to 1600. He know by him some calenders, medical prints especially on pest and an early print on Doctor Faust. He claimed that he has recognized the comet one day before Tycho Brahe mentioned him.- VD 16 W-3444; Zinner 2871; Brüning 498 (variant with C4 blank); Thorndike VI,133; Hellman 109 KVK: München, Dresden, Freiburg, Halle, Gotha, Wien, Wolfenbüttel, Leipzig, et al.; COPAC: BL London; OCLC: Ohio State, Smithsonian, Columbia.

uncertainty principle

Heisenberg, Werner.

Die Rolle der Unbestimmtheitsrelationen in der modernen Physik. (= Komitee zur Veranstaltung von Gastvorträgen ausländischer Gelehrter der exakten Wissenschaften. 10. Gastvortrag, gehalten am 9. Dezember 1930).- Wien, 1931. (= Monatshefte für Mathematik und Physik, (1931) 8°. pp. 365-372 Original-Wrappers. GBP 300.-

Exceedingly rare Off-Print, a popular account of the uncertainty principle, which was developed from 1927 by Heisenberg & his co-workers, here presented by Heisenberg for a public audience.- no copy in Germany as Off-Print issue, OCLC: no copy ?, only within Journal.

Bridge Construction

Klotzsch, August (? photographer)

Erinnerung an den Brückenbau Loschwitz- Blasewitz 1892. (cover-title) Portfolio (305 x 235 mm) with 14 mounted photographs (ca. 225 x 165 mm) on heavy cardboard (275 x 215 mm). 9 photographs shown the bridge and its construction, 5 photographs document the surrounding landscape. On the inner cover mounted a four page poem (mounted as one large page): „Gedicht zum Brückenbau Loschwitz- Blasewitz 1892“ by A. von Wedell. Portfolio signed in monogramm: K.M.H. The photographs a bit faded, but overall a very fine survivor. GBP 2000.-

Exceedingly rare portfolio with photographs of the construction the the Loschwitz suspension bridge, since then known as „Blue Wonder“. Dresden's most famous bridge was built from 1891 to 1893 according to plans by Claus Köpcke (1831 - 1911) and Hans Manfred Krüger. The powerful iron construction, which connects as a suspension bridge with a clear span of 141.5 metres between the piers and a total length of 226 m Dresden- Blasewitz and Dresden- Loschwitz, was the first bridge of its kind on the Continent. The originally green paint of the bridge turned blue after a short time, and thus received the popular name of “Blue Wonder”. The bridge is one of the most striking landmarks of Dresden. In the 19th

century it was a masterpiece of technology to build a bridge of this length without river piers supporting it. Today its technology is less of a wonder but it is a much-loved symbol of the city of Dresden.- KVK: no copy could be located worldwide.

rare book on instruments

Le Conte, Pierre.

Fabrique Et L' Usage Du Radiomètre, Instrument Géométrique, Et Astronomique, Utile Tant En La Mer, Qu'En La Terre, Inventé Par Pierre Le Conté, natif de Cheuerain en Haynault, & Bachelier en la faculté de Medecine à Paris.- A Paris, Chez Tovssaincts Dv Bray, au Palais en la gallerie des Prisonniers. 1605. Quarto. [4], 70 pp., [2] Bl., [2] gef. Bl (Sign.: ã4 [A2 statt ã2], A-S4) with numerous woodcuts within text. Contemporary wrinkled vellum, extinct worming throughout, but not within text. A reasonable copy of a very rare book. GBP 2800.-

Very rare work on an astronomical & geometrical instrument for surveying and measuring heights by a lesser known instrument maker of the Capuchin Order (?).- Not in Tomash; Arbour no. 6; KVK: Aschaffenburg, GWLB Hannover, Fulda (1604), Tübingen (wrongly under Antoine Le Conte 1517 - 1586); 4 copies in France (Bordeaux, BNP, Conservatoire arts), COPAC: only Oxford; OCLC: only Minnesota.

Leistner, Albrecht.

Eisblumen (= Frost Patterns). Leipzig, Germina- Verlag E. Schäfer, 1926. Imp.-fol. (510 x 390 mm). 10 signed original Etchings / engravings by Albrecht Leistner printed in green mounted under Passe-partout. Original- Half cloth Portfolio, rubbed and soiled. Inner cover and on title signed by the art collector Heinrich Stinnes. With publisher prospect. One plate with small crease. Innendeckel der Mappe u. Titel mit eigenhändigem Besitzvermerk des preußischen Regierungsrats u. Kunstsammlers Heinrich Stinnes; Titel, alle Radierungen u. 2 beiliegende Verlagsprospekte mit dessen Monogrammstempel. Das Doppelbl. Titelei am Kopf mit kl. Einriß. GBP 2000.-

Very rare portfolio by Carl Albrecht Leistner (1887-1950) on ice flowers, Nr. 1 of 50 numbered and signed copies on Japan. All engravings are signed by the artist and titled. 150 copies were printed at all. Carl Albrecht Leistner studied at Leipzig with Alois Kolb and Adolf Lehnert and received early a prize at the world exhibition in Turin in 1902. With his friend Max Klinger he founded the Leipzig Secession. Max Klinger told him to change to sculpture: in 1911 he made a famous portrait of Richard Wagner, Max Klinger, Johannes Brahms, et al.

The first World War changed his life. As a front-line soldier he experienced the hell of Verdun. The horrors of the war, he described in 50 lithographs titled: Seven months in Verdun 1916, experiences from the field (100 copies printed). In the twenties he worked more practically in sculpture, and suffered soon in the world crisis financial short comings. Critical to the Nazi he couldn't exhibit from 1933. Most of his work was destroyed in 1944.- KVK, COPAC, OCLC: no copy.

classical work on physiological optics

Listing, Johann Benedikt.

Beitrag zur physiologischen Optik. Mit zwei lithographierten Tafeln.- Göttingen: Vandenhoeck & Ruprecht; Huth, 1845 (= Göttinger Studien) 8°. 61 pp., (1) with 2 fold. lith. plates. Later half-calf period style. GBP 1400.-

First edition of his important work on optics, which was republished in the series: Ostwald's classics of exact sciences. Johann Benedikt Listing (1808-1882) was one of the founding fathers of topology and also of modern ophthalmology through his pioneering study of the optical properties of the eye, described in this non-technical memoir. Later he expanded this in a theoretical article which still reads strikingly accurate today. He was a doctoral student of famous Gauss who became his close personal friend, and he was nominally a professor of physics at Göttingen. He made other contributions to optics and promoted better street lighting in Göttingen.

Sammelband on Poppy, Garden Catalogue, Alchemy, ...

Locher, Michael Friedrich (pseud. Periander)

Mēkōnopaignion sive Papaver ex omni antiquitate erutum, gemmis, numis, statuis et marmoribus aeri incisis illustratum.- Noribergae: typis Melchioris Godefridi Heinii, anno 1713. Quarto [4] Bl., 182 S., [1] Bl., with 30 partly fold. plates, and many text woodcuts and text-coppers. Contemporary vellum, label on spine, used, inside some browning, old ownership entry by F. H. Herold, bought from Bibliotheca Grollmanniana in 1753. GBP 3000.-

(bound with:) Heucher, Johann Heinrich.

Novi Proventus Horti Medici Academiae Vitembergensis curante Jo. Henrico Heuchero, ... Vitembergae: sumptu et Literis Christiani Gerdesii, 1711. Quarto (200 x 158 mm) (8), 87 pp., (9, last blank) incl. etched frontispiece („Patientia“). Wrappers.

(bound with:) Kruger, Barthold.

Anatomicus curiosus theodidaktos hoc est: methodus secandi cadavera hippocratica democritea.- Brunopoli (Braunschweig): Henrici Kesler, 1700. 8 Bl., 60 pp.

(bound with:) Kruger, Barthold.

Philater Curiosus Autodidaktos En Oligois Polla Diagramma Demonstrans Methodum analyticum discendi veram medicinam [...] Authore Bartholdo Kruger. V. M. D. [...].- Brunopoli (Braunschweig): literis Zilliger, 1697. (2), 22 pp.

(bound with:) Fischer, Levin.

Aurea Auri Tinctura sive veri auri potabilis medicina commentarius: quo & genuina ejusdem praeparatio ac usus spectabilis intimatur.- Brunopolis (Braunschweig): Henrici Kesler, 1704. (6), 18 pp., 1 plate.

(bound with:) (unknown; Barthold Kruger or Valentini ?)

Methodus secandi syntetica. (without year, place) 4 Bl. (maybe belonging to IV. or V.)

I.) First edition of his curious book on poppy in antiquity, especially shown in antiquities, coins, statues and similar objects of art. A skillful german physician and botanist (1662 - 1720), who is today mainly known through his edition of Besler's Museum. He had studied in Altdorf, travelled to Paris to further his studies in anatomy, chirurgy and obstetrics. In 1684 he returned to Altdorf and travelled again to Vienna, Venice and Padua to study libraries, collections and institutions. He became member of Nuremberg Medical College and member, later director, of the Leopoldina Academy. He had a fast correspondence with intellectuals all over Europe.- Will's u. Nopitsch Nürnberg. Gel. Lexikon B. II ,485–489; VI. S. 317; Jöcher II, 2487; Haller Biblioth. botan. II, 111.

II.) Rare edition of the second plant catalogue of the former Botanical Garden in Wittenberg: titled „new succeses of the medical gardens of Wittenberg“. The Horti Medici of the University of Wittenberg existed between 1660 and 1817, when the University was merged with Halle University. There is some confusion about the different printings: The first catalogue of Wittenberg botanical garden was published by Heucher in 1711 as ‚Index proventus horti Medici‘ with a etched plan of the garden as frontispiece. The volume above also printed in 1711, but probably not distributed before 1712, is an enlarged catalogue with more plants (the new succeses): 120 taxa. The frontispiece is a plant called „Patientia“ (Rumex patientia L.) in a flower pot with inscription: „Das Krautlein Patientia wächst nicht in allen Garten“. A third, again enlarged, catalogue was published in 1713 this time for the first time with zophytes (mixed bodies between plant & animal): „Scythian lamb“, „mäusetragendes Habichtskraut“.

Johann Heinrich von Heucher (1677 - 1747), the personal doctor of the Saxonian elector, August der Starke, was director of the Hortus Medicus. He had studied at Wittenberg University, where he became Magister in 1694. He became known through his medical preservasions or preparations in the style of Frederick Ruysch, and became Prof. of physics in 1706. He founded the Wittenberg botanical gardens for which he published the first three inventories of plants. In 1713 he became personal medicine to August d. Starke and from 1720 to 1747 supervisor of Dresden ‚Kunstammer‘ (Galleries des Sciences) and natural history collections, which included collections in mechanics and natural history (minerals, fossils, et al.). Just before his death his private library with 4000 volumes was bought by the state. „Heuchers botanische Kenntnisse und seine Forschungen auf dem Gebiet müssen für die damalige Zeit sehr bedeutend gewesen sein. Er verfasste auch Werke auf dem Gebiet der Medizin und Mineralogie.“

III.) VD17 14:019495T; Hirsch/Hüb. III, 618. Barthold Krüger, personal medicin to duke August Wilhelm of Brunswick.

IV.) VD17 23:291026D

V.) not yet known

Mudajjan architecture - „moorish style in christian Europe“

Lopez de Arenas, Diego.

Breve compendio de la carpinteria de lo blanco, y tratado de alarifes, con la conclvsion de la regla de Nicolas Tartaglia, y otras cosas tocantes a la geometria, y puntas del compas ... por Diego Lopez de Arenas ... Corrgido, y mejorado en esta vltima impression, y anadido al fin un suplemento ... (by) S. Rodriguez de Villafane.- En Sevilla : por Manuel [de l]a Puerta ... : a costa de Manuel An[gel] Xuarez, mercader de libros ... véndese en su casa, 1727. Folio (297 x 195 mm) [8], 126 pp., [2] p., [4], 16 pp., (missing last blank) 19th. century polish calf, two red morocco label, head of spine defective (chipped), first pages decently cleaned, and remargined, else a fine copy in a somewhat later binding. GBP 4500.-

Unusual and very rare second edition, of this early work on geometry, carpentry, architectural woodworks, geometrical drawing and sun dials, discussing especially geometrical patterns in mudajjan architecture, here with supplement by Rodrigues de Villafane.- the first was published in 1633 and is exceedingly rare. The title might be translated as „Brief Summary of the carpentry of the White...“ and was the result of over ten years of research and work of the author, Diego López de Arenas, "Master of the profession, and the Mayor Alarife , a native of the town of Marchena, and, citizen of the city of Seville" throughout that period, the experience gained by Lopez de Arenas, in the development of his business as a carpenter and the performance of various charges. Lopez de Arenas is trying to dignify the work of the craftsman carpenter by including notions of geometry, arithmetc (Tartaglia) and sun dials thus to transcended the strict basis of practical woodworking and equaling that of other professionals, inspired by contemporary currents of humanist and motivated by the recent boom in the arts that had stimulated the interest of the new monarch, Philip IV. However, thanks to the great practical and educational value of the book, it achieved great popularity among professionals of the time, and his teachings and models were still in force at the beginning of the eighteenth century, so in 1727 a second revised edition was made by Santiago Rodríguez Villafañe. Diego López de Arenas was born around 1579 in Marchena, and the

earliest documentary sources reveal that in 1620 was already installed in Seville and exercised master carpenter, indicating that from an early age acquired training as such. During the first stage of his career, Lopez de Arenas is devoted entirely to his work as a carpenter, opening his own workshop and constantly improving his technique also becoming an examiner into carpentry. He contributed a great number of works that were made at that time in the city of Seville, and was named in 1622 for the first time Mayor Alarife, a post to which he would be reelected in 1630, 1632 and 1636. It is in this period that he abandons the execution of works, and started as a theorist.

In erecting Romanesque, Gothic, and Renaissance buildings, builders used elements of Islamic art and often achieved striking results. Its influence survived into the 17th century, especially in Spain. The Mudéjar (Mudajjan) style, a symbiosis of techniques and ways of understanding architecture resulting from Muslim and Christian cultures living side by side, emerged as an architectural style in the 12th century on the Iberian peninsula. It is characterised by the use of brick as the main material. Mudéjar did not involve the creation of new shapes or structures (unlike Gothic or Romanesque), but the reinterpretation of western cultural styles through Islamic influences. Mudejar art was influenced by ancient Arabic scripts, Kufic and Naskhi, which follow repetitive rhythmic patterns. The dominant geometrical character, distinctly Islamic, emerged conspicuously in the accessory crafts using less expensive materials: elaborate tilework, brickwork, wood carving, plaster carving, and ornamental metals. To enliven the planar surfaces of wall and floor, Mudéjar style developed complicated tiling patterns. Even after Muslims were no longer employed in architecture, many of the elements they had introduced continued to be incorporated into Spanish architecture, thereby giving it a distinctive appearance.- Palau 140681; Ornamentst. Berlin 1286. KVK: no copy in Germany; COPAC: NL Scotland; V&A Libraries; OCLC: only Columbia (?)

University Reform program

Longolius, Gisbert (Longueil, Gilbert de).

Stvdii Litterarii pvblici in Academia Rostochiensi, diligens et accvrata restavratio. Vna cum con-stitutione Ludi puerilis, à clarissimo uiro D. Gisberto Longolio professore Medco ... Rostochii: excudebat Ludouicus Dyetz, anno (1544). sm.Folio. XXXI (= 32) Bl. Auf unbeschnittenen, nicht gehefteten Bögen. Fleckig und gebraucht, einige Anmerkungen von alter Hand. Unbound sheets, little used and with creases, some old annotations. Broad margined copy. GBP 2500.-

Very rare first and only edition. Gisbert Longueil's (1507-1543) project and reform of the „modern“ University which Gisbert Longueil, der sich latinisirt Longolius nannte, ist etwa 1507 zu Utrecht geboren. Er studierte auf italienischen Universitäten und kam als Dr. artium et medicinae von dort zurück. Darauf wurde er Rector der berühmten Schule zu Deventer, dann Professor und praktischer Arzt in Köln. Als der Rostocker Rat unter pecuniärer Beihilfe der Hansestädte Lübeck, Hamburg, Lüneburg, Riga und Reval, vielleicht auch Bremen, anfang, die in den Reformationswirren völlig heruntergekommene Universität und das ganz zerfallene Schulwesen neu in die Höhe zu bringen, wurden 1542 aus Köln drei (unfraglich protestantische) tüchtige Männer als Restauratoren berufen: L., Straub (Strubius) und Noviomagus, als deren erster und bedeutendster Longolius ausnahmslos genannt wird. Seine Vorschläge liegen, nach seinem Tode bei L. Dietz gedruckt, noch vor: "Studii litterarii publici in academia Rostochiensi diligens et accurata restauratio". Sie zeigen ein hochbedeutsames pädagogisches Verständniß, das nur deshalb jetzt weniger auffällt, weil seine auf tüchtigem Eindringen in das Wesen der Wissenschaften beruhenden Vorschläge, damals noch neu, jetzt unserem Unterrichtssystem so ziemlich zu Grunde liegen.

Er wollte eine Dreitheilung des Studiums, nach damaliger Ansicht vereinigt in der Universität: zu unterst ein paedagogium zur Vorbildung der jungen Leute, dann ein Gymnasium, dessen Angehörige in den Regentien wohnen und sich dem studium artium hingeben sollten, darauf dürfte erst der Eintritt in das Studium der drei geschlossenen Facultäten: Medicin, Rechte und Theologie, folgen. Die Bearbeitung des juristischen methodischen Lehrplans hatte ihm sein Freund Straub geliefert. Ohngefähr entspricht seine Eintheilung unserem heutigen Lehrplan: 1) Mittelclassen des Gymnasii, 2) Oberclassen, denn diese lehren wesentlich, abgesehen von einigen strengeren philosophischen Cursen, was damals das studium artium umfaßte, 3) Universität, deren philosophische Facultät etwas ganz anderes ist, als die der alten Artisten. Der Rat war auf diese noch 1542 gemachten Vorschläge eingegangen, und Longolius ging nach Köln zurück, um zur dauernden Niederlassung in Rostock seine Bibliothek herüberzuholen. Dort erkrankte er plötzlich und starb am 30. Mai 1543. (ADB).- VD16 L 2403 (nennt Rostock, Wolfenbüttel), no copy in COPAC or OCLC.

Lit.: Finger, Heinz; Anita Berger (eds.) Der Kölner Professor Gisbert Longolius, Leibarzt Erzbischof Hermanns von Wied und die Reste seiner Bibliothek in der Universitätsbibliothek Düsseldorf [Katalog].- Düsseldorf : Universitätsbibliothek, 1987.

Astrology and Planetary Hypotheses

Magini, Giovanni Antonio.

De astrologica ratione, ac usu dierum criticorum, seu decretorum; ac praeterea de cognoscendis & mendendis morbis ex corporum coelestium cognitione.- Venedig: Bartolomeo Rodella for Damiano Zenaro, 1607. 4°. (215 x 165 mm). 10 un. Bl., 120 nn. Bl. Title-page with large woodcut, woodcut diadrams within text. Contemporary flexible vellum, used and rubbed, hinges weak, inside little used, inner margin with small wormholes in margins of a few pages, else a genuine copy. GBP 2200.-

First Edition of this apology, a defence of astrology in medicine, written after the practice of astrology was forbidden by papal authorities in 1586. In this work, Magini offered indications for medical practice according to Galen and Hippo-

crates. It is essentially a commentary on the third book of Galen's *De diebus decretoriis*. Legitimate astrology, so Magini, brings us closer to God by revealing his Providence. It is so important for medicine that Galen called those who treat diseases without sufficient astrological education 'murderers' (homicidas appellant medicos astronomiae ignaros). (Omodeo, 141) Profusely illustrated throughout with schematic diagrams and a great number of astrological woodcuts.

Magini published the first Italian ephemerides relying upon Copernicus in 1582. In Magini's work astronomy and astrology are closely linked. His work included a „First Treatise on Natural Astrology“ based on Ptolemy. In its first section, Magini reassessed the classic partition of astronomy into the theoretical and the practical or astrological part, one treating heavenly motions mathematically, and the other concerned with predictions, judgments and divination. The first principles of astrology are derived from Ptolemy's *Quadripartitum*. They concern nature, forces, qualities of celestial bodies, and the partitions of the heavens. According to Magini, the use of astrology is legitimate only in four fields: „the state of the world“, that is politics, war and peace, as well as plagues, earthquakes and deluges; 2. air mutations, that is a sort of meteorology; 3. private life, health, luck, habits as well as bodily and character predispositions depending on one's nativity and 4. indications for navigation, agriculture and medicine. Magini later repeated these ideas about the limited legitimacy of astrology in the book *De astrologica ratione*.

Giovanni Antonio Magini (1555-1617) may not today be the most well-known figure from the history of sixteenth-century science, but in his own time he had a substantial and international reputation as a mathematical astronomer and astrologer. He published substantial books in all areas of the science of the stars, including theoretical astrology and astronomy. 'In October 1586, following the death of Egnatio Danti, who held the chair of mathematics at the University of Bologna, a competition was announced to fill the chair. Magini competed for the chair as did, among others, Galileo. One might think that there would be no competition once Galileo applied for a chair but Magini was nine years older than Galileo and seen as a much safer appointment; he was appointed in 1588 and held the position for the rest of his life. Galileo had revolutionary ideas while Magini's ideas were original but based on the established world-view.'- Lit.: Omodeo, Pietro D.. *Copernicus in the cultural debates of the Renaissance*. (2014), 140 ff.; Riccardi I, 68; Krivasty 7244; Caillet 6964; Thorndike VI, 164-65.

A stranded blue whale is transformed into a museum

Malm, August Wilhelm].

Monographie illustrée du baleinoptère trouvé le 29 Octobre 1865 sur la côte occidentale de Suède. Avec 18 planches contenant 29 photographies; 2 planches lithographiées et 3 gravures . . . Stockholm, P. A. Norstedt et fils, imprimeurs du roi 1867. Folio [425 x 290 mm]. XXIII, (3), 110 pages, three woodcut illustrations in the text, 18 plates with 29 mounted photographs (albumen: 220x164 mm (7) and 104x164 mm (22)), 2 lithogr. plates. Publisher's richly embossed cloth, gilt title to front cover. GBP 12.000.-

Early photographically record of a stranded whale. First and only edition, one of 50 copies printed; the subscribers list catches 37 names.

The story: On October 29th, 1865, a young blue whale beaches in the Askim bay outside Göteborg. Olof Larsson, a local fisherman, finds it and struggles for two days alongside his brother-in-law to kill 'this horrible beast'. They sell it to August Malm, curator at the Göteborg Museum of Natural History. Malm sees the opportunity to make a scientific dream come true: He will *transform the whale into a museum*.

There is no time to lose, as the carcass has already begun to decompose. Malm has taken many photographs and thorough measurements. With the aid of his previous measurements and photographs, Malm prepares a sketch of the whale in scale 1:10. This is the basis for a model which is photographed, and replicated with a cast. A slender, life-size pine structure will be the final construction on which to mount the skin. It is shaped much like a boat, and similar in construction, with ribs and an outside planking: a whale museum on show for visitors.

Crammed into six boxcars, the whale is taken to the capital to be displayed at the 1866 Industry and Art Fair exhibition. Malm attends with lieutenant von Gegerfelt, to assemble this 'monster of the deep on dry land'. Three paintings by Gustaf Brusewitz contribute to the installation, along with plaques naming famous cetologists, and a portrait of Malm. The royalty drinks coffee and Arrack Punsch in the belly of the whale, which is now clad in blue cloth with golden stars, and furnished with benches and little tables. The plan is that the whale should keep touring after its appearance in Stockholm, according to the fifth paragraph in Malm's will. Copenhagen, Hamburg, Berlin, Paris, London and several other cities are included in the route. Despite some success, the venture suffers from economic problems, and the whale is confiscated. For a long time, the whale remains in crates in the house of the East India Company (Göteborg). It is not until the 1870s that it is rebuilt. In 1880, the press mentions 'The Whale museum with its rich collections', and in 1892 the Malm Whale is described as a first-rate attraction.

From the start, visitors had been able to go inside the whale. Just before the turn of the century this opportunity is withheld, since a young couple is discovered inside while sharing an inappropriate moment. Until now, the place has been a very popular and romantic spot. The jaws remain closed until 1939, when the whale is used as a fundraiser for the war victims in Finland. Since then, it is opened only on special occasions, such as anniversaries and for Christmas, when Santa Claus appears inside. (Kerstin Bengs).- Holdings: KVK: Stabi Berlin; COPAC: Edinburg; NHM London; OCLC: Harvard/ Ernst Mayr; else copies in Denmark & Sweden

(Private Microscopic Lectures for the Learned)

Microscopic Objects. Algae, Zoophytes, Sponges, Diatomaceae, for sale within. Conversational Lectures delivered at Private Families Residences; illustrated by microscopic Objects. (ca. 1820-40). Advertisement wall chart. One board (size 450 x 344 mm) with mounted printed border and handwritten invitation. GBP 1600.-

Moller, Tobias.

Astrologia Ivdiciaria. Neuw Teutsch Plane=ten Buechlein, in welchem der zwoelff Himli=schen Zeichen, sieben Planeten, vnd fuernembsten Stern, eigenschafft vnd wirkung, nach beruehmpter Astrologen observation, beschrieben. Jst aber auff deß Autoris Calender so die=ses tausendt fuenffhundert ein vnnnd achtzigsten vnd zwey vnd achtzigsten Jar außgangen oder noch forthin alle kuenfftige Jar außgehen moechten gerichtet ... zusammen getragen Durch M. Thobiam Mollerum Crimnicensem Astronomum.- (Frankfurt am Main: Peter Schmidt für Simon Hüter und Sigmund Feyerabend), 1581. Quarto (200 x 150 mm). 38 Bll./ ff. with 19 text-woodcuts, showing the constellations as figures. Contemporary wrappers, mounted on boards.

GBP 5500.-

Very rare astrological work by the astronomer of Zwickau, active around 1580-1592; one of two variant printings in the same year. This variant with allegorical images of the seven planets and the zodiac outside the text.

Seltenes astrologisches Werk; im gleichen Jahr sind noch zwei weitere Druckvarianten (bei Lechler in Frankfurt und bei Mechler in Erfurt) erschienen. Die dem Bürgermeister von Zwickau gewidmete Vorrede unterzeichnet Moller mit ‚Dienstwilliger Crimnicensis astronomus‘. Von Jöcher wird er als Magister der Philosophie und als vermutlich erster in deutscher Sprache schreibender ökonomischer Schriftsteller bezeichnet. Die hübschen Holzschnitte zeigen die Tierkreiszeichen und die Verkörperungen der sieben Planeten.- Zinner 2997b; VD16 ZV 22735; Houzeau- Lancaster 4941; Ackermann IV, 436 (unvollständig); KVK: only München, Wien; copies of other other printing (also 1581) with 31 leaves at Jena, Weimar, Wien, Wolfenbüttel. not in OCLC or COPAC.

manuscript lecture notes

Mollweide, Carl Brandan

Vorlesungen über die Kegelschnitte gehalten vom H. P. Mol(l)weide. German Manuscript in black ink on paper. With geometrical diagrams in red with in text. Written by J. von Kirchmann, stud. jur. dated 1820. Deutsche Handschrift auf Papier. Mit trigonometrischen Randzeichnungen in roter Tinte. (Leipzig, University 1820). Quarto (210 x 175 mm) 215 numb. pages, (1). Paper covered boards, rubbed and soiled, else a fine copy. Schwarzer Kleisterpapier Pappbd. d. Zt. GBP 1800.-

Very rare manuscript lecture notes on conic sections written by the philosopher & politician Julius von Kirchmann (1802 - 1884) in mathematical lectures held by Carl Brandan Mollweide at Leipzig University.

Karl Mollweide (1774-1825), mathematicians & astronomer, student of Christian Leiste and Johann Friedrich Pfaff, was lecturer in mathematics at Helmstedt Univ., than lecturer in physics & mathematics in Halle (from 1800) and later prof. of astronomy (1812) and mathematics (1814) in Leipzig. August Möbius was his most famous student.

He is best known for his spirited defense of Newtonian theory of color. He worked on problems of spherical astronomy and astronomical position findings. Mollweide wrote mathematical essays on the construction of magical squares, the application of Carl Gauss' addition and subtraction logarithms, and on the largest ellipse contained in a square. Two of his outstanding discoveries are still of great mathematical importance today: He calculated the Mollweide projection, which is often applied in the field of cartography when the whole Earth is depicted. He studied Cartesian trigonometry and developed the Mollweide formulae of plane trigonometry, which are used in the calculation of the triangle.- DSB IX, 463; Hockey (ed.) BEA II, 795; ADB XXII, 151 ff.; NDB XVIII, 6.

„Mollweide spent eleven years at Halle and it was during this period that he did the two pieces of work for which he is mostly remembered today. The first of these was his invention of the Mollweide projection of the sphere, a map projection which he produced to correct the distortions in the Mercator projection, first used by Gerardus Mercator in 1569. Mollweide announced his projection in 1805. While the Mercator projection is well adapted for sea charts, its very great exaggeration of land areas in high latitudes makes it unsuitable for most other purposes. In the Mercator projection the angles of intersection between the parallels and meridians, and the general configuration of the land, are preserved but as a consequence areas and distances are increasingly exaggerated as one moves away from the equator. To correct these defects, Mollweide drew his elliptical projection; but in preserving the correct relation between the areas he was compelled to sacrifice configuration and angular measurement. (...)

The second piece of work to which Mollweide's name is attached today is the Mollweide equations which are sometimes called Mollweide's formulas. These trigonometric identities are $\sin(\frac{1}{2}(A - B)) / \cos(\frac{1}{2}C) = (a - b) / c$, and $\cos(\frac{1}{2}(A - B)) / \sin(\frac{1}{2}C) = (a + b) / c$, where A, B, C are the three angles of a triangle opposite to sides a, b, c, respectively. These trigonometric identities appear in Mollweide's paper *Zusätze zur ebenen und sphärischen Trigonometrie* (1808).“

„As a teacher, he tried with his full heart to promote the study of science and mathematics. Anyone who expressed interest in these topics received his support. ... he was loved by those who knew him well; deep down he was truly kind and always wanted only the best for science and mathematics. Mollweide was admired as a lecturer because of his ability to present dry topics in an interesting manner by drawing connections to other topics. He was also known for his penmanship; his ability to draw a "perfect" circle freehand amazed his students.“

related to Kepler

Müller, Jacob

Compendium Geometricum, In Tres Libros Digestum, Et tum Theoricis, Tum Practicis Propositionibus Et Demonstrationibus ad dimensionem Linearum, Figurarum & Corporum necessariis, luculenter illustratum / Authore Jacobo Mullero, Med. Licent. & Mathem. in Academ. Giessena P. P.- Giessae Hessorum (Giessen): Caspar Chemlinus, 1619. Disbound, backstrip, little browned, else fine copy. Quarto (192 x 154 mm). [4], 67 (recte 59) pp., [1]. (Sign.: [1],2, A-G4, H2. with one double-page fold. plate before fol. A1). GBP 1000.-

Very rare mathematical work by Jakob Müller (1594 - 1637), Prof. of Mathematics, then Medicine at Giessen and Marburg University. He began his career as a military engineer in Giessen; after being awarded the degree of doctor of medicine in 1620, he became professor. In 1631 he traveled with Georg II. of Hessen-Darmstadt to Italy and France. The plate shows geometrical figures for stereometry and planimetry. Lacks squire 2E4 according to VD17 ?, but both copies in Wolfenbüttel & Dresden also lack this squire and plate (see Dresden online copy). The copy in Weimar is now lost. The only other copy (VD17) in Halle may be complete (?). I have found addit. copies in Greifswald, Hamburg, Copenhagen, Middle Temple Library (COPAC), they might be complete or not (?); no copy in OCLC.- VD17 23:289420M, Jöcher III, 730; NDB ; not in Tomash Coll.

Nature printed butterflies for artists & designers & lovers of nature

(Nawa, Yasushi)

Nawa Konchu Kenkyujo (Nawa Entomological Research Center). Choga rinpun tensha hyohon - Pressed specimens of Butterflies and moths. (Gilt title on front boards).- Gifu: Nawa Entomological Research Center, ca. 1905. 2 leaves of text in engl./jap., 26 double-leaves with together 104 loosely inserted cards (90 x 140 mm) with nature-printed specimens of butterflies and moths. The bodies of the animals added in wash-colour drawing. Each card with printed captions in lat./jap. Publisher's binding with leather spine and gilt to front cover. GBP 6000.-

A rare survival from the Nawa Insect Museum in Gifu/ Japan, founded in 1896 by Yasushi Nawa (1857-1926) as a research center for entomology and opened to the public in 1919. It has so far escaped the bibliographers of nature printing that Nawa also revived the old european technique of transferring original pigments from the wings of butterflies to paper. He even obtained a Japanese patent on this printing technique.

For his „new“ method of lepidochromy he received a patent no. 12736.

Presumably his butterfly cards (each with printed editor's and patent note on verso) were for sale at the museum and could be purchased at choice. When one of the prefabricated albums was filled, the colophon leaf was written in keen brushstrokes and sealed. It indicates the exact date of finishing and the exemplar number resp. future owner. Thus every album would appear unique.

We could not locate any copy in european or american libraries and only a single one in Japan at the National Diet Library/ Tokyo. Nawa's nature-printed butterflies are neither mentioned by Ernst Fischer in his classic survey, nor Cave in his recent monograph.

(Natural History Collection)

German shell manuscript made in Germany around 1775-1790 on the genus *Trochus*, probably part of an larger inventory for natural history cabinet („Sammlungen“) now lost or unknown. 25 sheets with handwritten commentary and 60 mounted original drawings of shells, not really professional. Original blue papercard folder around 1776 (size. 365 x 220 mm) with mounted paper label (cover title): „Registratur. Sammlungen. 1. Heizgebühren (17)75/76 im folgenden Jahr, 2. ? (Stauber)nalitäten Verkäufe im laufenden Jahr, 3. Schauräumungskosten. With two ties. Inside a shell manuscript in a paper folder titled: „Thierreich, VI. Klasse. Würmer III. Ordnung. Schaalenthier. Testacea. 326. Geschlecht. Gräuselschnecke. *Trochus*.“ with 25 sheets with handwritten notes and 60 mounted original drawings of shells of the genus *Trochus*. GBP 4000.-

Beginning with ***Trochus niloticus*** citing Linne, Rumphius, Olearius Mus. and Müller's german edition of Linnaeus Natural History System, ***Trochus Tuber***, citing Knorr, ***Trochus striatus***, ***Trochus foveolatus***, citing Chemnitz & Linnaeus, ***Trochus diaphanus***, ***Trochus Pris***, citing Chemnitz, Zorn, Walch; ***Trochus perspectivus***, citing Linnaeus, Knorr, Rumphius, Müller; ***Trochus maculosus***, ***Trochus solaris***, ***Trochus rostratus***, ***Trochus melanostoma***, ***Trochus erythroleucos***, ***Trochus punctulatus***, ***Trochus imbricatus***, ***Trochus americanus***, ***Trochus caelatus***, ***Trochus purpureaus***, ***Trochus Cookii***, ***Trochus nodulosus***, ***Trochus mauritanus***, ***Trochus fenestratus***, one image is not labelled, maybe the owner didn't know how to place or to bring the shell in order.

Russian taiga and the Kazakh Steppe

Pallas, Peter Simon.

Species Astragalorum descriptae et iconibus coloratis illustratae.- Leipzig: G. Martini, 1800 - (1802). Imp-folio. (460 x 290 mm). VIII, 124 pp. with handcolored title-vignette and 98 finely handcolored plates. Contemporary calf, gilt spine in compartments, corners and head of spine a little chipped, slight browning to text,

somewhat heavier to the last two plates, few plates slightly trimmed (oversize), else an excellent fresh copy in original state of appearance. GBP 12.000.-

Very rare first edition with 98 engraved plates, finely colored by hand, after drawings by Pallas after nature and etched by C. G. H. Geissler: „Abbildungen und Beschreibungen sind nach wildwachsenden und größtenteils frischen Originalen nur wenige sind nach trocken wohl aufbewahrten (Herbarium) gemacht worden.“

„Pallas undoubtedly did the most to advance the scientific understanding of the vast lands of the Russian Empire.“

Tilesius von Tilenau was one of the first to wrote a review in the Botanische Zeitung (1803):

„Von ständiger Unpäßlichkeit geplagt, von Sorgen gedrückt, von vielen literarischen Hülfsmitteln entblößt, von wissenschaftlichen Freunden entfernt, durch manche physische und politische Hindernissen in seiner wissenschaftlichen Arbeit gehemmt,- bearbeitet dennoch dieser große Mann zum Nutzen der Botanik ein Werk, in welchem man keine Spur von allen diesen Hindernissen findet, seine Species astragalorum Robiniarum und Sophorarum, welche in einem ziemlich starken Manuscript mit 92 (!) prachtvollen Abbildungen geziert, jetzt vor mir liegen und er Botanik und ihren Verehrern eine baldige Nachfolge von mehreren Monographien über die schwierigen und wichtigen Genera Salsolarum, Pedicularium, Hedysarorum und Artemisiarum versprechen. ... Abbildung und Beschreibungen sind nach vorgenommener sorgfältiger Vergleichung mehrerer Exemplare derselben Gattung nach wildwachsenden größtenteils frischen Originalen entworfen.“

Peter Simon Pallas (1741-1811), german naturalist and botanist, who collected russian species of the genus Astragalus (large genus of about 3,000 species of herbs and small shrubs) during his botanical exploration to Southern Russia (Krim) and Central Asia. Pallas guided several exploratory expeditions into the Russian Empire; the trip to Southern Russia, with a heavy concentration on Crimea, proved especially enlightening. All his studies manifested not only Pallas's observational talents but also his profound familiarity with contemporary geology, botany, zoology, mineralogy and linguistics. His *Flora Rossica* provided a systematic botanical survey of the country's trees. His work here is concentrated on russian grasses, milkvetch and goat's thorn. Linnaeus had known 50 genera but Pallas expanded it to 116 genera.- Nissen, BBI 1484; Stafleu-Cowan 7229; Dunthorne 222; Great Flower Books 70.

„Niemand vor ihm hatte so viele Arten derselben lebendig gesehen, und da er die Pflanze an ihrem Geburtsort hatte malen lassen, so gab er uns Abbildungen von grossen, instructiven Exemplaren und konnte auf die Spielarten sogleich Rücksicht nehmen.“ (Rudolphi) Rudolphi also noted that the illustrations in Redoute/ Candolle are more sophisticated than Pallas, but he has used better copies of the plant. Both are on there own invaluable to the botanist.

Pallas faced a problem while publishing this work. When he began to work on his book, there was another team in Paris to begin with a similar project: Pierre-Joseph Redoute and Augustin P. De Candolle on *Plantes grasses*, 1799 - 1805. It was Redouté's first major work as illustrator and it was also the first major botanical work to rely on color-printed plates using techniques refined by Redouté. While Redouté began work on the drawings on vellum, R.-L. Desfontaines "found a young Swiss botanist, Augustin-Pyramus De Candolle ..., then a student at the garden, ready to undertake the task of writing the descriptions of each species. Desfontaines also found a publisher... Out of this collaboration... developed the now famous *Plantarum historia succulentum*, perhaps better known by its French title *Plantes grasses*... The original folio edition was struck off in 100 copies..." (Stafleu in Hunt *Redouteana*, pp.15-16).

„*Plantarum succulentarum historia*, was the first in a series of learned treatises that established de Candolle's reputation as the foremost botanist of his age and one of the greatest of all time. In the first decade of the nineteenth century he was invited by the French government to conduct a botanical and horticultural survey of all France. In later years he taught at the universities of Montpellier and Geneva.

Plantarum succulentarum historia was hailed as Redouté's masterpiece too. As well as contributing most of the original paintings (a few were done by his younger brother Henri Joseph), he prepared the copperplate engravings using a new pointillist or 'stipple' technique that was his own invention. Instead of the continuous lines favoured by other engravers, Redouté preferred a succession of finely spaced dots. His method, he successfully demonstrated, allowed different inks to be held on the plate simultaneously, thereby enabling a coloured image to be printed from a single plate rather than several. A perfectionist, Redouté added some hand-done touches after printing.“

COPAC: Cambridge, Oxford, Kew Gardens, NHM London, BL London; OCLC: Academy of Natural Sciences, Brigham, Harvard Botanical, Chicago Botanical, New York Botanical, Iowa State, Washington State, Berkeley, Minnesota, et al.

an overseen neuroanatomical „Prachtwerk“

Perez, Fernando.

Oreille et Encéphale. Étude d'anatomie chirurgicale.- Buenos Aires: Coni Freres, 1905. (= Travail du Laboratoire de Neurologie et Psychiatrie de la Faculte de Medicine.“ Folio (445 x 330 mm). 102 pp., 1 leaf.; Atlas: 1 leaf; 22 text pages, with 22 plates in phototypie by Peuser, printed by Coni freres and 22 plates with overlays. Original-Wrappers, little unfresh, small tears at margins, due to pa-per little browned, plates fresh and clean. With handwritten dedication of the author on front-title, addressee deleted. GBP 1500.-

First edition of this unusual and largely overseen **neuroanatomical atlas** with magnificent phototypes, made probably on frozen corpse or moulages: the work shows the cranio- cerebral topography with the otology in magnificent photographs by an unknown photographer (Peuser maybe the printer). Fernando Perez (1863 - 1935) was a brilliant otolaryngologist, pianist, diplomat (ambassador for Argentina in Vienna). He graduated in 1888 in Paris and performed in 1893 the first

total extirpation of the larynx in Argentina (the second in Latin America). He discovered cocobacilli that bears his name. Later he was active in politics.

„Das Prachtwerk von Perez behandelt die chirurgische Anatomie des Schläfebeins und die Topographie des Gehörorgans. Es berücksichtigt ganz besonders das Mittelohr und dessen Nachbarverhältnis zur Schädelhöhle. Das Werk ist durch eine Fülle mustergültiger photographischer Abbildungen ausgezeichnet. ... Dr. Fernando Perez gründete 1891 ein modern eingerichtetes Kinderspital, welches eine otolaryngo-loische Abteilung enthält und wo am operativen Materiale Unterricht für Studenten und Aerzte erteilt wird. Er richtete auch die otolaryngologische Abteilung am Hospital francais ein und führte daselbst die erste Totalexstirpation des Larynx aus.“ (Politzer 18).- Fischer 1190; Politzer. Geschichte Ohrenheilkunde pp. 18; pp. 468; KVK: Stabi Berlin (22 plates); Halle, Nürnberg (13 plates); no copy in COPAC, not in Wellcome; OCLC: Countway Library; Library Congress; NLM.

Poincare, Phragmen & Chaos

Phragmen, Edvard Lars.

Om nagra med det Poincareska fallet af Trekropparsproblemet. Beslågtaade dynamiska uppgifter. Meddeladt den 13. November 1889 genom G. Mittag-Leffler.— Stockholm: Norstedt, 1890. (= Bihag till K. Svenska vet.-akad. Handlingar, Bd. 15, Afd. I, no. 13) 8°. 33 pp., (1, blank), plain wrapper. Fine. GBP 1200.-

First edition, Off-Print-issue with **handwritten dedication** to the mathematician Lundquist of Phragmen's own version of the three-body-problem to include his critique of Poincaré's earlier version (which he found during the printing from April to November 1889) and the beginning of the study of chaos.

„It was proof-reading papers for *Acta Mathematica* that first brought Phragmén to international recognition. This followed the competition for the Royal Prize, financed by King Oscar II of Sweden, which was announced in *Acta Mathematica* in 1885. The deadline for submissions was 1 June 1888 and there were four questions, the first of which involved the stability of the solar system and asked for series which describe the motion of bodies in a generalised 3-body problem. Poincaré submitted an entry which the judges: Hermite, Weierstrass and Mittag-Leffler, deemed the best and worthy of the prize. The prize was to be presented by the King in January 1889 and Poincaré's prize-winning contribution began to be set up for printing in *Acta Mathematica* (April - November 1889) with Phragmén as proof-reader: „... Phragmén found one dubious point after another. In December of 1888 he writes: "If the author were not what he is, I would not for a moment hesitate to say that he has made a great mistake here.“ Phragmén corresponded with Poincaré who tried to correct the errors. However Phragmén found more problems with the paper and eventually, after the paper had been printed, it had to be withdrawn and completely rewritten by Poincaré. The new version was nearly 100 pages longer than the original. In the revised introduction, Poincaré thanked Phragmen, writing: „It is he, who in calling my attention to a delicate point, made it possible for me to discover and correct an important error.“ In fact one of the points which Phragmén questioned prompted Poincaré to take the first steps in chaos theory. Garding: „His remarkable proofreading feats gave Phragmén a great reputation. It may be overstated, but his penetrating critical ability became clear to everyone.“

End of the world

Poyssel, Eustachius (Pseud.)

Magischer Beweiß Alles deß jenigen / was der Autor dieses Tractats / seythero deß verschinen 1583. Jahrs unnd deß Newen Calenders anfang / in dem offenen druck hat ausgehen lassen: und sonderlich / Von dem zustand der jetzigen gegenwertigen zeit / diesem gegenwertigen 1609. und den hernach folgenden jahren biß auf die fröhliche Zukunfft deß Herrn Christi (Teil 2:) Der Ander Theil Deß Magischen beweises, darinnen unser gegenwertige zeit, und wie weit wir in der heiligen Offenbarung Johannis kommen seyen jeder meniglich für die augen gestellet wird ... 2 parts in 1. (without printer, without place) Quarto (180 mm) (2), 56, (2, blank); 15 pp., (1, blank) with 2 title-vignettes and two full-page woodcuts, leaf A2 & A3 with old restoration in the blank part, some browning. Wrappers. GBP 3000.-

Exceedingly rare eschatological prognosticon by the unidentified ‚Eustachius Poyssel‘ (fl. 1589-1597) on the Apocalypse of Johannes in which he used numerology to show that the end of the world was near, a work in the tradition of the Wittenberg mathematician Michael Stifel. Eustachius Poyssel used numerology to pin-point 1623 as the year of the end of the world. The woodcuts show the sign of the zodiac with apocalyptic emblems.

Attention to the science of astronomy received an unexpected boost with the dramatic and unheralded arrival of two apparitions in the skies of the 1570's. These unforeseen appearances, taken to be evidence of God' extraordinary capacity to intervene in the orderly course of nature, attracted interest across Europe at a time when German popular practica and prognostica were filled with the most dire warnings about the anticipated closure of all closures; the arrival of the antichrist (Turks), desertion of the true faith (Roman Church), the rise of deviant sects (Calvinists et al) and the conversion of the jews. Not surprisingly, for many Lutherans the new apparitions became occasions not just for gleaning eschatological meanings from key apocalyptic passages in the New Testament and prophetic writings. Poyssel wrote some books in cooperation with the mathematician, astronomer, medicine David Herlitz (1557-1636).- Bircher A 5133 (part 1); Hohenemser 207 (part 1); VD17 23:252804L (part 1); KVK: Dresden & Wolfenbüttel (both only part one); Warsaw (part two). The rare second part is bibliographically not yet described.

some works on Recreational mathematics: physical & optical experiments

Mathematical & mechanical problems

Ens, Gaspar.

Thaumaturgus Mathematicus Gasparo Ens, lectore collectore, & interprete, nunc denuo cor-rectus, & auctus, ac dicatus viro nobili Hieronymo Bragadaeno Aloysij filio, Patrio Veneto.- Venetijs [Venedig]: apud Apollonium Zambonum, 1706. 8°. [8], 302 pp., [18] with many woodcut illustrations in the text. Carta rustica, uncut copy. Fine and fresh. GBP 1200.-

Later edition, rare. A collection of mechanical and mathematical problems and amusements, similar to Leurechon's book, published by the German author, traveller and translator Kaspar Ens [Gaspar Enz or Ensz] (ca. 1570- ca. 1650) who worked in the Netherlands and travelled through Italy, France and Spain. Jöcher (DbA I 286,49) confused him with his father with same name (ca. 1525-1587) who was preacher in Lorch. These collection was first published in 1636 and only a few times reprinted. It might have Leurechon [Etten's] work as model or is a translation - further investigation has to be done.- not in Tomash Coll.

Caspar Ens (1569- ca. 1642), der Herausgeber dieser 1636 in Köln gedruckten Sammlung von Problemen und deren Lösungen aus dem Bereich der Mechanik und Unterhaltungsmathematik ist als Schriftsteller und Übersetzer bekannt, war sein Leben lang auf Reisen und wird als Universalgelehrter bezeichnet. [ETH]

Mechanical curiosities

Etten, Hendrik van [Jean Leurechon].

Mathematical recreations: or, a collection of many problems extracted out of the ancient and modern philosophers: as, secrets and experiments in arithmetick, geometry, cosmography, ..., opticks, architecture, statick, mechanicks, ... Not vulgarly manifest till now. Written first in Greek and Latin, lately compil'd in French by Henry van Etten, now in English... by William Oughtred.- London: printed for William Leake, 1674. 8°. [40], 282 pp., [2], 19 pp., [1] incl. additional engraved title, full-page engr. Illustration at 281. Later calf, slightly shelf wear, upper margin close cut, with running headlines occasionally just cut into with additional engraved title also cut close as usual. GBP 2000.-

A third English translation of Leurechon's work, published in French in 1624. The illustrations for the section on fireworks are particularly appealing, but the work contains much else besides. Oughtred's work at the end: the description and use of the double horizontal dial has a separate title-page.- Wing L1791 & O585; Hall. Bibl. Books Conjuring 284; Ferguson. Books of Secrets Suppl. No. 94; Tomash E 19.

Leurechon, a Jesuit priest, was rector and professor of mathematics at the College de Bar-le-Duc, where he was influential in the court of the dukes of Lorraine. Van Etten (or van Netten) was evidently Leurechon's nephew and pupil. This book is a collection of ninety-one problems and amusements. Although the title implies they are mathematical in nature, the problems actually cover arithmetic, geometry, cosmography, clock making, astronomy, navigation, music, optics, mechanics, and several other fields. Many of the problems are illustrated with small woodcuts, one of them a very early illustration of the thermometer. There are varied opinions as to the actual author of this work. Some authorities attribute it to Leurechon, suggesting that he published it under his pupil's name for reasons unknown. Others suggest that the work is Van Etten's and that Leurechon and others (Claude Mydorge, Denis Henrion, Gaspar Ens) all made significant contributions, particularly to later editions. The English translation has long been attributed to William Oughtred because his work, bound after the main material, is mentioned on the title-page. This is now in doubt [see Trevor Hall, *Mathematical recreations*, 1969]. The edition was apparently translated from French editions after the 1626, because the problems are not always identical. It has additional sections that are not included in the original. The printing of this edition was apparently done in two stages, with the illustrations being printed after the text was complete. This process has resulted in some of the woodcuts slightly overlapping the text in places.- Tomash E19.

Mechanical Problems

Mydorge, Claude; Leurechon, Jean.

Examen du livre des récréations mathématiques, et de ses problèmes en géométrie, mécanique, optique, & catoptrique. 4 parts in 1.- Rouen: J. Boulley, 1639. 8° 8 Bl., 208 (recte 280) pp., 63 pp., 2 Bl., pp. 67-106, 22 Bl. Mit zahlr. Diagrammen und Textholzschnitten. Flexibler Pergamentbd. d. Zt., etwas wellig, Stehkante wurmspurig, fleckig, Spiegel m. Abrissen; leicht wasserrandig, gebräunt, fleckig. GBP 1200.-

Later edition of Mydorge's reworking and critic of **Jean Leurechon's** popular book on mathematical and mechanical recreations. «A friend of Descartes and an eminent geometer, Mydorge was also well versed in optics. He possessed a lively curiosity and was open to all the new ideas of his age. Like Fermat, he belonged to that elite group of seventeenth-century scientists who pursued science as amateurs but nevertheless made contributions of the greatest importance to one or more fields of know-ledge » (Biographical dictionary of mathematicians, T. III, pp. 1770-71).

Kritik der Sammlung von mathematischen Problemen und physikalischen Versuchen des Jesuiten Jean Leurechon. Verfaßt von dem bedeutenden Mathematiker und Freund von Descartes, Claude Mydorge (1585-1670), dessen Werk Quelle für Schwenter's "Mathematische Erquickungsstunden" war. Der dritte Teil beschäftigt sich mit ballistischen Problemen

und Feuerwerkerei; unter den interessanten Holzschnitten dieses Teils auch die Abbildungen von Raketen. Philip verzeichnet von dem öfter aufgelegten Werk von 1627 bis 1743 insgesamt 17 Ausgaben, aus dem Jahr 1639 jedoch nicht unseren Druck, sondern einen Pariser bei Robinet.- Sotheran, Suppl. I, 489. Poggendorff II, 249. Vgl. Cantor II, 768 f. Philip M 210.

Mydorge, Claude; Leurechon, Jean.

Recreations Mathematiques. Avec l'Examen de ses problemes en arithmetique, geometrie, mecanique, cosmographie, optique, catoptrique, &c. Premierement reueu par D. Henrion, depuis par M. Mydorge, et tout nouvellement corrige & augmente. Sixiesme & derniere edition.- A Roven (Rouen): chez Clement Mallasis, dans le Paruis de Notre Dame, 1669. 8° (160 x 100 mm) 7 Bll., (2, blank), 416 pp. with numerous text woodcuts. Contemporary wrinkled vellum, used and little unfresh, else a good copy in original state. GBP 1200.-

Mydorge's edition of Hendrik van Etten resp. Jean Leurechon's book on recreational mathematics.

Claude Mydorge (1585-1647) is a remarkable figure closely linked into the intellectual circle around Mersenne and Descartes. Educated by the Jesuits at La Flèche, the school also attended by Mersenne and Descartes, he received a degree in law, but never practiced law. Coming from a wealthy and influential family he was assigned an administrative post which left him ample time to devote to his interests, being mathematics, optics and astronomical observations. Mydorge is reported to have spend close to 100.000 écus during the 1620's on the fabrication of lenses and burning mirrors (Baillet 1691, II, 326). During the years 1627-1628 he commissioned the grinding of oval, elliptic, parabolic and hyperbolic lenses for his own use and for experiments by Descartes (Baillet 1691. I, 150). In addition to this considerable financial investment, Mydorge devoted much of his time experimenting with these optical devices. However, his findings and insights are only sparsely recorded. The four extra books of his *Prodromi catoptrorum et dioptrorum*, reporting on his experiments with refraction were reportedly lost when William Cavendish brought them to England. Mydorge's son found three little treatises on optics in his estate (*De la lumière, De l'ombre, De la sciottérique*) which were subsequently lost. The extant sources which inform us about his optical experiments are limited to 1) his correspondence with Mersenne and Descartes, 2) some references by Mersenne in his *Quaestiones celeberrimae in genesim* of 1623, and 3) notes on optical experiments in the book *Récréation mathématique*, first published in 1624.

,the revolutionary classical physicist' (Laki)

Ritz, Walter.

Zur Theorie der Serienspektren. Inaugural-Dissertation zur Erlangung der Doktorwürde ... Göttingen vorgelegt von- Leipzig: Johann Ambrosius Barth, 1903. 8°. 76 pp. Backstrip. Spine defective, used, title with pencil notes, overall good. GBP 400.-

Very rare dissertation on Balmer series and combination principle by the „revolutionary classical physicist“ (Laki) who later co-authored a paper with Einstein, but died early.

Walter Ritz (1878-1909) son of a known painter, entered the Zürich Polytechnic ETH in 1897 and after three years left for Göttingen to obtain his Ph.D. working on series spectra under the guidance of the prominent Woldemar Voigt. In company of his friend Paul Ehrenfest, he went next to Leyden to benefit from Lorentz's lectures. Ritz moved then to Bonn and then to Paris to work on infra-red spectra in Aimé Cotton's laboratory. This was to be followed by a series of stays in various European physics centers, intertwined with visits in sanatoria where Ritz was trying to fight his worsening tuberculosis. When he lost hope for recovery, Ritz decided in 1906 to definitely invest his remaining forces into intense research and came back to Germany, first Tübingen and then Göttingen in 1908. There, he had just time to complete the requirements for his *habilitation*, as well as to publish his unorthodox views on electrodynamics of moving bodies. He died in July 1909 leaving a vivid impression among the best world physicists and a definite trace in history.- OCLC: Harvard, Yale, Chicago, Berkeley; Stabi München, Berlin, Leipzig.

Reichenbach, Hans.

Über die physikalischen Konsequenzen der relativistischen Axiomatik. Sonderabdruck (Off-Print) from Zeitschrift für Physik, Vol. 34, part 1.- Berlin: Julius Springer, 1925. 8°. (1, blank) 32-48 pp. Original-Wrapper, spine little defective. GBP 200.-

Rare Off-Print issue of an amendment to his axiomatics of relativity published in 1924. The paper is not completely edited and published in the Collected Papers of the author.

Described as perhaps “the greatest empiricist of the 20th century” (Salmon), the work of Hans Reichenbach (1891–1953) provides one of the main statements of empiricist philosophy in the 20th century. Provoked by the conflict between (neo-) Kantian a priorism and Einstein's relativity of space and time, Reichenbach developed a scientifically inspired philosophy and an uncompromisingly empiricist epistemology. He was literate in the physical science of his time, and acquainted with many of its most eminent practitioners. Criticism and justification of scientific methodology formed the core of almost all his philosophical efforts, which he promoted in a crescendo of books, in the journal *Erkenntnis*, which he founded and edited with Rudolf Carnap, and within a group of philosophers, mathematicians and scientists he led in Berlin.

In 1921 Reichenbach published a very limited précis of the approach to the theory of relativity he ultimately presented in 1924 and 1925. The Axiomatization is either a work very much out of its time, or the times have not changed much.

Reichenbach's statement of purpose might have been written at any time in the last quarter of the 20th century in response to Quine's holism and to Thomas Kuhn's incommensurability thesis.

„The Axiomatization has three difficulties. It contains a mathematical error discovered by John von Neumann in the proof that two frames of reference satisfying his five light postulates and definitions could not have a world line at rest in common. Reichenbach acknowledged the error in 1925, and again in 1928, without proposing any modification to obtain uniqueness. In an unflattering review, Herman Weyl gave a second reason (Weyl, 1924): the light cone structure of Minkowski space time does not suffice to specify a unique set of inertial frames unaccelerated with respect to one another, and hence neither do Reichenbach's axioms. By introducing a singularity in the infinite past, a system of accelerated frames can be used. Weyl took this fact to defeat the very purpose of Reichenbach's attempted reconstruction of the theories: to found them on observable relationships. But perhaps the most important problem is that much of Reichenbach's construction, without the philosophical commentary, had been anticipated by A. A. Robb, first in 1914 (*A Theory of Time and Space*), and then in 1921 (*The Absolute Relations of Time and Space*) for both special and general relativity. Reichenbach does not mention Robb in 1924 or, to our knowledge, later, even though Robb's 1921 book was reissued with a different title in 1936.

Reichenbach's apparent unfamiliarity at the time with the English language literature on relativity is notable and unfortunate. He cites only one essentially English language source, from *The American Journal of Mathematics*, and seems not to know of the work of Jeffreys or Robb. He does appear to have read Eddington's 1921 paper on Weyl's theory. Whatever the cause, the Axiomatization, which is one of Reichenbach's most original technical efforts, would have been a different work, or none at all, had he taken account of those developments.

Transit Venus of 1761

Röhl, Lampert Heinrich.

Von der Sonnen- Parallaxe und ihrer Bestimmung aus dem Durchgange der Venus durch die Sonnenscheibe nebst angehängter Ankündigung mathematischer Vorlesungen.- Greifswald: gedruckt bey Anton Ferdinand Röse, 1761. small Quarto (190 x 156 mm) 32 pp. with one fold. plate with geometrical diagrams.

GBP 800.-

Rare first edition. Calculation of the solar parallax during the Venus transit in 1761, citing Richer, Maraldi, Cassini, Godin, and others. Lampert Hinrich Röhl (1724 - 1790 Greifswald), German mathematician and astronomer, who made his doctorate in 1753 in Greifswald / Northern Germany. With his professor, Andreas Mayer, he began mapping Swedish-Pomerania. In 1762 Röhl became astronomical observer and prof. at Greifswald University, where he stayed until his death. In 1773 to 1775 he built up an observatory at the University and became member of the Swedish Academy of Sciences.- KVK: Greifswald, Halle, Rostock, Kiel; not in COPAC or OCLC (?)

In 1663 Scottish mathematician James Gregory had suggested in his *Optica Promota* that observations of a transit of the planet Mercury, at widely spaced points on the surface of the Earth, could be used to calculate the solar parallax and hence the astronomical unit using triangulation. Aware of this, a young Halley made observations of such a transit in 1676 from Saint Helena, but was disappointed to find that there had been only one other observation of the event and was not satisfied that the resulting calculation of the solar parallax at 45" was accurate. In a paper published in 1691, and a more refined one in 1716, he proposed that more accurate calculations could be made using measurements of a transit of Venus, although the next such event was not due until 1761. Halley died in 1742, but in 1761 numerous expeditions were made to various parts of the world so that precise observations of the transit could be made in order to make the calculations as described by Halley—an early example of international scientific collaboration. In an attempt to observe the first transit of the pair, scientists and explorers from Britain, Austria and France traveled to destinations around the world, including Siberia, Norway, Newfoundland and Madagascar. Most managed to observe at least part of the transit, but successful observations were made in particular by Dixon and Mason at the Cape of Good Hope.

atoms & comets

Rossetti, Donato.

Cometa di Donato Rossetti, Canonico di Livorno, ... di S.A.R.- Torino: per la Vedova Gianelli e Domenico Paolino, (1681) 8° (180 x 120 mm) (4), 94 pp., (2) with a few geometrical woodcuts within the text. (Sig. []2, A8, B-L4) Contemporary calf, spine renewed, little short cut, but clean and fine copy. GBP 4500.-

Exceedingly rare work by Donato Rossetti (1633-1686) on the theory of comets in general. The comet of 1680 was discovered by Gottfried Kirch on 14 November 1680, and became one of the brightest comets of the 17th century – reputedly visible even in daytime – and was noted for its spectacularly long tail. Aside from its brilliance, it is probably most noted for being used by Isaac Newton to test and verify Kepler's laws. This is actually ironic considering Flamsteed was the first to propose that the two bright comets of 1680/1681 were the same comet, one travelling inbound to the Sun and the other outbound, and Newton originally disputed this. Newton later changed his mind, however, and then, with Halley's help, purloined some of Flamsteed's data to indeed verify this was the case without giving Flamsteed credit.

„In this treatise is found little of observation on this comet, but only on account of the ingenious author Dr. Rossetti's own thoughts and theory, concerning the various phaenomena of comets in general. He conceives then that all the comets that have yet appeared, have been de novo generated, and again dispersed in the elementary regions about the earth. And notwithstanding all that has been alleged by other authors to prove them to be in much higher regions, from their little or no parallax, he pretends to show that their arguments are not sufficient either to prove that comets are above or

beyond the moon, or to determine the distances of the planets, by reason that the refractions that the rays from each of them suffer, in passing through the atmosphere, cause so great an irregularity, that tables sufficiently exact cannot be made of the planets themselves, and therefore much less of the comets which have not been yet brought to a theory." (Review in Philosophical Transactions 1681/82. pp. 524)

Donato Rossetti (1633-1686) was a Tuscan natural philosopher, mathematician and canon of Livorno cathedral who arrived in Turin in 1674. He was a member of the Pisan circle (students of Borelli) who fought against the philosophical neutrality of the experimentalist school (Acad. di Cimento, Geminiano Montanari, et al.). Like many early modern scientists, Rossetti also dabbled in both civil and military architecture. He provided a project for San Salvario, Turin; wrote the fortification treatise *Fortificazione a rovescio* (Turin: Per Bartolomeo Zappata, 1678); and consulted on several fortification projects in Piedmont. As a colleague of Guarino Guarini's, Rossetti recorded the perhaps most vivid eye-witness description of the Theatine. After Guarini's death in March 1683, Rossetti took over as *ingegnere* at the Cappella della Sindone, supervising the late stages of construction until his own death three years later. Among his diverse scientific works, Rossetti published a pioneering investigation of snowflakes, *La figura della neve* (Turin, 1681); building on earlier microscopic studies of snowflakes by scientists like Robert Hooke, Rossetti carefully classified and illustrated a broad array of snowflake types. Riccardi II, 395; Robinson 141; KVK: no copy in Germany (only Stabi Berlin, but now lost); not in NEBIS, COPAC: only University College, BL London; OCLC: only Chicago, Cornell, Columbia.

Early reception of Boscovich's atomic theory

Rota, Antonio.

Ragionamento di Antonio Rota, N.V., convittore in Seminario Romano: su la teoria fisico- matematica del P. Ruggiero Giuseppe Boscovich della Compagnia di Gesu'; esposto in una publica radunanza di eruditi signori: con facolta' agl'intervenuti di proporre ad arbitrio le loro difficulta'.- In Roma: Giuseppe e Filippo de' Rossi, 1763. Quarto (217 x 170 mm) 63 pp. with three fold. plates showing geometrical figures. Later Wrappers period style, little short cut, few spottings. GBP 1200.-

Very rare & early discussion and critique of Boscovich's *Magnus Opus*, by an otherwise unknown pupil (?) of the Collegio Romano. The imprimatur is signed by Benedetto Stay, a friend of Boscovich, who wrote a natural philosophy course in stanzas for which Boscovich wrote annotations. Of all Boscovich's achievements, the most famous is his natural philosophy, published in its final form as *Theoria philosophiae naturalis* (1763), where he presents an original theory of natural forces that explains both the structure of matter and the natural phenomena known at that time. His theory is based on Newton's theory of gravitation, and contains an original atomic theory that describes matter as built from point-like particles interacting in pairs (he suggested that Democritus was wrong and atoms were built from such point-like parts). To explain the forces that act between particles forming matter he constructed the famous Boscovich curve. Many features of his atomic theory are close to modern insights. His theory of natural forces strongly influenced many English and Scottish chemists and physicists from the end of the 18th to the beginning of the 20th century (the best known of them are Joseph Priestley, Humphrey Davy, Michael Faraday, James Clerk Maxwell, Lord Kelvin, Joseph John Thomson).- KVK: only Freiburg; Berkeley, Cambridge; not in Zürich.

a very rare early manuscript copy

[Scheiner, Christoph].

Tres Epistolae de maculis solaribus scriptae ad Marcum Velserum ... Cum observationum iconismis. Manuscript on paper in brown ink [? Germany, ca. 1612]. Quarto ff. [12, the initial and final two leaves blank], with one full-page diagram; very well preserved in 18th-century patterned wrappers. GBP 7000.-

A very rare, probably strictly contemporary copy of one of Scheiner's major works in the sunspot controversy with Galileo. Already Galileo's *Nuncius* of 1610 aroused such great interest throughout Europe that more copies than had been printed were needed for the market. They had to be copied by hand as here.

'Early in 1612, Galileo received from Marc Welser, a banker in Augsburg, a little printed tract entitled *Tres epistolae de maculis solaribus* (Three letters about Sunspots) ..., written under the pseudonym Apelles. Up to this point no one had disputed any of Galileo's claims to priority in discoveries made with the telescope. Doubly sensitive about his reputation, now that he was in the employ of a powerful patron, Galileo lost little time in countering this challenge to his priority in all matters telescopic. What followed was an exchange of letters in which Galileo laid the foundation for the scientific study of sunspots and argued convincingly that they were phenomena on the Sun or in its atmosphere. Apelles, quickly identified as Christoph Scheiner, professor of mathematics at the Jesuit university of Ingolstadt, argued unconvincingly that they were caused by a swarm of satellites of the Sun located between the Sun and the Earth. Galileo's letters, together with (in some copies) reprints of Scheiner's letters, were published by the *Accademia dei Lincei*, in 1613, under the title *History and Demonstrations concerning Sunspots and their Properties*, with a long introduction in which Galileo's priority of discovery was affirmed and Scheiner's claim ridiculed. In his last letter, Galileo cautiously stated that his telescopic discoveries "harmonised admirably with the great Copernican system," and suggested that this system was now in the ascendancy' (Albert van Helden in *Planetary astronomy from the Renaissance to the rise of Astrophysics*, Part A, p. 93).

With the original *Epistolae* having appeared in print in 1612, the present, contemporary manuscript attests to the work's interest at a time when the invention of printed had not yet entirely eradicated the work of the copyist, especially concerning works of significance that were not necessarily widely available.

Whereas the final leaf of the printed version refers to a conjunction of Venus and Sun on 'Decembr. 11', our copyist has here recorded this as 'Dezembr. 11', hinting at a Germanic origin for the manuscript.

The scientific study of sunspots in the West began after the telescope had been brought into astronomy in 1609. Although there is still some controversy about when and by whom sunspots were first observed through the telescope, we can say that Galileo and Thomas Harriot were the first, around the end of 1610; that Johannes & David Fabricius and Christoph Scheiner first observed them in March 1611, and that Johannes Fabricius was the first to publish on them. His book, *De Maculis in Sole Observatis* ("On the Spots Observed in the Sun") appeared in the autumn of 1611, but it remained unknown to the other observers for some time. In the meantime, Galileo had shown sunspots to a number of people in Rome during his triumphant visit there in the spring of 1611. But although some of his correspondents began making regular observations a few months later, Galileo himself did not undertake a study of sunspots until April 1612. Scheiner began his serious study of spots in October 1611 and his first tract on the subject, *Tres Epistolae de Maculis Solaribus Scriptae ad Marcum Welsorum* ("Three Letters on Solar Spots written to Marcus Welsor") appeared in January 1612 under the pseudonym "Apelles latens post tabulam," or "Apelles waiting behind the painting."

Scheiner, a Jesuit mathematician at the university of Ingolstadt (near Augsburg), wished to preserve the perfection of the Sun and the heavens and therefore argued that sunspots were satellites of the Sun. They appeared as black spots when they passed in front of the Sun but were invisible at other points in their orbits. Their orbits had to be very close to the Sun for their shapes were foreshortened as they approached its edge. Scheiner observed sunspots through a telescope equipped with colored glasses.

In the winter of 1611-12, when Galileo received a copy of Scheiner's tract from Welsor along with a request for his comments, he was ill, and what little energy he had he was devoting to the publication of his *Discourse on Bodies in Water*. When, however, that book was at the printer's, in April 1612, he turned his attention to sunspots with the help of his protégé Benedetto Castelli, who was in Florence at the time. It was Castelli who developed the method of projecting the Sun's image through the telescope, a technique that made it possible to study the Sun in detail even when it was high in the sky. Galileo wrote his first letter to Welsor on sunspots, in which he argued that spots were, in fact, on the surface of the Sun or in its atmosphere, and although he could not say for certain what they were, they appeared to him most like clouds.

probability in the dark ages (between Pascal and Bernoulli)

Strode, Thomas.

Short Treatise of the Combinations, Elections, Permutations & Composition of Quantities; illustrated by several examples with a new speculation of the differences of the power of numbers.- London : Printed by W. Godbid for Enoch Wyer ..., 1678. Quarto. (200 mm) [4], 55 pp., [1] **(bound with)**

Strode, Thomas.

A new and easie method to the art of dyalling containing, I, all horizontal dyals, all upright dyals, reflecting dyals, dyals without centres, nocturnal dyals, upright declining dyals, without knowing the declination of the plane, II, the most natural and easie way of describing the curve-lines of the suns declination of any plane.- London: Printed for H.C. for J. Taylor ... and T. Newborough, 1688. [4], 66 pp., [2] with tables. Contemporary calf, spine defective, inside some browning, little unfresh. The copy of the Macclesfield Library. GBP 2500.-

His only works bound together.

The first mathematical work on probability in England between Pascal and Bernoulli; surpassed shortly after by John Wallis work of 1685. It shows perfectly the picture of the level of understanding of probability at the time.

The first third of the treatise is concerned with counting. Strode discussed combinations, showing how the arithmetic triangle (Pascal) can be used to determine their number. He showed how to compute the entries by multiplication without constructing the table.

The significance of the mathematical results on dice of Pascal, Fermat and Huygens in the 1650's took some time to become clear. Historians of mathematics see a „dark ages of (mathematical) probability“ from the time of those initial discoveries till the publication of major treatises after 1700, particularly Bernoulli's *Ars coniectandi*.

In that period, combinatorial results on dice were largely taken to be curiosities of recreational mathematics, of little significance for understanding uncertainty in general. Newton answered a dice problem posed by Samuel Pepys - not entirely correctly.

The only book to be published was Thomas Strode's 1678 Short treatise of the Combinations..., which improved in some respects on Pascal's combinatorial results.

Thomas Strode (ca. 1626 - ca. 1690/99) was the son of a Somerset gentleman, matriculated at University College Oxford in 1642 at the age sixteen and studied under the roman catholic scholar Abraham Woodhead, and in 1645 Woodhead took Strode and Thomas Culpeper on an extended tour of France. After four terms abroad they returned to England, where Strode settled at Maperston and followed „his natural Geny to Mathematics“. Strode was admitted to the Inner Temple as a barrister in 1657 and died sometime after 1690.

Strode's treatise was not unknown to his contemporaries; it is cited by John Harris in a 1710 Encyclopedia article on combinations. see: Stigler. Statistics on the table: The History of Statistical Concepts and Methods. (1999) 242 ff.

early instrument book

Taisnier, Johannes (Jean)

De usu sphaerae materialis, hactenus ab omnibus philosophis, & mathematicis magno studiosorum incommodo neglecto nunc vero in lucem tradito.- Coloniae (Cologne): excudebat Joannes Bathenius, 1559. Quarto (193 x 145 mm) (4) Bll., 46 Bll. (Sign.: 1-4, B-B4, C-N3; missing the last blank leaf N4) with three text woodcuts, and a large woodcut illustration of an armillary sphere on title. Mid- to late 19th cent. brown half calf over marbled boards, spine with raised bands, red morocco label, gilt lettering. GBP 4000.-

Certainly the author's rarest book in first edition. A description of the author's ingenious armillary sphere which he considers as important as those constructed by Apian, Sebastian Münster, Rojas Sarmiento, and Gemma Frisius. The first part is devoted to astronomy and mathematics, the last part to the use of the sphere as a clock and a calculator.

Jean Taisner (Taisnier) (Johannes Taisnerius; 1508 – 1562) was a mathematician, philosopher, musician, astrologer and author on several books among which are: „Astrologiae“ (1559), „De usu annuli sphaerici“ (1550), „Opusculum ... de natura magnetis“ (1562) and the controversial „Opus mathematicum“ (1562), which is a compilation in eight books on chiromancy, astrology, physiognomy and largely indebted to Indagine and Bartholomeo della Rocca Or Cocles.

A member of the court of Emperor Karl V. between 1530 and 1550, he travelled extensively throughout Europe, particularly in Italy where he taught mathematics in several Academies and in Northern Africa (Tunis). He is known to have conducted several experiments in science and technology. He retired to Germany after the death of Karl V. where he became choirmaster to the archbishop of Cologne. His work entitled Opusculum perpetua memoria dignissimum, de natura magnetis et ejus effectibus, Item de motu continuo is considered a piece of plagiarism, as Taisner presents, as though his own, the Epistola de magnete of Peter of Maricourt and a treatise on the fall of bodies by Gianbattista Benedetti. Taisner describes a magnetic-based perpetual motion machine consisting of a ramp, a magnet stone and an iron ball. Peter of Maricourt had earlier noted such a system which made use of the strength of the magnet stone. This runs into trouble because the path integral of force on a closed loop in a magnetic field is zero.- VD16 T 75; Graesse VI, 22; Houzeau & Lancaster 2548; Zinner 2232; Tomash Coll. not in Macclesfield or Honeyman Collection. KVK: München, Göttingen, Halle, Köln, Wien; COPAC: only NL Scotland; OCLC: Columbia, Harvard, Michigan, Indiana; Yale Cushing.

the first to visualize shock waves

Toepler, August.

Beobachtungen nach einer neuen optischen Methode. Ein Beitrag zur Experimental- Physik. Mit 4 lithographirten Tafeln.- Bonn: Max Cohen & Sohn 1864. Quarto (260 x 185 mm) (4), 50 pp., (2) with 4 folding lith. plates. Original orange printed wrappers. Wrappers a little faded & worn. Else fine uncut copy in original state of appearance. GBP 1400.-

Rare first edition of this classical science paper, the invention of Schlieren photography, a visual process that is used to photograph the flow of fluids: exemplified in Mach's famous photographs of supersonic projectile (bullets).

The first ideas we find by the English natural philosopher Robert Hooke, who discovered the presence of inhomogeneities in optically transparent materials. Robert Hooke in 1665 found that it is possible to view normally invisible gradients in the refractive index of materials as ‚schlieren‘, a German word for streaks. It was used by the French physicist Leon Foucault (1858) to test the optical surface of mirrors for use in telescopes.

However, **August Toepler** (1836-1912), a lecturer in physics and chemistry at the Royal Agricultural College in Bonn-Poppelsdorf (Germany) devised a modification of the schlieren method, which proved most useful in fluid dynamics, esp. it is widely used in aeronautical engineering to photograph the flow of air around objects.

From a historical point of view it is remarkable that one of the first applications that Toepler used his method for was the visualization of a propagating spark wave - a weak shock wave. Toepler's schlieren method was also used in the famous ballistic experiments performed to visualize the head wave generated by a supersonic projectile (Mach/ Salcher 1886) and in the study of high-pressure free air jets (Salcher/ Whitehead 1889).

„Toepler developed the protocols for visualizing schlieren in a laboratory setting in the mid 19th cent. while serving as a lecturer of chemistry and physics. He initially applied his techniques to the visualization of heat and flow phenomena and later turned to imaging electric sparks, which allowed him to study the propagation, reflection and refraction of shock waves. In 1870 Toepler, together with Ludwig Boltzmann, applied the method of schlieren photography to visualize very weak sound waves at the threshold of hearing. In 1864, he applied Foucault's knife-edge test for telescope mirrors to the analysis of fluid flow and the shock wave. He named this new method schlieren photography, for which he is justifiably famous. The Schlieren technique was originally developed for testing lenses, but A. Toepler was the first scientist to develop the technique for observation of liquid or gaseous flow.“ (Krehl, P.; Engemann, S. (1995). "August Toepler—The First Who Visualized Shock Waves". *Shock Waves* 5 (1–2): 1–18.

The architecture & culture of Death

(Trade catalogoue)

Designs for tablets, tombs, headstones etc. (cover title). (England or English speaking countries) dated 1855. Quarto (290 x 230 mm). approx. 75, partly colored, pen and wash drawings on 58 pages. Each with plain overlay to protect images. Contemporary black half calf, gilt edges, gilt spine in compartments, mounted printed cover title, little used, else very fine. Inner front cover with later (?) name in pencil: R. Goulburn.

GBP 2800.-

Very fine trade catalogue of a stonemasonry with manuscript hand drawings of tablets, tomb-stones, head-stones, burial cases, coffins, sarcophagus et al. Drawings in plain lines with surrounded black background. The drawings show samples to fill with personal details of the death person.

Sehr sorgfältig ausgeführte Zeichnungen u. Skizzen von Grabsteinen, Steinsärgen, Verzierungen u.ä., meist mit schwarzer Umrandung u. wenige mit grüner Farbe.

(Trade catalogue; Piano mechanics)

H. F. Flemming. Pianoforte- Mechaniken-Fabrik.- Leutzsch- Leipzig, 1896. square Quarto (235 x 300 mm) 4 Bll., 16 chromolith. plates. Green embossed cloth, gilt-printed cover title, fine condition. GBP 1000.-

Very rare, fine printed chromolithographed late 19th. century trade catalogue of a german company who constructed piano „hammer“ action for piano's and grand piano's produced by Blüthner and Förster, similar to other firms like Schwander (Bechstein) and Louis Renner (Steinway). The plates show the company building and the different actions to sell.

first big picture of ocean circulation

Vossius, Isaac

Isaaci Vossi(i) De motu Marium et Ventorum. Liber.- Hagae-Comitis (Den Haag): Vlacq, 1663. Quarto. (6) Bll. 123 pp. with woodcuts within text. Later binding period style. Title restored at edges, else fine. GBP 1400.-

First edition, being the seminal account to understand tides, winds & ocean currents (gulf stream) during this period. To Vossius the circulation of the oceans was a single continuous system in which westward flows are deflected by the land masses, resulting in eastward return motions rejoining the westward currents.

During his stay in England after 1670, Vossius published an english version of his book on winds, tides and currents due to discussions in the Royal Society with Edmond Halley. In this treatise Vossius refused to admit any motion of the seas and winds „which I could not if it were necessary confirm by infinite testimonies and experiments of sea men.“

Vossius suggested that it is dilation of the ocean and atmosphere by the sun's heat that produces the observed pattern of winds, currents and tides. Vossius was eager to find an explanation that depended on known laws of nature, rather than attraction by heavenly bodies, a solution too akin to the operation of occult powers. It was not until Isaac Newton published his laws of motion that gravitational attraction became respectable and scientists were able to accept that tides were due to the gravitational pull of the moon. This left ocean currents as a distinct phenomenon, needing a separate theory. Isaac Vossius (1618-1689) came from a family which was held in high esteem by the academic world, mainly due to the publications of his father Gerardus Johannes Vossius but also because of the historical and philological works of his brothers. Isaac being an scholar, book & manuscript collector and librarian. In 1648 he went after travels all over Europe to Sweden to take up a position as court librarian (and lover of Queen Christina). After his brilliant (and controversial) career of scholarship in Sweden, Vossius went to England in 1670, received a degree in civil law and became residentiary canon at Windsor.

In the 1660's Vossius was much interested in natural sciences like Huygens. Both scholars moved in the same intellectual circles in Paris, both attending the soirees at the Academie of Melchisedech Thevenot (1620-92), one of the informal gatherings of learned men preceding the official establishment of the Academie Royale des Sciences in 1666. Both were erected Fellows of the Royal Society and Oldenburg held both in high esteem. Vossius used Huygens exceptionally good pendulum clock for observing eclipses. Both were interested in topics like nautical problems, optics and astronomical observations. But then Vossius' interest in natural philosophy sunk into oblivion.

„Isaac Vos published in 1663 A treatise concerning motion of the sea and winds, which became the seminal work on the subject during this period. In the book, the dutch librarian Vos presented the first „big picture“ of ocean circulation, explicitly describing the nature of the oceanic gyres. His model begins with westward flow in the tropics, which, he argues, if not for the obstruction provided by land, would flow continuously around the globe (primum mobile ?). Like Varen(ius), Vos assumed that all other currents resulted from a combination of tropical flow and landmasses, which comprised a closed circulation within the ocean basins. His description of the North Atlantic gyre is uncanny in its accuracy, considering it was written more than three hundred years ago. ... Vos detailed description of the closed oceanic gyres did not receive widespread acceptance among scholars, particularly those with a strong religious orientation.“ (Ulanski. The Gulf Stream. 43/44). Lit.: Issac Vossius (1618-1689) between science and scholarship. Edited by Eric Jorink and Dirk van Miert. 2012.

manuscript lecture notes

Weierstrass, Karl.

Theorie der Variationsrechnung. Vorlesung gehalten im Sommersemester 1879. German manuscript in black ink on contemporary paper. With fine geometrical diagrams within text. Deutsche Handschrift auf Papier. (Berlin, University around 1880). Quarto (270 x 225 mm). 376 pp. Minor foxing in places. An attractive manuscript, bound in contemporary half-cloth with gilt-lettered title on spine. From the library of Sydney Ross, a leading chemist and bibliophile, with his bookplate. GBP 3500.-

A meticulous transcript of Weierstrass' lecture on the Calculus of Variations, held „privatim“ during summer 1879. Weierstrass made significant advancements in the field of calculus of variations. Using the apparatus of analysis that he helped to develop, Weierstrass was able to give a complete reformulation of the theory which paved the way for the

modern study of the calculus of variations. Among the several significant axioms, Weierstrass established the necessary condition for the existence of strong extrema of variational problems. He also helped devise the Weierstrass-Erdmann condition which gives sufficient conditions for an extremal to have a corner along a given extrema, and allows one to find a minimizing curve for a given integral.

Sehr sorgfältige Ausarbeitung des von Karl Weierstrass im Sommersemester 1879 gehaltenen Kollegs (4 Wochenstunden), an dem u.a. auch der junge Edmund Husserl teilnahm.

"Weierstrass was the most important nineteenth-century German mathematician after Gauss and Riemann... Over the years Weierstrass developed a great lecture cycle, 'Introduction to the Theory of Analytic Functions'; 'Theory of Elliptic Functions' [etc.] and 'Calculus of Variations'. Within this cycle Weierstrass erected the entire structure of his mathematics, using as building blocks only that which he himself had proven" (DSB XIV, 219 ff.).

Rudolf Rothe nennt im Vorwort zu den "Vorlesungen" zwei voneinander unabhängige Ausarbeitungen des Kollegs vom Sommersemester 1879, die ihm als Grundlage dienten. **Unsere Handschrift stellt offenbar eine dritte, bisher nicht ausgewertete Fassung dar.**- vgl. Poggendorff VI, 2831 (Vorlesungen über Variationsrechnung, bearb. v. R. Rothe, Leipzig 1927) u. Weierstrass, Math. Werke III, 359 (Verzeichnis der Vorlesungen): "Sommer 1879. Variationsrechnung, privatim". Innendeckel mit dem Exlibris des amerikanischen Chemikers, Bibliophilen und Präsidenten der James Clerk Maxwell Foundation, Sydney Ross (1915-2013).

first experimental proof of sexual activity and pollination in plants (PMM 165)

Valentini, Michael Bernhard.

Michaelis Bernhardi Valentini, Prof. Medici & p.t. Acad. Gissenae Rectoris, Polychresta Exotica In Curandis Affectibus Contumacissimis Probatissima, Seil. Fabae S. Ignatii Ipecacuanha Pedra Del Porco China Chinae, Clyster Tabacinus, Panacea Gallorum Ut Et Nova Herniarum Cura: Accedunt Seorsim Olim Editae, Nunc Autem, Ad desiderium plurimorum, coniunctim denuo prodeuntes Dissertationes Epistolicae Varii Argumenti. Cum Fig. Aeneis.- Francofurti Ad Moenum (Frankfurt am Main): Jungius, 1701. Quarto. [4] Bl., 293 pp., [10] Bl. with title printed in red & black, with 6 engraved plates. Paper-covered boards, some browning and foxing to the text (as always), Ex Libris in inner front cover. GBP 3000.-

First edition, second printing (with cancelled title-page). A collection of essays on exotic or „wonder“ drugs (Tobacco, Moxa of the traditional chinese medicine, et al.) by Michael Bernhard Valentini (1657-1714) with sections on treatments for hernias, dysentery and other ailments. The title Polychresta Exotica reads: exotic medicines that cures many diseases. With the important re-printing of the full text of Rudolph Jakob Camerarius' famous letter: De sextu plantarum. (PMM 165) Originally published in the form of a letter to Valentini in 1694 it is reprinted here with Valentini's *Responsoria ad Dn. D. Rudolphi Jacobi Camerarii epistolam de sexu plantarum*. Morton notes that Camerarius's letter "settled in principle one of the age-long central problems of botany and formed the starting point of many new developments".

Only a few copies of the original pamphlet have survived today. It is here reprinted (pp. 225-272) in an appendix and also a copy of Valentini's book was exhibited in Printing and the Mind of Men.

Beside Camerarius letter there are important essays on the Moxa (Moxibustion), a traditional chinese medicine therapy (with the famous image / plate reprinted later in Valentini's Museum) and on the tobacco smoke clyster pipe (See Arents Tobacco 572).

Lit.: Ruben Verwaal. Hippocrates meets the Yellow Emporor: on the reception of chinese and japanese medicine in early modern Europe. (Utrecht 2009)

Provenance: Thomas Lauth (1758-1826), prof. of anatomy at Strassbourg Univ.

PMM 165 (citing the 1694 edition, but the exhibition showed actually a copy of this work); Dibner, Heralds of Science 25; Norman 393; Krivatsy 12105; Morton, Botanical 214-20; Brüning, alchemistische Lit. II, 123; VD17 12:192658Y (Frankfurt am Main: Zunner, 1700)

one of the sources for Beringer's divine stones

Velschius (Welsch), Georg Hieronymus.

Hecatostaeae. II. Observationum Physico-Medicarum ad illustrem Societatem Natura Curiosorum in Germania. 2 parts in 1.- Augustae Vindelicorum (Augsburg): impensis Theophil Goebel, typis Joannis Schönigk, 1675. Quarto (198 x 155 mm) 5 Bll., 130 pp., 3 Bll.; 69 pp., (5), 11 Bll. with etched frontispiece title-page, woodcut initials, and 12 etched plates.

(bound with)

Velschius (Welsch), Georg Hieronymus. Dissertatio medico philosophica prior de Aegagropilis Cui Secunda hac editione emendatiori, auctarii vice altera accedit. Dissertatio Medico Philosophica. De Aegagropilis quae nunc primum ptiori auctarij vice accedit. 2 parts in 1.- Augustae Vindelicorum (Augsburg): Wehe, Kopmaier, 1668. 3 Bl., 71 pp., (9) with etched frontispiece title and 3 plates; (2), 101 pp., (23) with 4 plates. Contemporary vellum, handwritten title on spine, some browning and foxing, else a fine copy. GBP 2500.-

Rare first edition, one of two variant printing. A rare work on curious subjects and comparative anatomy with observations in medicine, materia medica with a lot of natural history, mineralogy, and other curious sciences. The plates show fossils, shells, stones, minerals, but also scorpions, grasshoppers, plants, et al.

This work was one of the sources of Johann Adam Beringer, to show that his carved stones (Beringer's Lying Stones) are actually real and divine. Beringer's Lying Stones are pieces of limestone carved into the shape of various animals, discovered in 1725 by Professor Beringer, Dean of the Faculty of Medicine at the University of Würzburg. Beringer believed them to be fossils, and because some of them also bore the name of God in Hebrew, suggested that they might be of divine origin. In fact, he was the victim of a hoax, perpetrated on him by his colleagues ex-Jesuit J. Ignatz Roderick, Professor of Geography and Mathematics, and Johann Georg von Eckhart, privy counselor and university librarian. Upon discovering the truth, Beringer took his hoaxers to court, and the scandal that followed left all three of them in disgrace. *Georg Hieronymus Welsch (1624-1677), medicine in Augsburg and member of the Academia Curiosorum*, had studied in Tübingen, Strassbourg and Padua, where he lived for some years. He spoke many languages and is today known for his translation of Avicenna and Sheikh Abu'l Wafa's calendar. He hold a large correspondence with many contemporary scientists including Athanasius Kircher & Vossius.- VD17 39:151672Y; Krivatsy 12929; Cole Libr. I, 845. ADB 41, 681. II:) Second edition for the first part, first and only edition for the second part.

"A very rare treatise on the famous Bezoar stone, which since very ancient times was supposed to have all kinds of curative properties. It was treated as a mineral, though strictly speaking it was a substance found in the stomach of certain goats and chamois, which was widely used in alchemical preparations" (Duveen). It was also used as antidotes of poison, including snake-bite. Bezoar occurs already amongst the remedies of Susruta (6th century B.C.).- Provenance: Melvin E. Jahn, fine library of geology & mineralogy, sold in 2004. VD17 12:645600N and VD17 12:185851R; Krivatsy 12926; Lindner 11.2204.01 und 2205.01; Duveen 616.

Nemorarius on stereographic projection

Ziegler, Jakob (ed.)

Sphaerae Atque Astrorum coelestium ratio, natura, & motus: ad totius mundi fabricationis cognitionē fundamenta. (Iacobus Zieglerus Landauus de solidae sphaerae constructione. Proclus Diadochus Lycius de sphaera, siue globo coelesti, scholijs eiusdē Ziegleri explicatus. De canonica per sphaeram operatione. Hemicyclium Berosi. Aratus Solensis de siderum natura & motu, simul in eundem cum commentarijs Theonis Alexandrini ... Planisphaerium C.Ptolemaei, & Iordani.) Basel: Walder, 1536. Quarto (220 x 155 mm) 10 Bll., 294 pp., (2, blank) With woodcut border (after Holbein) and numerous woodcuts in the text. Foxing and browning, old ownership inscription to title, 2 printed headlines blackened with ink, contemporary annotations in few places. Later binding in vellum from old material, rubbed and browned, some traces of worming.

GBP 4200.-

First edition of a compilation of seven works on the sphaera edited by Jacob Ziegler (ca. 1470/71-1549), an itinerant scholar in astronomy, geography and cartography including works by himself, and antique authors like Proclus, Aratos, Ptolemy and Jordanus Nemoranus' De planisphaerii figuratione in first edition (see DSB VII, 178). Ziegler studied in Ingolstadt and lived a wandering life in Europe. He spent some time at the court of Pope Leo X. before he converted to Protestantism, and subsequently his works were placed on the Index Librorum Prohibitorum, which explain the darkened words on the title-page of this copy. Jordanus de Nemore's planisphaerium is a treatise on mathematical astronomy, which contains **the first general demonstration of the fundamental property of geographic projection** i.e. that circles are projected as circles (Ptolemy had proved it only in special cases). There was a later edition in 1558 by Commandino.

Zusammenstellung von sieben zeitgenössischen (Jacob Ziegler) und antiken Schriften über die Himmelskugel und die Gestirne in griechischer und lateinischer Sprache teils mit Zieglers und schon antiken Kommentaren. Ziegler, der ungute Erfahrungen mit dem Drucker Heinrich Petri beim Druck des Plinius von 1531 gemacht hatte, wechselt nun den Verleger, um seine Schrift über die Konstruktion der Sphaera herauszugeben. In der kurzen Widmung begründet Ziegler die Zusammenstellung der hier abgedruckten Schriften: die im Kommentar zur Sphaera (Pliniuskommentar 1531) versprochene Beschreibung der Sphaera solida des Archimedes, von antiken Autoren die Sphaera des Proklus (mit der Übersetzung v. Thomas Linacre) mit Scholien und als Abschluss einige Kapitel über die kanonische Berechnung der Sphaera (pp. 61-84), wozu er auch sein Hemicyclium Berosi rechnet. Da Ziegler in der Folge, um die Bedeutung des Stoffes zu belegen, auch auf das Werk des Aratos (Phaenomena) hinweist, hat Walder sich veranlasst gesehen, Aratos mit den Scholien Theons und einen weiteren inhaltsverwandten Text in den Druck aufzunehmen, die lateinische Übersetzung des Planisphaeriums des Ptolemaeus aus dem **Arabischen** (Rudolphus Brughensis) und eine Schrift gleichen Themas von Jordanus Nemorarius aus dem 13. Jahdt. im Erstdruck, doch nicht nach der heute in Basel sich befindenden Handschrift.- VD 16, S 8303 (= VD16 A 3189, VD16 B 1651, VD16 J 938, VD16 P 4966, VD16 P 5247, VD16 Z 440, VD16 Z 447), Adams S 1577; Houzeau-L. 759 u. 2440; Zinner 1653; Poggendorff II, 1408 (unter Ziegler); Hieronymus, Griech. Geist 287 u. Buchill. S. 605 (Abb.).

Antiquariat Michael Kuehn

Erdmannstrasse 11

10827 Berlin

Germany

mail: kuehn.rarebooks@arcor.de

tel.: +49 30 86396934

mobile: +49 170 7744060