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Fair List

fossil marine animals

Agassiz, Louis.

Description des échinodermes fossiles de la Suisse par L. Agassiz. Première Partie: Spatangoides et Clypeastroides (et) Seconde Partie: Cidarides (= all publ.). 2 Vols.- Neuchâtel: Imprimerie de Petitpierre, 1839 - 1840. sm.folio (mm) VIII, 101 pp, (1, blank) with lithogr. plates 1-13; (2), IV, 107 pp., (1, Errata) with lithogr. plates Nr. 13bis-23. Contemporary blue printed wrappers, with **handwritten dedication by Agassiz** to Dr. Mayor: „M. le Dr. Mayor de la part de son ... L. Agassiz“. Title stamped by Dr. Mayor. Spine unprofessional repaired, wrappers with little defaults, little spotted, else uncut copy with traces of use. Plate 21 on two sheets, making it 25 plates altogether. GBP 1.800.-

First edition, rare separate printing with own pagination & title page. **A Dedication copy.** Extrait du Vol. III (et IV.) des nouveaux Mémoires de la Société helvétique des Sciences naturelles and as the wrapper state not part of his book on échinodermes: „Ce cahier ne fait point partie de mes Monographies d' échinodermes. C'est un mémoire indépendant ...“

After fossil fish, invertebrate animals engaged Agassiz' attention. In 1837 he issued the "Prodrome" of a monograph on the recent and fossil Echinodermata, the first part of which appeared in 1838; in 1839-40 he published two quarto volumes on the fossil Echinoderms of Switzerland (here); and in 1840-45 he issued his *Études critiques sur les mollusques fossiles* ("Critical Studies on Fossil Mollusks"). Jean Louis Rodolphe Agassiz (1807-1873) was a Swiss-American biologist and geologist recognized as an innovative and prodigious scholar of Earth's Natural history, with later American writings that have received criticism for their endorsement of scientific racism. Agassiz grew up in Switzerland, and studied and received Doctor of Philosophy and medical degrees at Erlangen and Munich, respectively. After further studies with Cuvier and Humboldt in Paris, Agassiz proceeded with research leading to his appointment as professor of natural history at University of Neuchâtel, where this study was written. After visiting Harvard University mid-career, he emigrated to the U.S. in 1847 and became a professor of zoology and geology at Harvard, and to head its Lawrence Scientific School and found its Museum of Comparative Zoology. Agassiz made extensive contributions to ichthyological classification (including of extinct species) and to the study of geological history (including to the founding of glaciology), and has become broadly known through study of his thorough regimen of observational data gathering and analysis. He made vast institutional and scientific contributions to zoology, geology, and related areas—including many multi-volume research series running to thousands of pages. Nevertheless, his reputation has suffered somewhat in hindsight by the evidence of his resistance to Darwinian evolution, and his later writings on human polygenism (wikipedia).

Paper Fish Museum

Agassiz, Jean Louis Rodolphe.

Recherches sur les poissons fossiles.- Neuchâtel: Petitpierre for the author, 1833 - 1843 - [1844]. 8 volu-mes. Text volumes (330 x 240 mm) with half-titles, errata leaves in vols II and III, vol. I with one plate, vol. V with supplement sheets of „Feuilleton Additionel aux Recherches sur Les Poissons Fossils“, subscriber's list and note to subscribers at

end. The plate volumes in oblong 2° (287 x 435 mm) with half-titles and index, 397 lithographic plates by Diekmann, Jäger et al. after C. Agassiz, J. Dinkel, H. Nicolet, C. Vogt et al., most hand-colored or tinted and some folding. Variable, generally light spotting and browning, some short repaired tears to text leaves and plates; plate vols. without lithographic titles, only sometimes present. Later half calf period style. GBP 12.000.-

First Edition of Agassiz' classic work on fossil fish, copying all possible specimens from private collections and museums all over the Europe.

Recherches ... 'contained precise descriptions of more than 1,700 ancient species, together with illustrated re-constructions based on principles of comparative anatomy. This pioneer effort was a model of exactitude, providing future students with primary data relating to zoology, geology, and paleontology' (DSBI, 73).

„Accompanied by a capable draughtsman, Agassiz visited all the larger museums and private collections in Europe, examined the fossil fishes preserved in them, and published in five volumes a magnificently illustrated monograph as the fruits of his ten years labour. Starting from the standpoint of his anatomical studies, in which he was fortunate in having the assistance of C. Vogt, Agassiz was enabled to elucidate many obscure points in fossil fishes. Agassiz also introduced emendations in the classification of recent fishes, and added many new data regarding the evolution and range in time of the various families. (Zittel)

Jean Louis Rudolphe Agassiz studied medicine at the Universities of Zurich, Heidelberg and Munich, during which he developed an interest in zoology, particularly the study of European freshwater fishes. In 1828 he published his first paper on the subject - a description of a new species of the genus *Cyprinus* (carp) - but the following year saw the issue of 'Selecta genera et species piscium quos in itinere per Brasiliam ...' which contained descriptions of the species of fish found by the German naturalists Johann Baptist von Spix and Carl Friedrich Philipp von Martius during their expedition to Brazil between 1817 - 1820. On Spix's death in 1826, Martius had commissioned Agassiz to complete the work. However, it would be during Agassiz's research for his next planned work, a natural history of the freshwater fishes of Europe, when he began to compare the fossil forms found in Oeningen and Glarus, in Switzerland, and at Solnhofen, in Bavaria, that he would develop his lifetime's fascination with fossil ichthyology.

Louis Agassiz arrived in Britain during the autumn of 1834, having already received a welcome prize fund from the Geological Society to support him in his fossil fish researches, which he had been working on for two years (notably with the blessing of Georges Cuvier who had given Agassiz his research on the subject). George Bellas Greenough, the President of the Society, eager to help with such an important palaeontological and geological work, issued a call to the Society's Fellows to send examples of fossil fish to aid Agassiz and a room was set aside for the specimens to be copied. Agassiz's principal artist, the Austrian born Joseph Dinkel (c.1806-1891), spent his first few years in London splitting his time between the Society and the British Museum. Slavish copying was not the aim of the work. Instead the intention was to show the structure of fossil fish and, as Agassiz's classification system was primarily based on dermal features and appendages, the artist would emphasize the scales and fins in his drawings.

For the next decade, Agassiz continued to visit the palaeontological collections of Britain and Europe seeking out new specimens for his work. Those which were not sent to the holding centre of the Society or his publishing base at Neuchatel, Switzerland, were drawn in situ by one of Agassiz's commissioned artists. The cost of the research involved in such a major work, combined with the expensive color printing techniques saw Agassiz accepting help from various friends and scientific figures of the time. Wealthy collectors such as Lord William Willoughby Cole (1807 - 1886), later the Earl of Enniskillen, and Sir Philip de Malpas Egerton (1806-1881) defrayed some of Agassiz's costs by having specimens from their fossil cabinets drawn by Dinkel at their own expense - the drawings becoming their property once Agassiz had had them copied onto lithographic stones.

Despite this, Agassiz still had to sell his own natural history collection to the local authorities at Neuchatel to meet the **high production costs**, and with nothing left apart from the original artwork, which was of no further use once converted to lithographic images, these were next marked to be sold. Egerton originally approached the British Museum (Natural History) on Agassiz's behalf, but apparently meeting with little interest instead persuaded his brother, Lord Francis Egerton, later 1st Earl of Ellesmere, to purchase most of the drawings and paintings for £500 in 1843. Many of the excellent plates utilize colors (silver, bronze, gold) to convey the appearance of the metallic sheen of scales that has been preserved in the fossil remains. The majority of the drawings were undertaken by Agassiz's principal artist Joseph Dinkel, however there are a large number of drawings by others such as Charles Weber (active 1831 - 1835) and his first wife Cécilie Agassiz née Braun (active 1831-1835).- BM(NH) I, p.17; Junk, Rara 77-78; Nissen ZBI 44 (the present copy has one more plate in vol. II and 2 more plates in vol. V); Woodward and Sherborn, A Catalogue of British Fossil Vertebrata, pp. XXV-XXIX.

Agassiz, Jean Louis Rodolphe.

Monographie des poissons fossiles du vieux grès rouge ou système dévinien (old red sandstone) des Iles Britanniques et de Russie. Neuchâtel and Solothurn: H. Wolfrath for the author and Jent and Gassmann, 1844 - 1845. 2 volumes. Text volume with letterpress table; plate volume with lithographic title, 43 litho-graphic plates by Bachfeld, Diekmann et al. after Dinkel, Jäger and Sonrel, most hand-colored or tinted and two folding. Later half calf period style. GBP 3.600.-

First edition, separately published, although recommended as supplement to Agassiz' famous „Recherches sur les poissons fossiles“. By the time the follow up volume 'Monographie des Poissons Fossiles du Vieux Grès Rou-ge' (1844-1845), had been issued Agassiz's interest had switched to other subjects such as his studies on glaciers and the ice age. In 1846 he left Europe for the United States where he widely lectured at the Lowell Institute, Harvard and Cornell Universities. Following a bout of ill health, Agassiz did briefly return to the study of Brazilian fish in the 1860s. Agassiz died on 14 December 1873, aged 66.- BM(NH) notes that the Monographie was 'regarded by the author, and given by Engelmann, as a supplement to the Recherches' (I, p.18). BM(NH) I, pp.17-18 (wrongly calling for 42 plates); Nissen ZBI 42 (wrongly calling for 42 plates); Wood p.181; Woodward and Sherborn, A Catalogue of British Fossil Vertebrata, pp. XXIX.

anatomical models

Ameline, Jean Francois.

Mémoire sur l' utilité des pieces d' Anatomie artificielle chirurgicale, par- Paris: Imprimerie de Fain, place de l' Odeon, Novembre 1819. 8° (210 x 135 mm) (2), 89 pp., (1), (2) Marbled wrappers, uncut copy. GBP 1.000.-

First edition of this rare work on papier-maché and wax models in anatomy lectures and for medical collections.

Around 1808, the surgeon Jean Francois Améline (1763-1835), professor of anatomy at the medical school in Caen (France) began making anatomical models from a range of materials including papier-maché. The first models made by Ameline, which he showed at a meeting of the medical society in Caen in February 1817, were of a hand and a head. The muscles were made of papier-maché and blood vessels and nerves were represented by colored yarn and silk thread. A review of the models published in the Heath Gazette thought the models were particularly suited for demonstrations in the anatomical lecture hall.

Two years later Ameline presented several artificial anatomical models including an arm, leg, head and a full figure representing a standing man standing to the Royal Academy of Sciences in Paris. The surgeon Portal and Percy reviewed these models, which they referred to as „fantome d'anatomie“. Whilst they reported the anatomical simulator would be useful for young anatomists, they concluded „we cannot for a moment, admit that it should be considered of paramount importance as a means of instruction, or that it is possible to become an anatomist by the aid of this phantom of anatomy.“ Ameline used a human skeleton to provide the underlying structure for the figure and the papier-maché muscles could be detached from the bones and were adequate for anatomical study. He continued to improve the models which were shown in London in 1827 In 1820 Louis Thomas Jerome Auzoux (1797-1880) visited Ameline's workshop in Caen and began making papier-maché anatomical models himself.- Harry Owen. Simulation in Healthcare Education (2016), pp. 36/37

anatomical models

Ameline, (Jean-François).

Observations sur les pièces d'anatomie de M. le Docteur Auzoux.- Caen, Imprimerie de Bonneserre, 1825. 8° . 23 pp., (1) Original printed publ. Wrappers. GBP 1.000.-

Very rare pamphlet on the Ameline/Auzoux confrontation; Ameline and Auzoux came into conflict with their different anatomical papier-maché models.

Auzoux (1797-1880) presented his first models to the Academie Royale de medicine in 1822: a leg and part of the pelvis and a few months later he demonstrated a model of the head, neck and upper torso. These models were designed to be taken apart which Auzoux called „anatomie clastique“ from the greek (klastos, in pieces). Reviews of the models were extremely positive and in 1824 he received orders for several models from the french government and set up a workshop in Saint-Aubin- D' Ecrosville in Normandy. Auzoux used moulds for the body parts of his models that were made from the lead, tin and antimony alloy used for typesetting. Layers of papier-maché and paste were hammered into the moulds and this reduced shrinkage during drying and resulted in carton that was light and strong. Often a thin coat of plaster was applied before painting. The parts could be removed, as if dissecting the body, using a special tool. (Owen. Simulation pp. 37)

Bernoulli, Johann (praes.); Franz T, Freyler.

Theses ex variis philosophiae partibus desumptae, quas auxiliante divino numine jussu sapientissimi phi-losophorum ordinis (Basel) Typis Joh. Henrici Decker, (1740) Quarto (185 x 150 mm) 8 pp. Backstrip. Rückenstreifenbrosch. Clean. GBP 1.000.-

Rare dissertation by Franz T. Freyler defended under Johann Bernoulli in Basel University. 36 theses were proposed by Bernoulli and had to be defended by the student. Most theses are philosophical in content, but also some physical theme (elasticitatis, motum, Descartes' Extensio and Corporis essentia, vacuo) are questioned. Johann Bernoulli (1667-1748) was a major member of the Bernoulli family of Swiss mathematicians. He investigated the then new mathematical calculus, which he applied to the measurement of curves, to differential equations, and to mechanical problems. From 1695 to 1705 he taught mathematics at Groningen, Netherlands, and, on the death of his elder brother, Jakob Bernoulli, assumed a professorship at Basel, where this disputation took place.- OCLC: only two copies in libraries: Basel and Munich.

Berzelius, Jöns Jacob.

Mémoire sur la composition des fluides animaux, par ... Tiré du 3e volume des Transactions Médico - Chirurgicales de la Société de Médecine de Londres. Traduit par G. Delarive,... A Paris: chez J. J. Paschoud, et a Geneve, chez le meme, 1814. 8° (210 x 135 mm). (8), 96 pp., (24 pp.; Bookseller Catalog) Blue plain wrappers, handwritten title label on spine, uncut copy. Fine. GBP 1.000.-

The first separate edition of an important biochemical article originally published in the London Med. Chirurg. Trans. (1812, vol. III, 198-276) and here translated by Gaspard De La Rive, professor of chemistry at Geneva. This edition first contains valuable additional notes and observations. Berzelius describes his experimental researches on human blood and other bodily fluids, like bile, milk, mucus, sweat, tears and urine. Chemical analyses of these fluides are given. In the course of this work he noted that muscle tissues contain lactic acid, previously discovered in milk by Scheele.- Roy G. Neville Historical Chem. Library I, 146: „Extremely rare“. KVK: Leipzig, Tübingen; OCLC: only Montreal, Yale, Othmer Library.

Boulliau (Bullialdus), Ismael.

Ismaelis Bullialdi Opus Novum Ad Arithmetica Infnitorum libris sex comprehensum; in quo plura à nullis hactenus edita demonstrantur.- Lutetiae Parisiorum, sumptibus Viduae Joannis Poc-quet, via Jacobaea, 1682. Folio (340 x 221 mm) (4), 425 pp., (1) with 8 fold. engraved plates. Contemporary half-calf, marbled boards, later endpapers (?), spine rebacked, thin paper, else fine. GBP 3.600.-

First and only edition of Boulliau's mathematical work trying to clarify John Wallis' Arithmetica infinitorum of 1656. The Arithmetica infinitorum by Wallis (1616-1703), a landmark writing of western mathematics, was a key text in the 17th-century transition from geometry to algebra and in the development of infinite series and the integral calculus. In this treatise the methods of analysis of Descartes and Cavalieri were systematised and extended.

„The Arithmetica infinitorum quickly circulated amongst mathematicians in England and Europe but, despite the glowing words from Oughtred, it was not an immediate success. Fermat was the first to claim that he had found many of Wallis's results already. ... Fermat had indeed found many of Wallis's results, and by not dissimilar means (though for integer indices only), but since they were circulated only in private correspondence, he could not blame Wallis for being unaware of them. ... Unfortunately Wallis's methods themselves also came into question. Not only Fermat, but Christiaan Huygens in the Netherlands and Thomas Hobbes in England expressed doubts about Wallis's use of „induction“ which, they argued, was not a secure method of proof. ... The second and more serious stumbling block to Wallis's readers was his lack of clarity on the subject of indivisibles. Fermat, Huygens and Hobbes were uneasy about Wallis's apparent abandonment of classical methods. Ismael Boulliau (1605 - 1694), a correspondent of Wallis, tried to clarify these weaknesses of Wallis's work. Another most astute reader of Wallis's work, Isaac Newton who read and made extensive notes on it in the winter of 1664-1665, recognized its potential. (Stedall)

Ismael Boulliau or Bullialdus (1605 - 1694) was a famous astronomer and mathematician during the seventeenth century. He published several books, and was an active member of the Republic of Letters, a scholarly exchange of ideas during the 17th and 18th centuries. He is most well known for his work in astronomy, and his most famous work is his book titled *Astronomia Philolaica*. An early defender of the ideas of Copernicus, Kepler and Galileo, Ismael Bullialdus is known today as "the most noted astronomer of his generation". He was brought up a Calvinist by two Calvinist parents. However when he was 21 years old he became a convert to Roman Catholicism. By the age of 26 he was ordained as a Catholic priest and one year later, in 1632, he went to Paris. There he worked as a librarian associated with the brothers Pierre and Jacques Dupuy who were working on the Bibliothèque du Roi. This library, which dated back to the fourteenth century, was moved to Paris between 1567 and 1593. It had been catalogued in 1622, ten years before Boulliau arrived in Paris, and Pierre and Jacques Dupuy travelled throughout France amassing books and manuscripts for the library. The de Thou family were also heavily involved with the Bibliothèque du Roi, and they provided financial support for Boulliau in his work as a librarian. Boulliau had the right skills for the work he undertook, for he was a broad scholar with a deep interest in history, philosophy and classics, yet equally at home in the scientific circles of Paris where he began to shine building on the firm foundations in astronomy taught by his father. In his capacity as librarian Boulliau travelled widely in Italy, Holland and Germany buying books. In 1657, after the death of his two employers the brothers Dupuy, he worked as a secretary to the French ambassador to Holland who was a member of the de Thou family. He was to work again as a librarian, this time for the same French ambassador de Thou, but after a dispute with him in 1666 he lived at the Collège de Laon. He spent the last five years of his life in the same occupation in which he started his career, becoming a priest at the Abbey St Victor. Boulliau was a friend of Pascal, Mersenne and Gassendi and supported Galileo and Copernicus.- OCLC: Columbia, Yale, Brown, Linda Hall, Florida, Texas Tech, Madison/Wisc.

color printing

Billard, Charles-Michel.

C. Billard's Krankheiten der Neugeborenen und Säuglinge, nach den neuesten klinischen und pathologisch-anatomischen im Hospital der Findelkinder zu Paris gemachten Beobachtungen. Aus dem französischen frei bearbeitet von

Fr. Ludw. Meißner.- Leipzig. bei C. H. F. Hartmann, 1829. 8° (210 x 123 mm) X, 384 pp., (2) with two fold. engraved color printed plates. Contemporary black paper boards, red morocco label, rubbed and soiled, title with privat owner stamp (Joseph Meyer), browned due to paper quality. **(with:)** Pathologisch- anatomischer Atlas. Zur Erläuterung der Geschichte der Kinderkrankheiten von C. Billard.- Weimar: im Verlag des Grossherzogl. Sächs. Landes-Industrie-Comptoirs, 1829. Quarto (300 x 240 mm) 4 pp. text, 7 engraved (color printed & hand colored) plates. Original Wrappers. GBP 1.400.-

Very rare, complete work on neonatal medicine with color printed plates and with the often lacking atlas which was delivered later and printed by another publisher; As the title-page of the text vol. state: „ Die Kupfertafeln werden in einigen Wochen nachgeliefert“.

Billard's book was the first systematic clinical - pathological text on the newborn infant, and indirectly the fetus was also studied. His experience of newborn infants was based on a year working at the Hospice des Enfants Trouvés in Paris. During that year (1826) 5392 infants were admitted to the hospital, of which 1404 died. The text is packed with original descriptions and insights which in many instances have been credited to others since his time. „The approach is so modern that it may be read with delight and value by anyone with an interest in perinatal medicine.“ (Dunn, 1990).

Charles - Michel Billard (1800-1832) studied medicine in Angers and Paris. During this time he was very poor and supported himself by writing for medical journals and undertaking translations, having learned english, german and italian. In 1828 he published his masterpiece, contracted phthisis and died at an early age of 1832. The book was translated with commentaries by the german obstetrician, gynecologist and pediatrician Friedrich Ludwig Meissner (1796-1860), who lectured from 1821 in Leipzig Univ. before he opened his own clinic in 1838. „M. C. Billard druckte zwei Radierungen für seinen Atlas der Pathologie in weißer Farbe auf schwarz grundiertem Papier. Nur auf diese Weise glaubte er, die Form und weiße Farbe der tödlichen Ausscheidung eines Pilzbelags wiedergeben zu können. Drucktechnisch gesehen ergibt sich dabei die Schwierigkeit, dass weiße Druckfarbe nur wenig opak ist und daher in diesem Druck eher hellgrau aussieht. Deshalb wurden die helleren Teile der Abbildung mit Pinsel und Wasserfarbe nachträglich weiß gehöht. Nichtsdestoweniger schöpfte Billard die Möglichkeiten des Farbdrucks aus, um das Bild eines bestimmten medizinischen Zu-stands so klar wie möglich darzustellen.“ (Grimm, Kleintebe, Stijnman. Lichtspiel und Farbenpracht. Entwicklungen des Farbdrucks 1500-1800. pp. 84-85). Goldschmid, Entwicklung ... pathologisch- anatomischen Abb. pp. 131/132. P.M. Dunn. Charles-Michel Billard (1800 - 1832): pioneer of neonatal medicine.; in: Arch Dis Child 65 (1990), 711-712.

first photo documentation of politics at work

Braatz, Julius (phot.)

Der Deutsche Reichstag und sein Heim (cover title). Berlin 1889. A series of 117 photographs, by the Berlin court photographer Julius Braatz. All photographs (165 x 210 mm) captioned on mounts, with title and photographer's studio address. Loosely contained in original brown gilt printed leather portfolio with clasps, one of them slightly defective. (330 x 440 mm). Foxing in places. GBP 20.000.-

Famous and exceedingly rare photographic record of the House of Representatives (Reichstag) in Berlin by the Berlin court photographer Julius Braatz (1844-1914) - made in two months in the year 1889 during the short period preceding the end of the era of the Iron Chancellor, Otto von Bismarck, following the accession to the throne in 1888 of the fateful Kaiser Wilhelm II. The first photographic documentary ever made of a legislature as distinct from photos of individual parliamentarians. It is a historical curiosity that the photos were taken by Braatz on the very last day (18 May 1889) Bismarck was to enter the parliamentary premises. At this time the Reichstag was still meeting in a provisional parliamentary building situated at Leipzig Strasse in Berlin. It did not move until 1894 to the massive and grandiose Wallot building, restored most notably by Sir Norman Foster in the 1990's. The Wallot building was commissioned by the Kaiser to represent a vision of the power and prestige of imperial Germany and the rule of the House of Hohenzollern. The Kaiser took a direct personal interest in the project and intervened in matters of detail when he saw fit. It is not only an important documentary record of the Reichstag in 1889, but it also provides a valuable visual impression of the composition of the Reichstag's membership. The title 'court photographer' did not imply that Julius Braatz was in the employ of the court since it was possible to acquire the title by paying a fee. Braatz got his title not from the Kaiser, but from his brother Prince Friedrich Carl von Preussen. Julius Braatz's fame rest on being the first photographer to see the parliament as a theme in itself. Photos or sketches of parliamentarians were quite common from about the 1850's onwards, but Braatz was the first to go beyond the traditional practice to take interior shots, including some taken from the floor of the chamber whilst in session, and shots of parliamentary facilities, such as the parliamentary library, the Reichstag refreshment rooms and postal facilities. He showed members at work and relaxing, and not simply posing for an 'official photo'. He wanted to convey an impression of their special environment as well as of their work. Braatz published two works on the Reichstag. These are *Der deutsche Reichstag in Wort und Bild* [1892] and *Der deutsche Reichstag und sein Heim* [1889]. The 1892 work was simply a collection of small individual half-length studio photos of members, which were printed in small frames arranged in alpha-betical order within their respective parliamentary parties. There were twenty-five frames per page. The result is a static photographic gallery. The 1889 publication, which is by far the more important, is quite different in intention. It consisted of a number of party group photos, a few photos of individuals, photos of meeting rooms and other interiors, sometimes

empty and sometimes with members present, glimpses of members at relaxation and sometimes speaking to the parliament. Braatz originally offered his 1889 photos for sale as individual photographs or in groups according to customer's wishes. 240 shots were taken and 184 were placed on sale.

Most of the 1889 photographs of members in party and sometimes mixed groups show them usually at a table in one of the Reichstag vestibules. Several individual photos are quite striking examples of portraiture, those of Bismarck, aged 74 but looking much older, and of field-marshal Moltke (he was a parliamentarian from East Prussia) are particularly impressive. The shots during the sitting of parliament are of great interest, because not all members chose to speak from the rostrum but instead spoke from their seats within the tiered semi-circular rows. One gets the impression that members moved around the parliament freely during debate. This made the photographer's job very difficult. Braatz succeeded admirably. Of course, the party group photos were posed, but Braatz managed to instill a fair degree of liveliness into these photographs. They are far from static or monumental. Members may be reading or smoking in these shots. As mentioned above, the photos were taken in May 1889 and on the last day Bismarck was to enter the parliament. It was also shortly before he ceased to be chancellor. As a member of the upper house Bismarck had the right to be present at debates of the lower house as well as the right to address it. He is shown both sitting in the parliament and then addressing it. On May 18, 1889 Bismarck addressed the House in order to secure passage of the Invalid and Old Age Pension Bill, a contentious measure opposed by the strong left-wing members. Bismarck's speech, said to be one of his best, was a triumph. This may explain why the chancellor stayed in the building after delivering his speech. Photos show him socializing with members and allowing Braatz the unusual opportunity to photograph the chancellor with different members. Bismarck commented to Braatz that when he was being photographed he was unsure whether he was to be shot or photographed. These photos contain a good indication of the special feelings of the occasion. Among the groups Braatz photographed were the Polish members of the Reichstag and those from the recently annexed Alsace-Lorraine. Of the latter, 10 of the 15 members were priests and some wore clerical costume. Some also refused to be photographed. The group of Social Democrat members include Bebel, Liebknecht and Dietz. The photograph with Bebel was doctored by scholars in the former German Democratic Republic when they used it in a biography of Bebel. Apparently the words on the wall medallion behind Bebel were not deemed politically correct to be seen in his presence and were brushed out. The photo-reporting aspect of the book is emphasized by the number of photos where members are smoking cigars. These instances reflect the men's club aspect of the Reichstag. The only woman in all these photos is a waitress in the refreshment rooms. Of the 184 prints Braatz made and offered for sale, our copy has 117 loosely laid into a dedication portfolio for Bismarck. The photographs are numbered 2-154 (with numbers missing and „a“ numbers present, number 134 is double but with different images, two photographs without number.

Provenance: Otto Bismarck estate Schönhausen (restitution).

KVK / OCLC: Only two copies found: Fürstl. Bibl. Corvey, ZBL Berlin (only 63 photographs); copy of the Bismarck Museum at loan in the German Bundestag (exhibited); no portfolio in USA or UK.

Biefang. Bismarcks Reichstag (Düsseldorf 2002) with analysis and bibliography.

Private Garden

Breiter, Christian August.

Hortus Breiterianus oder Verzeichniss aller derjenigen Gewächse, welche im Breiterschen Bota-nischen Garten zu Leipzig gezogen und unterhalten werden, nebst einem Theil der in Deutschland einheimischen Pflanzen nach ihren systematischen Namen und Synonymen, einer Erklärung des Linne'sischen Systems und geographischen und literarischen Nachweisungen. Leipzig, im Verlag bey C.F. Franz, 1817. 8vo., engraved frontispiece of the gardens and glasshouses, (4), LVI, 558 pp. Early 19th century ink inscriptions on title-page and fly-leaf, a little general paper toning. Original paper boards with gilt lettering piece on spine, the boards lightly worn at extremities else a very good copy indeed. GBP 1.400.-

First edition of the description and catalogue of the privately organized garden of Christian August Breiter called „Wintergarten“ which no longer exists and was near Leipzig Station. The comprehensive catalogue of the plants (some 9800 species excluding thousands of varieties) grown in the private garden at Leipzig of Christian August Breiter known as Breiter Botanical Gardens, including many exotic plants from the Americas, the East and West Indies, South Africa and Australia. Christian August Breiter (1776-1840), botanist, was head gardener to the Grand Duke of Saxe - Weimar to whom this catalogue is dedicated. The engraved frontispiece is a charming view of part of the gardens with extensive cold frames, hot houses and glass houses and a pergola. At the same time there were two other private gardens by the Bose brothers in Leipzig: Großbosianischer & Kleinbosianischer Garten.

Early Car Race

(Car) **Prinz Heinrich-Fahrt 1909** (cover title). Privately arranged album with 53 mounted original photographs of the Car Race from the property of Prince Alfons of Bavaria. (Germany, 1910). Folio. (340 x 240 mm). 20 leaves with 53 mounted photographs (image size: 112 x 150 mm) Contemporary cloth with gilt printed title on cover, little rubbed and used. (together with:) **Prinz Heinrich-Fahrt** und Bilder aus dem Sportleben. 1909, 1910 u. 1911. 3 Vols.- Hannover Continental-Caoutchouc- und Gutta- Percha- Com-pagnie, Hannover, 1910 - 1912. Quarto. with

numerous pages and photographic images from the race. Original cloth with printed covers & gilt edges. Fine and clean set. GBP 5.500.-

Privately collected and arranged photographic album of the second car race known as Prince Henry Tour held in Germany in 1909. 108 cars & teams started the race from the 10th to the 18th of June 1909 on the route Berlin- Breslau - Tatrafüred- Budapest- Vienna- Salzburg- Munich (1857 km). The first speed race was carried out over 6 km from Guben- Krossen, the second at the Forstenriederpark near Munich over 5.5 km. Winner of the race in the Guben race was Wilhelm Opel (3 min. 39 sec.), Count A. Kolowrat with a Laurin Klement (3 min. 10 sec.) in the second. Winner in the overall classification was Wilhelm Opel, the second driver on Mercedes. The Images show the participants like E. Lochner, W. Opel and others.

The „Prinz-Heinrich-Fahrt“ (*Prince Heinrich Tour*), named after Prince Albert Wilhelm Heinrich of Prussia, was an automobile contest held from 1908 to 1911 and a precursor to the German Car Grand Prix. The brother of Emperor Wilhelm II., who had staged a Kaiserpreis for automobiles in 1907 (and for other sports also), was an automobile enthusiast and inventor. Only production touring cars with four seats and three passengers were admitted, no special made race cars. The trophy for the winner was a model car made of 13,5 kg silver. Ferdinand Porsche himself won in 1910. The last event was in 1911, not as contest, but as a touristic event.

Three richly illustrated photo-books were published by „Continental“ in Hannover who sponsored the race, here coming from the property of one of the participants, Prince Alfons of Bavaria (1862-1933).

The Prince-Heinrich-Tour was a car race or competition for touring cars sponsored by the enthusiastic racing driver Prince Albert Wilhelm Heinrich von Prussia in 1907. Host was the Imperial Automobile Club (KAC). The competition was carried out in three races from 1908 to 1910. Long distances were to be traveled, interrupted by speed tests. The speed tests, low-speed racing, were run on top of a closed road at maximum speed. The cars started individually. Only 4-seat touring cars were allowed to be part of the race, and had to carry three people. Specially made race cars were not allowed. Prince Heinrich donated a 13.5 kg model of a touring car made of pure silver. Winners of the race were: 1908 Fritz Erle, 1909 Wilhelm Opel and 1910 Ferdinand Porsche. In 1910 Ferdinand Porsche was employed by Austro-Daimler and drove a car of this brand. The first race from 9th to 17th July 1908 took place over the route: Berlin- Stettin- Kiel- Hamburg- Hanover- Cologne- Trier- Frankfurt (2200 km). 129 cars were launched. A flat race at Izehoe over 9 km and a rallying over 6 km at Bacharach on the Rhine were carried out. From June 2 to 8, 1910 the third race was carried out over 1944.6 km.

In 1910 Franz Heines had been killed by Colmar, the next and last Prince-Heinrich-race was only a tourist tour.

Geological Map of Germany

Dechen, Heinrich von.

Geologische Karte von Deutschland bearbeitet von H. von Dechen im Auftrage der Deutschen Geologischen Gesellschaft; hrsg. mit Unterstützung des Königl. Preuss. Ministeriums für Handel, Gewerbe und öffentliche Arbeiten.- Berlin: Neumann, 1869. Quarto (240 x 280 mm) One folding map, color-printed in size: 920 x 780 mm with printed text (15 pp.) Green original cloth folder, title on cover. GBP 2.000.-

First edition of the final version of the first geological map to include complete (not yet unified) Germany.

In June 1849 one of the members of the German Geological Society presented a new topographic map of Germany in the scale of 1 : 1.400000 and suggested that the members should in a joint enterprise compile a geological general map on the basis of this topographical map. This map was supposed to follow closely that one compiled by Leopold von Buch in 1826. In September 1850 an editorial board was founded, and in 1854 Heinrich von Dechen (1800-1889) was engaged to compile the material collected by the members of the Society. In 1856 he presented a first version and in 1867 a second revised one. In the meantime von Dechen's work had a break for some time because of major difficulties with the map. Finally in 1869 the map was printed, and a second edition followed in 1880. This geological general map which covers extensive parts of Central Europe clearly reveals the heterogeneity of levels concerning the geological research at that time. Side by side we find areas where the geological structure is represented in highly differentiated details and areas which are only superficially investigated and were thus colored thrifly or were even uncolored. The original map of von Buch (1826) which originally was viewed to be the example for the von Dechen map is demonstrating the high standard of knowledge especially concerning the geological structures of West-tern, Central and Southern Germany at the beginning of the 19th century.

Forster's geothery

Delametherie, Jean Claude.

Jean Claude Delametherie Theorie der Erde. Aus dem Französischen übersetzt und mit einigen Anmerkungen vermehrt von D. Christian Gotthold Eschenbach, Professor der Chemie in Leipzig. Nebst einem **Anhange von D. Johann Reinhold Forster**, Professor in Halle. Erster Theil (bis Dritter Theil). 3 Vols.- Leipzig, bey Breitkopf und Härtel. 1797-1798. 8° (190 x 110 mm) [I]-XVI, [1]-388 pp., 2 fold. engraved plates; [8], [1]-404 pp., 2 fold. engraved plates; [2], [1]-398, [2], [1]-108p p., 3 fold. engr. plates. Contemporary marbled boards, black morocco label, rubbed and soiled, spotted throughout due to paper quality. But a fine copy. GBP 1.400.-

Very scarce German edition to include Forster's theory of the earth. Translation and enlargement into German by the chemist Christoph Gotthold Eschenbach [1753 - 1831] and Johann Reinhold Forster of *Théorie de la Terre* (Paris, 1795). At the end of volume 3 with separate paging is a supplemental tract by **Johann Reinhold Forster** providing a commentary on ideas presented in Delamétherie's work.

One of Delamétherie's major works, which enjoyed considerable popularity during his lifetime in spite of its ultra-Neptunian theories. *Théorie de la Terre* covers all aspects of the author's cosmological theory, with respect to the earth. A firm believer in Wernerian theory, he postulates that all things including living organisms were originally crystallized from a liquid medium. He also believed that the broad features of the earth's surface like mountains and ocean basins were caused by the action of irregular crystallizations deep within the earth, moving water and the planetary motion of the earth. Erosion, he thought, played no significant role in geological history, and no major alterations to the crust had occurred since the main valleys and mountains were created by a primordial crystallization process. Despite these theories, Delamétherie had a wide influence among his contemporaries. If the refusal of the author to accept the significant role erosion plays in shaping the earth has lessened his reputation to historians of geology, he was innovative in his idea about evolution, speculating that man was a kind of monkey improved by social state. The text of volume one is mostly mineralogical in character with discussions about the crystallization from fire of various substances, including the earths, airs, waters, ores, salts, stones, and precious stones. The general form of the earth is speculated on, as is the nature of electricity, magnetism, and light. Volume two could be considered an early volume on petrology, and includes discussions about various rock types including porphyrite, breccia, obsidian, lava, amber, coal, fossils, gypsum deposits, granite, as well as theories about volcanoes, rivers, seas and oceans. Volume three draws conclusions from the first two volumes and presents Delamétherie's overall theory. Jean-Claude Delamétherie (1743 - 1817) was educated in medicine, but never practiced. From 1801 until his death he was professor of natural sciences at the Collège de France in Paris. In 1785, he became editor of the influential, *Journal de Physique*, a position he held until his death.- Brunet: 4568; DSB VII, 602-604; Zittel, *History of Geology*, 1901 pp. 77-8; Hoare, M. E., "Johann Reinhold Forster-The Neglected 'Philosopher' of Cook's Second Voyage (1772 - 1775)," *Journal of Pacific History*, 2 (1967), 215-24; Pogg I, cols. 775-76; Sarjeant, *Geologists*, 2, 1026-7, Rudwick. *Bursting the limits of time* 340 ff.

Aurora Borealis in Russia

Delisle (de L'Isle), Joseph Nicolas.

Memoires pour servir a l' Histoire & au Progres de l'Astronomie, de la Geographie, & de la Physique, recueillis de plusieurs dissertations lues dans les assemblées de l' Academie Roiale des Sciences de Paris, & de celle de St. Petersbourg, qui n'ont point encore été imprimées; comme aussi de plusieurs pieces nouvelles, observations & reflexions rassemblées pendant plus de 25 années,...- A St. Petersburg: de l' Imprimerie de l' Academie des Sciences, 1738. Quarto (230 x 170 mm) 284 pp., (12, tables) with text-woodcut illustrations and 13 fold. engraved plates. Grey contemporary papercard boards, red morocco label, red sprinkled edges, edges bumped, upper spine with reminiscences of former label, title repaired, first leaf with repair in upper margin due to paper fault, else clean and fine. GBP 2.800.-

Rare first edition, all published, describing here his universal thermometer, his experiments on light and his numerous observations of Aurora Borealis in Russia.

Joseph Nicolas Delisle (1688-1768) was an observational astronomer, teacher of Joseph de Lalande and Charles Messier, noted for his work on comet prediction and transits. Educated at the College Mazarin, he developed an early interest in astronomy, joining the Academy Royale in 1714 and eventually appointed to the chair of mathematics at the College Royal in 1718. Delisle's regular observations with his own equipment began in 1721, the same year, he received an invitation from Peter the Great to found an observatory in Russia. From 1725 to 1747 Delisle worked in St. Petersburg, training numerous Russian students. Some of them later performed cartographic work intended to serve as raw material for an accurate map of the whole of Russia.

In order to improve geographical longitude data, Delisle collected and published a long series of observations of the Jovian satellites at St. Petersburg. In 1732, Delisle built a thermometer that used mercury as a working fluid. Delisle chose his scale using the temperature of boiling water as the fixed zero point and measured the contraction of the mercury (with lower temperatures) in hundred-thousands. Delisle thermometers usually had 2400 or 2700 graduations, appropriate to the winter in St. Petersburg, as he had been invited to Petersburg to found an observatory in 1725. In 1738, Josias Weitbrecht (1702-47) recalibrated the Delisle thermometer with two fixed points, keeping 0 degrees as the boiling point and adding 150 degrees as the freezing point of water. He then sent this calibrated thermometer to various scholars, including Celsius. The Celsius scale, like the Delisle scale, originally ran from zero for boiling water down to 100 for freezing water. This was reversed to its modern order after his death, in part at the instigation of Swedish botanist Linnaeus and the manufacturer of Linnaeus thermometers, Daniel Ekström. The Delisle thermometer remained in use for almost 100 years in Russia. (Kokott) - BEA I, 288; DSB IV, 22-25; not in Barchas Coll., not in Brüning.

Darwiniana

Duncan, John Shute.

Analogies of organized beings.- Oxford: Printed by S. Collingwood, for the author, sold by J. Parker, Oxford; and by J.G. and F. Rivington, London 1831. 8vo. (240 mm) [4], 157 pp., (1, blank)(Errata: pp. 157). Original blue cloth, title label on cover, very fine copy. GBP 1.000.-

One of the books that was in the Library of the „Beagle“ when Darwin made his voyage around the world. John Shute Duncan (1769-1844) was a museum curator at the Ashmolean Museum. This long neglected museum was saved by the appointment of John Shute Duncan in 1823. He had a fellowship at New College as well as a career at the Bar. He was Keeper for six years, when he was succeeded in 1829 by his brother Philip Bury Duncan. The brothers transformed the museum. John Duncan recorded at the start of his keepership 'that the skins of the animals collected by the Tradescants had fallen into total decay, that cabinets for those objects liable to injury were wholly wanting and the exhibition department much dilapidated'. For the first time since the founding of the museum a new set of governing principles was drawn up. As in Ashmole's day, nature remained at the centre of the display - the Duncan's aim was to use the natural history specimens to reveal to the visitors 'evidence of the existence of God': „Under John Duncan and his brother Philip who succeeded him in the keepership in 1829, the collections were comprehensively redisplayed according to the tenets of “natural theology” with the declared purpose of demonstrating that they were “the media of divine manifestation”. Natural history specimens were acquired in large numbers by the Duncans to illustrate this belief and man-made “curiosities” were relegated to a secondary role. The character of the Museum was established in this way until mid-century when the University established a new Natural History Museum (now the Oxford University Museum of Natural History) at which point all the natural history specimens from the Ashmolean were transferred to the new institution.“

„monster of two bodies“

Fanzago, Francesco Luigi

Storia del mostro di due corpi che nacque sul Bresciano in Novembre 1802 riferita da Francesco Fanzago ... Padova: per Giuseppe et Fratelli Penada, 1803. sm.folio (290 x 210 mm) 47 pp., (1, blank) and two fold. engraved plates by G. Bosa. Period style binding. Clean & Fresh, printed on good paper. GBP 1.800.-

Very rare first edition on an early case report on conjoined twins by the famous physician and first professor of forensic medicine in Padua, Francesco Luigi Fanzago (1764 - 1836). The work describes the moments of life, the exhibition in different towns and the autopsy carried out by Fanzago on two female xiphopagus twins (siamese girls) born in November 1802 in Brescia, Italy to a woman in her second pregnancy. One of the twins was somewhat smaller than the other and they were displayed in several Italian Cities as attraction and an object to study from and finally, on May 1803 transported alive from Venice to Padua. The twins died shortly thereafter, and an autopsy was performed in Padua. The remains were later exhibited in the „Gabinetto patologico“ of Padua (1810). Fanzago's treatise predominantly consists of an anatomical description of the twins without reflections on the etiology or pathogenesis of conjoined twinning. Except for one „european“ case report on conjoined twins by Rueff in 1554, he mentioned only seven Italian case reports since 1748. Fanzago was one of the best-known Italian scientists of his time and was a member of the most important medical and scientific academies.- Lit.: van der Weiden. Two early case reports on conjoined twins; in: *Twin Research* 2 (1999), 30-32.

KVK: München, Wolfenbüttel, Göttingen, Stabi Berlin (maybe lost); COPAC: Wellcome, Royal College of Surgeons; OCLC: 6 copies at Yale, Chicago (2 copies), NLM, Welch Library, Los Angeles.

early educational & zoological film

[Film Album].

Arnold Kühnemann Film. Aus unserer Produktion (from our Production).- [Berlin]: (Arnold Kühnemann-Film), [late 1920's]. Folio (340 x 500 mm) With around 500 mounted original photographs (90 x 120 mm), a few larger (190 x 230 mm) on 50 sheets of heavy paper boards. Original gilt printed full leather album with gilt edges. Light sunning to front, occasional wear. Cockling to mounts, prints in excellent condition with the exception of a few which has some silver-mirroring to the edges. Overall in fine to excellent condition. GBP 3.200.-

A fine unique photography album by the film producer Arnold Kühnemenn Film from the late 1920's showing their film production in selection. Arnold Kühnemann (Königswusterhausen near Berlin) specialized in producing scientific, educational and instructional films between 1922 and 1935, mostly for the agriculture and veterinary industries. He was a learned farmer and veterinary, and a founding member of the Zoological Society of Germany, and owner of a fur farm near Berlin. He was active in film politics as „Verbandsvorsitzender“ also after 1933, but committed suicide due to the film politics of the Nazi (see Hans Nachtsheim, 1951). However as a conservative he supported the new film politics under the Nazi and also seems to have produced a sort of propaganda film like „Kamerad Pferd ist krank. Ein Film von der Betreuung des Pferdes im Heere“ (1942). Filmportal.de list only films until 1935.

This album commemorates different films from his production, dated in „filmportal.de“ from 1922 to 1926: „Die Gangarten des Pferdes“ (different horse paces); „Wie ein Schaf geboren wird“ (birth of a sheep); „Vom Hamster“ (On the hamster); Zwanzig Jahre Kulturarbeit auf Domäne Friedeburg“, „Das Münsterland“ (Münster region); „Westfalens rotbuntes Niederungs-

vieh“ (German Red Pied), „Das Karakulschaf“ (Qarakul); „Warmblutgestüt Klein Luckow“ (stud farm Klein Luckow), „Die ansteckende Blutarmut und ihre Bekämpfung“ (Anaemia and veterinary medicine); „Die Schafräude und ihre Bekämpfung“ (Scabies); „Wie ein Pferd beschlagen wird“ (how to hoof a horseshoe); „Was der Floh erzählt“ (flea), „Wanzen“ (bugs); „Von den Läusen und ihrer Bekämpfung“ (how to fight against lice), „Kaltblutgestüt Schloss Löbnitz“ (horse breeding at Castle Löbnitz); Gestüt Tornow (horse breeding at Tornow), ... „Schafzüchter der Provinz Brandenburg“, „Die deutsche Krankenversicherung“ (german health care). The film on the birth of a sheep was not allowed for children to look at, only in school or with a scientific adviser. A similar album on one of Kühnemann's films: Wut (rabies) was offered by an english colleague.

Fraas, Oscar.

Geologische Wandtafeln. Die 4 Welten - Alter in geologischen Profilen und Landschaften, nebst übersichtlichen Hilfstabellen zum Studium der Geognosie von Dr. Oscar Fraas, Professor und Conservator am Kgl. Naturalien-cabinet zu Stuttgart.- Ravensburg: Eugen Ulmer, 1871. 8° (205 x 145 mm) (2), 45 pp. text and a publ. folder in half cloth (380 x 600 mm) with printed title on cover to include IV color printed leaves (735 x 580 mm). Fine. GBP 2.400.-

Rare complete set. First edition of Oscar Fraas' geological wall maps showing rock strata with accompanying text. A second edition of 1880 included a fifth map to paleontology which is not included in this first edition here. The Prospectus (2 Bll.) is included. as the later published text to the fifth map.

Oscar Friedrich von Fraas (1824 - 1897) was a German clergyman, paleontologist and geologist. He was also deeply interested in natural sciences, and while a theology student at Tübingen was influenced by geologist Friedrich August von Quenstedt. In 1847 he travelled to Paris, where he attended lectures given by Alcide d'Orbigny and Jean-Baptiste Élie de Beaumont. In 1854 he was named curator of the department of mineralogy and paleontology at the Royal Württemberg museum of natural history in Stuttgart, where he greatly added to its collections of swabian fossil batrachians, reptiles and mammals. With Karl Deffner (1817 - 1877), he conducted a geological survey of Württemberg. In addition to his geological and paleontological studies of Württemberg, he conducted scientific investigations of the Middle East, based on travels to the region in 1864-65 and 1875. As a result of his Middle Eastern travels in Egypt, Syria and Lebanon, he published the two part *Aus dem Orient* (1867, 1878).- Henze II, 273.

waiting for the comet in 1736

Ghisilieri, Antonio

Osservazioni d' una cometa fatte nell' osservatorio dell' Istituto delle scienze di Bologna. Predizione della cometa dell' anno 1736. 2 parts in 1.- Bologna: Nella stamperia di Lelio dalla Volpe 1737. Quarto (mm) vii, 24 with one fold. plate showing the strait of a comet within star map; (6, incl. new engr. title), 246 pp, 10 fold. engraved plates with geometrical diagrams. GBP 2.000.-

Exceedingly rare book; one of two variant printings (with the first and without the first work).

The Marchese Antonio Ghisilieri (1684 - 1734) was a humanist and lecturer of law at Bologna University and a vivid amateur astronomer. He defended the correctness of the Ephemerides of Flamino Mezzavacca against Eustachio Manfredi, who had began an alternative series of Ephemerides. This created some animosity with Antonio Ghisilieri, who considered himself Mezzavacca's heir. Ghisilieri in 1731 published nearly a hundred pages of errors in Manfredi's ephemerides, although modern computations show that Manfredi's positions were generally better.- Lankford (ed.) History of Astronomy 507; not in Brüning. Ko-meten-Literatur. Paci, Piero. Antonio Maria Ghisilieri erudito umanista; in: Al sas, storia natura cultura. Rivista semestrale 19 (2009), pp. 48-57. KVK: only Göttingen; COPAC: Cambridge (as our); OCLC: Zürich, Paris Observatory, Columbia (our version); Brown, Ohio State.

First bio-bibliography of earthquakes

Grundig, Christoph, Gottlob.

Historisch kritisches Verzeichniss alter und neuer Schriftsteller von dem Erdboeben. Schneeberg, Carl Wilhelm Fulden, 1756. 8vo. 112 pp., with a whole-page figure on p.105. Bound in 19th century German half calf over mottled boards, spine gilt, labelled and lettered. A fine copy. GBP 1.000.-

First edition, very rare with no copies in COPAC or OCLC (U.S.A.). The world's first bio-bibliography of earthquakes and seismology. Christoph Gottlob Grundig (born September 5, 1707; died August 9, 1780) was a German Protestant theologian, mineralogist and publicist. His interest in mineralogy had been nurtured when he was at school in Freiberg under Bergrat Johann Friedrich Henckel. Later he was one of the initiators & organizers of the famous Bergakademie in Freiberg in 1765. From 1737 he held the post of evangelical pastor in Hermannsdorf where he married and raised a family. From 1747 he edited a monthly magazine on the natural history and art history of Upper Saxony. Following his move to become senior pastor at Schneeberg in 1749, and following the dramatic Lisbon earthquake of 1755, Grundig gained particular credit for this, the world's first seismological bibliography. When he died in August 1780 his estate included a large library and a comprehensive collection of

some 3300 specimens of minerals (= Nachricht von einer ansehnlichen Mineraliensammlung des Herrn Superintendentens, Grundriss die in Freyberg zu verkaufen. In: Allerneueste Mannigfaltigkeiten, 2. Jg., 1. Quartal, 1782, pp. 45–48).

(armored turrets; land fortification)

Grusonwerk Montage - Ansichten. One collotype photograph showing a group of men with one leaf of identification of the persons (Schiffsversuche in Tangerhütte, September 1890) and 39 Photo-gravure images from 1877 onwards showing the production of armed turrets for land fortification. Edited by H. Gruson Eisengiesserei & Maschinenfabrik Buckau-Magdeburg. (Magdeburg, H. Gruson, around 1890). square folio (325 x 420 mm). image-size approx. 160 x 220 mm. Contemporary cloth folder with embossed gilt title on cover. Little used, front fly with dedication and stamp. GBP 2.000.-

The photos show the transport and construction of armed turrets, which have been manufactured by the Magdeburg foundry. The armored towers of the company founded by Hermann Gruson (1821-1895) dominated the world market for many years. In 1893, the Grusonwerk was taken over by the Essen Krupp AG. In continental Europe, the invention of high explosive shells in 1885 threatened to make all existing fortifications obsolete; a partial solution was the protection of fortress guns in armored turrets. Pioneering designs were produced by Commandant Henri-Louis-Philippe Mougin in France and Captain Maximilian Schumann in Germany. Mougin's designs were incorporated in a new generation of polygonal forts constructed by Raymond Adolph Séré de Rivieres in France and Henri Alexis Brialmont in Belgium. Developed versions of Schumann's turrets were employed after his death in the fortifications of Metz. In 1914, the Brialmont forts in the Battle of Liège proved unequal to the German „Big Bertha“ 42 cm siege howitzers, which were able to penetrate the turret armor and smash turret mountings. Elsewhere, armored turrets, sometimes described as cupolas, were incorporated into coastal artillery defences.

Die Fotos zeigen den Transport und den Aufbau der von der Magdeburger Gießerei gefertigten Panzer-türme. Die Panzertürme des von Hermann Gruson (1821-1895) gegründeten Unternehmens beherrschten für viele Jahre den Weltmarkt. 1893 wurde das Grusonwerk von der Essener Krupp AG übernommen.

KVK: Halle (dating around 1900) and Chicago; two libraries with microform copy.

Against Alchemy

Hoghelande, Theobaldus de.

De Alchemiae difficultatibus. Theobaldi De Hoghelande Mittelburgensis Liber. In quo decetur quid scire, quid vitare debeat verae chemiae studiosus ad perfectionem aspirans. ... - Cologne: Henricus Falckenburg, 1594. 8° (156 x 100 mm) [24], [1], 165 [= 166] pp., (1, blank) with woodcut device on title, woodcut initials. Contemporary vellum, speckled edges, bowed, lacking ties and slightly stained, ink shelf mark on title. An errata leaf - not present here and absent in almost all copies - was probably added to a small percentage of copies printed towards the end of the print-run only, minor repair at title, some light staining and browning, occasional tiny worm-holes, small paper-flaw on C8. Early ink underlinings and annotations in text and on front-fly. GBP 4.000.-

Rare first edition of this alchemical treatise against alchemy, but in which examples are cited of the trans-mutation of mercury into gold.

„Some writers identify Theobald and Ewald von Ho(g)heland from Middelburg in Seeland, while others keep them distinct. On the assumption that they are the same, Theobald is regarded as a writer who having first written against alchemy afterwards brought forward evidence in support of alchemy.“ It was translated into German and it was included into *Theatrum Chemicum*. (Neville *Historical I*, 650-51) Theobaldus van Hoghelande, auch Hohelande (um 1560 - 1608) war ein niederländischer Alchemist, der in Middelburg wirkte. Einige identifizieren ihn auch mit dem Autor Ewald van Hoghelande (der manchmal auch mit dem alchemistischen Autor Ewald Vogelius identifiziert wird), nach anderen sind sie Brüder. Das Buch *Kurzer Bericht und klarer Beweis, dass die Alchemie... ein sonderbar Geschenck Gottes* (Leipzig 1604) von Ewald von Hoghelande gibt vor, seinen Bruder Theobald von der Wahrhaftigkeit der Alchemie zu überzeugen. Jöcher und Ferguson sehen Ewald und Theobald als verschieden an. Nach R. J. W. Evans, dem Biografen von Rudolf II. war er zeitweise in Prag am Hof von Rudolf II. und erhielt dort Informationen über Ramon Lull vom spanischen Botschafter San Clemente, der sich einer Verwandtschaft mit Lull rühmte. In seinen Schriften verteidigte er die Alchemie gegen Kritiker. Einiger seiner Schriften sind im *Theatrum Chemicum* abgedruckt. Lit.: Frank Greiner: *Écriture et ésotérisme dans un traité alchimique de la fin de la Renaissance: Le De Alchemiae difficultatibus de Theobald de Hoghelande*, *Bulletin de l'Association d'étude sur l'humanisme, la réforme et la Renaissance*, Nr. 38, 1994, pp. 45-71; Ferguson I, 412; VD16 H4313; Brüning 654; Wellcome I, 3273; Duveen 299-300; Mellon I, no. 51; Thorndike V, 647-48.

Hooke, Robert.

Philosophical Experiments and Observations of the late Eminent Dr. Robert Hooke, ... publish'd by W(illiam) Derham. - London: W. & J. Innys, 1726. 8° (195 x 118 mm) (8), 391 pp., (7) with 4 engraved plates of which two are

folding, woodcut illustrations and device on title. Contemporary paneled calf, red morocco spine label, speckled edges, joints cracked, lightly rubbed, two tiny repairs to U5, occasional faint browning. GBP 4.800.-

First edition of some of Robert Hooke's papers on, inter alia, telescopes, barometers, windmills, distant messaging, portable camera obscura, light and amber given to William Derham by the widow of Richard Waller who had published Hooke's Posthumous Works in 1705. The papers were arranged in chronological order, where this could be determined, and interspersed with papers by others'.

„The fate of Hooke's own papers, as distinct from his printed books, is a convoluted story. Unlike his printed books, Hooke's own papers and manuscripts were not mentioned in his inventory. Through Mary and Joseph Dillon, Hooke's friend Richard Waller later obtained many of Hooke's professional papers and his diaries, from which he edited the thick folio volume of Hooke's Posthumous Works, published in 1705, prefaced by his life of Hooke. In 1708 he received the folio manuscript of Hooke's earlier memoranda from Joseph Dillon; it seems therefore that he only held some of the later, small format diaries when editing the Posthumous Works. Waller was the secretary of the Royal Society when Hooke died, and it was presumably in this capacity that he examined and sorted Hooke's papers; at any rate, many papers at this point entered the Royal Society's archives. Indeed, miscellanea from Hooke's papers, furnished by Waller, supplied frequent occasion for presentation and discussion before the Society; apparently between 1711 and 1714 there were over twenty occasions on which individual Hooke papers received such attention. On Waller's death in 1715 'a Part of the Papers' passed from Waller's widow and his brother-in-law to William Derham (1657 - 1735), clergyman and FRS, author of *The Artificial Clockmaker* (1696, in which Hooke's achievements are celebrated), and editor of a further, smaller volume of Hooke's papers, as well as some editions of the Nachlass of John Ray. Derham's edition of Hooke's *Experiments and Observations* appeared in 1726, a rather miscellaneous volume not unlike an issue of the *Philosophical Transactions* itself.- Keynes 36; Gedeon pp. 204 & 510; Norman 1102; Wheeler Gift 262.

Provenance: John Stuart, 3rd Earl of Bute (1713-1792) and Harrison D. Horblit.

how to make an Herbarium

Hünefeld, Friedrich Ludwig.

Anweisung, durch eine neue Methode, die Gewächse naturgetreu, mit Beibehaltung ihrer Stellungen, Ausdehnung und Farben auf eine leichte Weise zu trocknen und aufzubewahren.- Leipzig: Verlag von Johann Ambrosius Barth, 1831. 8° (230 x 135 mm) (8), 33 pp., (1, blank) Original printed wrappers, stamped, foxed, little used, inside little browned, uncut copy. Overall fine. GBP 1.000.-

Very rare pamphlet (separate printing) on a new method to store plants within a herbarium. also published in Erdmanns Journal techn. & ökonom. Chemie. vol.10. Friedrich Ludwig Hünefeld (1799-1882) is known today as the writer of the first German textbook on physiological chemistry. He made in Breslau in 1822 his dissertation and became first lecturer, then extraordinary professor for chemistry at Greifswald University in 1826. In 1827 he travelled to Stockholm to work one year with Jöns Jakob Berzelius to learn his methods. In 1833 he became ordinary professor for chemistry in Greifswald and was responsible for the mineral collection there. In 1844 he became director (Rektor) of the University.- Pagel, 785, not in Neville Historical Library; ; COPAC: NHM London; OCLC: no copy.

Herbarium dedicated to Otto von Bismarck

Keller, Heinrich.

Herbarium der für Land- und Forstwirtschaft wichtigsten Gräser. Darmstadt 1871. Folio (530 x 400 mm). 32 leaves. Chromolithographed title leaf with a small view of the business site, professionally calligraphed dedication leaf for Bismarck in gold and bodycolors by Louis Müller with manuscript additions by Keller, dated April 1872, 30 lithographed plates with mounted specimens of dried grasses. Each plate with monochrome illustrations of the seed, the syncarpy and other parts of the plant, accompanied by lithogr. captions to each specimen in French, German, and English. Cont. red morocco with gilt embossed metal monogram „B“ and crown (= Otto von Bismarck), two clasps, gilt edges. GBP 8.500.-

Very rare, only in small number printed and distributed herbarium on grasses by Heinrich Keller (1826 - 1890), who was the owner of a huge drying kiln, one of the largest in Germany, and a nursery with worldwide business relations. Founded in Griesheim the company later moved its headquarter to Darmstadt - Bessungen. Keller was also a member of the lower house in the Grand Duchy of Hessen and was honored with the title of a councillor of commerce. A very rare book, printed in only a small number and most of them personally inscribed and dedicated by Keller to dignitaries in politics and business. All samples fresh and complete, with only minor foxing in a few places. A fine copy beautifully preserved with an important German provenance.

KVK: FU Berlin, Darmstadt; not in COPAC; OCLC: Harvard Botanical, Amherst, Texas.

In sehr kleiner Auflage erschienen. Johann Heinrich Keller (1826-1890) war Inhaber einer Kleng-Anstalt (zählte zu den größten in Deutschland) und land- und forstwirtschaftlichen Samenhandlung. In Griesheim gegründet war der spätere Firmensitz in Darmstadt-Bessungen. Zudem war Keller Abgeordneter der 2. Kammer der Landstände des Großherzogtums Hessen. Er wurde

mit dem Titel eines Kommerzienrates ausgezeichnet. Die mit kleinen Klebestreifen dekorativ auf die Tafeln montierten Gräser in sehr gutem Erhaltungszustand. Zu jedem der Gräser eine kleine Abbildung der Samen und Fruchtstände, der Begleittext in Französisch, Deutsch und Englisch. Mit kalligraphiertem Widmungsblatt in Gold und Farben von Louis Müller, Frankfurt, an Bismarck, gewidmet von Heinrich Keller, April 1872.

a dictionary for painter

Langenhöffel, Johann Joseph.

Verzeichniß der vornehmsten Kunstwörter zum Nutzen der angehenden und mancher nicht angehenden Maler aus verschiedenen Sprachen zusammengetragen von ... - Wien: auf Kosten und im Verlag bei J. B. Wallishausser, 1803. 8° (213 x 130 mm) (2), 5-76 pp. Contemporary half calf, morocco label, rubbed and soiled, printed on better paper (velin). Throughout interleaved with handwritten notes (by the author ?) on extra paper attached or glued to the border. Overall fine. GBP 1.800.-

Exceedingly rare dictionary on technical terms for artists especially painter, artisan, handyman, amateurs, completely annotated on single sheets in a contemporary handwriting (most probably by the author ?).

Johann Joseph Friedrich Langenhöffel (1750 - 1805 or 1807) was a german painter and engraver from Düsseldorf where he studied at the Kunstakademie with Lambert Krahe. He specialized in engravings after italian masters and worked for Prince Willem V. of Oranien in Den Haag. From 1782 he worked in Mannheim as court painter (kurpfälz-bayerischer Hofmaler), later for the Chalkographische Gesellschaft in Dessau where he was a technical director. His last years he spent in Vienna as director of the Academy of Fine Arts (Akademie der Bildenden Künste). He seems to have been drowned in the Danube in 1805 or in 1807.- Müller, Künstler (1860), 552; ADB XVII, 670; Wurzbach XIV, 107; Thieme/Becker XXII, 333. OCLC: only one copy in libraries at Mannheim (?)

(Leopoldina)

Acta physico - medico Academiae Caesareae Naturae Curiosorum exhibentia Ephemerides sive Observa-tiones Historias et Experimenta a celeberrimis Etio Secunda. 10 Vols. (= all publ.)- Norimbergae: impensis B. M. W. Endteri et B. Jul. Arnold, (1728-1754) Quarto (215 x 150 mm) (38), 568 pp., 188 pp. with engraved frontispiece, 18 fold. engraved plates and one fold. table; (18), 470 pp., (6), 225 pp., (11) with engraved frontispiece, 16 fold. engraved plates, 2 engraved portraits and two fold. tables; (46), 576 pp., (4), 132 pp., 48 pp. (16) with engraved frontispiece, two portraits and ten (of 14 ?) plates; (30), 546 pp., (6), 208 pp., (24) with engraved frontispiece, 7 fold. engraved plates, and two engraved portraits; (30), 504 pp., (4), 252 pp., (12) with engraved frontispiece, 7 fold. plates and 2 engraved portraits; (26), 488 pp., (4), 316 pp., (20) with engraved frontispiece, 11 engraved plates, maybe missing a portrait; (18), 490 pp., 262 pp., (12) with engraved frontispiece, 9 fold. engraved plates and one fold. engraved portrait; (38), 414 pp., (4), 304 pp., (16) with engraved frontispiece, and 13 fold. engraved plates; (26), 416 pp., (4), 378 pp., (14) with engraved frontispiece, 2 portraits, and eleven fold. plates. Contemporary calf, gilt spine in compartments, red morocco label, as always browned and spotted, a few vols. printed on better paper. Fine set overall. GBP 5.000.-

Complete set of this series of the transactions of the Leopoldine Academy from 1728 to 1754 with important essays by different scientists as Baier, Scheuchzer, et al.

Die Miscellanea curiosa wurden von der deutschen Academia Naturae Curiosorum im Jahre 1670 begründet. Dies war nach dem Journal des Scavans (1665) und den Philosophical transactions der Royal Society (1665) eine der frühesten Fachzeitschriften und weltweit die erste Zeitschrift mit dem Schwerpunkt Medizin und Naturwissen-schaften. Zunächst lag die Herausgeberschaft beim Präsidenten der Akademie. Mit dem Jahr 1683 wurde aus dem Kreis der Adjunkten ein *Director Ephemeridum* berufen. Der erste in diesem Amt war Johann Georg Volekamer (1616 - 1693). Als dieser zwei Jahre später zum Präsidenten aufstieg, folgte Lukas Schröck (1646-1730), der 1693 ebenfalls Präsident wurde. Im 18. Jahrhundert spielten besonders Andreas Elias Büchner (1701-1769) und Chri-stopth Jacob Trew (1695-1769) als Schriftleiter eine wichtige Rolle.

Obstetrics in Russia

Mohrenheim, Joseph Jacob Frhr. von.

Abhandlung über die Entbindungskunst. Verfaßt ... von.... 2 parts in 1.- Leipzig, Heinrich Gräff, 1803. Imp.-Folio. (514 x 365 mm) 7 Bll., 216 pp., 24 Bll., with engraved title vignette, 24 text vignettes and 46 (6 fold.) engraved plates. Contemporary half calf, spine repaired, red edges, little browned and spotted, old ownership inscription on title, partly little short cut, otherwise a good copy. GBP 4.500.-

First edition, second issue, with cancelled title-page, of this finely-illustrated russian work on obstetrics; first published in St. Petersburg in 1791.

'The importance of this work lies mainly in its splendid life-sized engravings, some of which were taken from Smellie. It includes a brief literary history of obstetrics' (Garrison & Morton).

Mohrenheim (died 1799) was summoned to St Petersburg by Catherine the Great in 1783 to be Professor of Surgery and Obstetrics. The Empress was responsible for several innovations in the practice of obstetrics in Russia. She commissioned the present book, the second Russian book on the subject, and underwrote the considerable expense of its production and publication. Because of its rarity, it has escaped the notice of historians of obstetrics in the West (including Speert, Iconographia), and is not in many collections. Some of the plates are by the author and are original, and others are taken from Smellie, Roederer, and others. They represent embryos, the foetus in utero, deliveries, instruments, etc. The engraving was done entirely by Russian artists.

„Die Qualität der 46 Tafeln, die meist in Lebensgrösse gestochen sind, machen das Buch zu einem der be-rühmtesten Werke der Geburtshilfe des 18. Jahrhunderts.“

Blake 307; Cutter and Viets, pp. 228-9; Haeser II, 679; Hirsch/H. IV, 229; Lesky 449; Waller 6504; Wolfenbüttel 1142; Engelmann 384, Garrison/M. 6161, Siebold II, 627 u. Wellcome IV, 149; not in Eales (Cole Library), Fasbender u. Osler. ADB XXII, 75.

technique of preparing of anatomical objects

Monro, Alexander.

Abhandlungen von anatomischen Einspritzungen und Aufbewahrung anatomischer Präparate aus dem Englischen übersetzt und mit zweckmäßigen Anmerkungen des Uebersetzers begleitet; mit einer Kupfertafel.- Frankfurt a. M.: Jäger, 1789. [4] Bl., 51 pp., [1] fold. plate. Later Wrappers period style. Little wrinkled. GBP 1.400.-

Scarce first german edition of Alexander Monro's description of a new preparation method of anatomical specimens and how to store anatomical specimens. The plate show an syringe (injection) invented by the german physician Johann Nathanael Lieberkühn (1711-1756) who was a member of the Collegium medico-chirurgicum in Berlin and was making mathematical and optical instruments. Besides his physiological work, Lieberkühn was most known for his preparation of medical specimens—these were still presented up to the nineteenth century, especially in Moscow, as masterpieces. His specimens were prepared primarily with injections of wax-containing fluids into body cavities, creating relatively durable shapes. The same method is here described by Alexander Monro (the elder or secundus; unclear).

Drying was the only preservation technique known before the times of the anatomist Frederick Ruysch (1638 - 1731) who gained world renown for his specimens preserved in spirit. Mainly bones and skulls were collected in cabinets of curiosities until his time, because drying was more suited to bones than tissue and organs. Ruysch's „strong water“ used for preservation was originally alcohol (ca. 60%). He also invented new conservation methods that made it possible to prevent all kinds of tissue and organs from decaying. Ruysch injected his specimens with a wax-like substance that he usually stained red. This sub-stance penetrated the smallest of blood vessels. This method also gave his preparations a pinkish hue. Ruysch used the technique to make tissue structures more visible and so aid ana-tomical understanding. But the technique also made his preparations, of children's heads and hands for example, very lifelike. He also injected tissue and organs, which he then embalmed and dried. The technique of injecting tissue with coloured wax-like substances continued to be used until the 19th century.

microphotographs: a printed herbarium

Ortloff, Friedrich.

Die Stamtblätter von Sphagnum, microphotographisch nach der Natur aufgenommen und heraus-gegeben von Dr. Fr. Ortloff in Coburg in 66 Lichtdruckbildern.- Coburg, im Selbstverlag des Herausgebers, 1891. 8° (170 x 125 mm) 8 pp. text + 66 loosely inserted paper boards (155 x 110 mm) with photographic image and mounted label. The label describes latin name of specimen and location. In original folder with gilt printed cover label. GBP 1.600.-

Very rare complete set of this self printed and only in small number distributed atlas on peat moss by the german bryologist from Coburg, Friedrich Ortloff (born ? but before 1880), who already died in 1896.

Sphagnum is a genus of approximately 380 accepted species of mosses, commonly known as peat moss. Accumulations of Sphagnum can store water, since both living and dead plants can hold large quantities of water inside their cells; plants may hold 16–26 times as much water as their dry weight, depending on the species. The empty cells help retain water in drier conditions. Hence, as sphagnum moss grows, it can slowly spread into drier conditions, forming larger mires, both raised bogs and blanket bogs. Peat moss can be distinguished from other moss species by its unique branch clusters. The plant and stem color, the shape of the branch and stem leaves, and the shape of the green cells are all characteristics used to identify peat moss to species. Sphagnum taxonomy has been very contentious since the early 1900s; most species require microscopic dissection to be identified.

Gardeners often mix dried sphagnum with soil to improve the water-holding capacity of soil. Sphagnum has antiseptic properties and can hold up to twenty times its weight in water, much more than cotton. Sphagnum was used as a bandage for soldiers wounded in the Russo - Japanese War (1904-05) and World War I. By using sphagnum for bandages, cotton could be saved for making gun powder.- Staffeu and Cowan, Taxono-mic Literature 7.118; Frahm, Lexikon deutscher Bryologen 393.

KVK: only Halle/Saale; COPAC: Oxford, NHM London; OCLC: only Harvard Botany, New York Botanical Garden, Philadelphia Academy.

Early handbook on Daguerreotypie

Pauly, Theodor von.

Gegenwärtiger Standpunkt der Daguerreotypie in Frankreich, oder Gründliche Anweisung in dem zehnten Theile einer Secunde Personen und belebte Landschaften abzubilden. Mit besonderer Berücksichtigung der Chemie, so wie mit Angabe eines Verfahrens: die Versuche zu coloriren, in Kupfer abzubilden und galvanisch zu vergolden. Nebst einer Beschreibung des Herschelschen Chrysotyps.- Dresden und Leipzig: Arnoldischen Buchhandlung, 1843. 8° (215 x 135 mm) VI, 87 pp., (1) Contemporary papercard boards, faint waterstain to upper margin of the first pages, inner cover with cancelled ownership inscription. GBP 2.500.-

Exceedingly rare and quite early german work on Daguerreotypie by the retired russian lieutenant („Kaiserl. Russ. Husaren-Lieutenant a. D.“) from Tilsit, who might be the same person that published in St. Petersburg in 1862 with Karl Ernst von Baer the fine chromolithographed work: *Ethnographic Description of the Peoples of Russia*. The chapters describes the different photographic methods and the tools for an own studio. The second part describes the process of Daguerre in detail, the preparation of the plates, the chemical processes, the cameras, the chemicals, electroplating and the newest invention with paper.- Heidtmann 06085. KVK: Dresden, Hannover, Deutsches Museum München, Hamburg, Wien; BN Paris, COPAC: no copy; OCLC: only Smithsonian (= all copies)

commemorating the Franco-Prussian War

Pfuhl, Johannes.

Das Fries-Relief im Feldmarschall - Saale der Haupt-Kadettenanstalt in Lichterfelde.- Berlin, Heymann, (1878). square Large-folio. (340 x 660 mm). 2 Bll. (title with mounted photograph and dedication leaf), 9 pp. and 13 leaves card boards with mounted original photographs by F. Jamrath & Sohn (image-size: 100 x 440 mm). In dark leather folder by F. F. Kullrich, Berlin (signed), gilt printed cover, little rubbed and soiled, overall somewhat stained, mounting boards stronger, but photos less affected. GBP 3.400.-

Exceedingly rare work from the property of Otto von Bismarck, a present to his birthday.

Probably only in small numbers distributed. We could locate a single copy in Berlin, Staatsbibliothek.

Complete reproduction of the unretained 13 frieze in rilievo (now destroyed) showing scenes from the German-French War. The photo on the title with a panoramic view of the Kadettenanstalt / Lichterfelde where the frieze once was attached.

Johannes Pfuhl (1846 – 1914) was a german sculptor who studied at the Berlin Academy of Fine Arts with Hermann Schievelbein and became his master's assistant and completed his plans for the bronze memorial once in the Dönhoffplatz (now the Marion-Gräfin-Dönhoff-Platz), Berlin. Soon after Schievelbein's death Pfuhl settled in Charlottenburg. He made a few portrait busts, but his more typical products were colossal groups or reliefs, like the frieze in rilievo, commemorating the Franco-Prussian War, for the military school of Groß Lichterfelde, Berlin (1876; **destroyed**), the statue of Count Stolberg, in Landeshut, Silesia, "Perseus Liberating Andromeda", a fountain deco-ration in Posen (1884), and also in the Goethe Theatre in Charlottenburg (1896, removed), the equestrian statue of Wilhelm I. with Otto von Bismarck and H. von Moltke, in Görlitz (1893; destroyed), Wilhelm I., for the Reichstag Building (1905).- Thieme-B XXVI, 538. Vollständige Wiedergabe der nicht erhaltenen 13 Relieffriese, die Szenen aus dem Deutsch-Fran-zösischen Krieg zeigen.

Pigonati, Andrea.

Descrizione delle ultime eruzioni del Monte Vesuvio.- Napoli: Stamperia Simoniana, 1768. 8° (205 x 145 mm) (8), XXVIII, [3] folded leaves of plates (ill., maps) (Sign.: pi⁴ A⁸ B⁶) with engraved title-vignette (bouquet of flowers), head- and tail-piece, initials, partly in different color-printing. Plates engraved by Giuseppe Alloja after Pigonati's designs. Old Wrappers. GBP 1.400.-

First edition of his description of the important eruption of Vesuvio which attracted europe wide interest in Vulcans. Andrea Pigonati (1734 - Naples, 1790) was a Col. Lieutenant of the Engineering Staff of the Bourbon Army. In 1759, he was sent together with military engineer Giuseppe Valenzuola by King Karl III. of Spain to Utica, as part of a project to populate the island. On returning from that study, he published an interesting work on this project in a very scientific naturalistic style. In it he revealed a reformist positions that will characterize his later work. His interest was then addressed to the classical antiquities of Sicily. In a work he measured and described the ancient monuments of the island. Later he become director for the street & construction works inthe Abruzzi (from Castel di Sangro to Sulmona).

Geometry of War

Python (or Pithon), Joao Bento.

Descripcao do novo pantómetro de arta e explicao das operacoens q(ue) com elle se podem fazer. ... Portuguese manuscript on paper. No date or place (Porto, Lisboa early 1750-1760's). 4to (210 x 170 mm). (5) leaves (3 blanks), 17 numb. leaves with manuscript text and 7 finely executed coloured wash-colour drawings with the instrument, its parts and function. Cont. red morocco, gilt spine, ruled borders. All edges gilt. Binding soiled extremities worn.
GBP 8.000.-

A fine Portuguese manuscript on a newly designed instrument called 'pantometro' by Jean Benoit Pithon (fl. 1755-1766) for the use in gunnery, dedicated to Joseph I. of Portugal. Pithon was commander of an artillery regiment in Porto (as mentioned on the title). In 1752 he participated in a cartographical expedition to the northern part of Brazil (Rio Iguacu) to establish the exact course of the new border between Portugal and Spain according to the treaty of 1750. Pithon's instrument combines 3 distinct devices in one. A gunner's quadrant, a sight and a gauging device. A very fine copy, the text in a professionally calligraphed script, with exceptionally fine watercolour drawings of the instrument.

Rengger, Johann Rudolph.

Naturgeschichte der Saeugethiere von Paraguay von ... Basel: in der Schweighauserschen Buchhandl., 1830. 8°. (190 x 120 mm) XVI, 394 pp. Green half calf, lettered in gilt on spine, hinges rubbed, inside spotted throughout, first gathering little loose.
GBP 800.-

First edition of a book that was taken by Charles Darwin on board of the Beagle around the world, cited in his Journal of Researches and there are some notes regarding Rengger in Darwin's early transmutation notebooks.- **Provenance:** M. Edwards (lettered on lower spine). Johann Rudolph Rengger (1795-1832) was a swiss naturalist traveling in Paraguay in 1818. Rengger became one of the few foreigners, together with his friend, colleague and travel partner Marcel Longchamp, who witnessed life in Paraguay in the early days of the independence. His Reise nach Paraguay stands out for its breadth and rich view of its zoological, botanical, ethnographic and sociological observations related to the time from 1818 until 1826.

star map of the northern hemisphere

Reuter, Ferdinand.

Der nördliche gestirnte Himmel. 4. Auflage.- Gotha: Perthes, 1874. Star map on blue background in four segments (each measuring: 495 x 470 mm) mounted on linen with text (10 pp.) attached on inner cover in original folder. Dustsoiled, but in fine condition. With mounts to hang on the wall.
GBP 3.000.-

Fourth edition, but in any edition very rare star map of the northern hemisphere.

First published in 1850 by the teacher of science at the „ersten Bürgerschule“ in Leipzig, secretary of the Astronomical Society there and member of Leipziger Naturforschenden Gesellschaft. He was an associate of the astronomer Gustav Adolph Jahn.

The review in the Leipziger Zeitung praises the work: „ist eine Sternkarte, welche durch die zum Theil neue Art der Darstellung und durch Wahrheit eben so sehr, wie durch Faßlichkeit und Deutlichkeit sich auszeichnet. Auf dunklem Grunde sind die Fixsterne nach ihrer Größe oder Helligkeit farbig gegeben und so mehr oder weniger hervortretend dargestellt, wie sie dem Anschauer des Himmels wirklich erscheinen. Es ist mit Hilfe eines so getreuen Abbildes außer-ordentlich leicht, an dem gestirnten Himmel sich zurecht zu finden. Die Sternbilder sind in Contouren angedeutet und in solcher Farbe, dass dieselbe in einiger Entfernung verschwindet und blos die Sterne hervortreten. ... Ohne Astrognosie kann also auch keine gründliche mathematische Geographie auf Schulen bestehen.“ (Leipziger Zeitung, 1850, pp. 777) see also review in Archiv der Mathematik und Physik, vol. 14 pp. 739: „empfehlen daher diese sehr verdienstvolle Arbeit, die namentlich auch durch schöne Aus-führung sehr anspricht,“

Sehr seltene Sternkarte von einem Kollegen des Astronomen u. mathematikers Gustav Adolph Jahn (1804 - 1857). Jahn lernte an der 1. Bürgerschule und der Thomasschule zu Leipzig. Danach absolvierte er eine Mechanikerlehre. Ab 1825 studierte er Mathematik und Astronomie an der Universität Wien. Nebenher arbeitete er an der Universitätssternwarte Wien unter Joseph Johann von Littrow. An der Universität Leipzig studierte er bei Heinrich Wilhelm Brandes, Moritz Wilhelm Drobisch und August Ferdinand Möbius und promovierte 1831 an der Universität Jena mit dem Thema De calculo eclipsium Besseliano commentatio zum Dr. phil. Mithilfe des Kregel- Sternbach'schen Reisestipendiums besuchte er die Volks-sternwarte Urania Jena, die Sternwarte Göttingen, die Hamburger Sternwarte und die Berliner Sternwarte. Von 1828 bis 1829 arbeitete er an einem Projekt der Fürstlich Jablonowski'schen Gesellschaft zu Leipzig. Aufgrund einer Krankheit konnte er nicht lange in einer Sternwarte arbeiten und wirkte fortan als Privat-gelehrter und Schriftsteller. Er erfand das Toposkop, welches der Leipziger Stadtrat verwendete. Jahn war Direktor der Astronomischen Gesellschaft und Mitglied der Naturforschenden Gesellschaft zu Leipzig sowie korrespondierendes Mitglied des Naturwissenschaftlichen Vereins und der Mathematischen Gesell-schaft in Hamburg.- Not in common bibliographies like Houzeau/Lancaster, Kanas, Warner et al. KVK: Marburg, Stabi Berlin, Leipzig, München, Chemnitz; COPAC: BL London (only text ?); OCLC: Bern, Utrecht, Library of Congress, BNF Paris.

„Golden Age“ of Palaeobotany

Schlotheim, Ernst Friedrich Freiherr von.

Die Petrefactenkunde auf ihrem jetzigen Standpunkte durch die Beschreibung seiner Sammlung versteinerter und fossiler Überreste des Thier- und Pflanzenreichs der Vorwelt erläutert von E. F. Baron von Schlotheim ... mit XV Kupfertafeln. (and) Nachträge. 3 parts in 1.- Gotha: Becker'sche, 1820 - 1822. 8° (220 x mm) LXII, 438 pp.; XI, 100 pp.; 114 pp. Contemporary half calf, gilt spine in compartments, marbled boards, clean and fresh copy. **(and with: plate vol.)** Versteinerungen aus von Schlotheim's Sammlung. 2 installments.- Gotha, Becker'sche Buchhandlung, (1820-23 resp. 1832) Quarto (290 x mm) 66 engraved plates, numbered I-XXIX and I-XXXVII. Original-Wrappers. Used and spotted, plates quite fine. GBP 3.900.-

First edition of the original text with the two amendments („Nachträge“), all plates in the second issue of 1832. All plates dated as original issue. The left over of the original plates were re-issued in 1832 without original text, which was sold out.

Ernst Friedrich, Freiherr von Schlotheim (1764 – 1832) was a German palaeontologist and politician. He was Privy Councillor and President of the Chamber at the court of Gotha and a curator of the library, art and natural history collections of the Duke of Gotha. Becoming interested in early age in minerals and geology he gathered a very extensive collection of first minerals, then fossils. He was a student of one of the founding fathers of geology: Abraham Werner in Freiburg (Saxony). However, he also had close links to various botanists and zoologists, such as J. F. Blumenbach and S. von Bridel, which no doubt helped him in his later palaeobotanical studies. Schlotheim's two principal palaeobotanical studies dated from 1804 and 1820 and are based on specimens in his private collection. The fossils originated mainly from the carboniferous of Saarland and France, and the Lower Permian of Thuringia. His more important work was entitled *Die Petrefactenkunde* (1820); in contrast to the 1804 work, his 1820 study concentrated more on comparing fossils with fossils, which allowed him to develop a binomial nomenclature with genera intended exclusively for use with fossils. For the first time in Germany the fossils were named according to the binomial system of Linnaeus. In this book he incorporated the plates used in his previous memoir and supplemented it by a folio atlas (1822), in which he illustrated his collection of petrified and fossil remains of the animal and vegetable kingdom of a former world.

The published plates, on which Schlotheim placed great importance were copper-plate etchings printed on quarto sheets. The etcher was Theodor Götz (1779-1853) who worked for Industrie-Comptoir Weimar. The final engravings were prepared by Johann Stephan Capioux (1748-1831) who was drawing master at the University of Leipzig and who had close contacts with many of the botanists working then at Leipzig. He illustrated several of the finest botanical publications of the time, like Hedwig and Dreves & Hayne, et al. Schlotheim repeatedly emphasized that he regarded the factual evidence provided by the descriptions and illustrations of the fossils as being central to his work. This probably explains why he went to the effort of obtaining the services of such an eminent engraver to illustrate his work. Brongniart (1822) was however critical of much of Schlotheim's work, including the illustrations. In particular, he noted that the illustrations showing the whole specimen were not accompanied by close-ups showing details, such as venation. Later authors called the plates: „Nevertheless, the illustrations provide a very faithful impression of the overall morphology and size of the specimens.“

Schlotheim's collection was sold after his death to the Berlin University and today his specimens are preserved in the Naturkunde Museum Berlin.

Plates I-XIV were issued with his *Beschreibung merkwürdiger Kräuterabdrücke und Pflanzenversteinerungen* in 1804 and re-issued here. A further continuation of plates XV-XXIX were issued for the above 1820 edition. The further plates are for *Nachträge zur Petrefactenkunde ...* Gotha, Becker, 1822-1823 with 8 additional plates, all dated from 1801 - 1805 and 1820-1823.

Lit.: Chr. J. Cleal; M. Lazarus; A. Townsend. Illustrations and illustrators during the „Golden Age“ of palaeobotany: 1800-1840; in: *History of Palaeobotany. Selected Essays* (2005), pp. 41 ff. BMC (Nat. Hist.) 1841; Nissen BBI 1777.

Jubilee Art Exhibition - Berlin 1886

Schwartz, Friedrich Albert (photographer)

Jubiläums-Kunstaussstellung zu Berlin 1886. Folder with 16 boards each with a mounted original albumin photograph (around 193 x 256 mm).- Berlin: F. Albert Schwartz, Hofphotograph, (1886). Folio (320 x 420 mm) 16 Bll./leaves with mounted photographs. Contemporary red embossed cloth folder, title on cover, each board: 316 x 400 mm, each mounted photograph with blind-stamp by the photographer on mount and image, all dated. Rubbed, spotted and soiled, little water-stained on flaps, with Ex Libris of the photographer on inner cover, boards clean, photographs partly little faded, 2 Bll. text (poem signed „M. J.“; printed by Otto Holtz), unsigned dedication by the organizers, dated 24. December 1886 to Mrs. Friedel (Christmas present?). GBP 3.000.-

Exceedingly rare portfolio showing the exhibition design of the important art exhibition in Berlin in 1886 (Berlin Jubilee Art Exhibition) in photographs by the known German urban photographer Friedrich Albert Schwartz (1836 - 1906). The photographs show the central exhibition grounds for the Jubilee Exhibition of the Royal Academy of Arts in Berlin, which was held from May to October, 1886 and the presentation of the paintings within its buildings. One image shows the Temple of Zeus,

which contained the Pergamum Panorama. Halfway up its staircase is a replica of the massive Pergamum altar. Not shown is the immense Egyptian temple (40 meters long and 20 meters deep), whose five dioramas celebrated the role of Germany and other nations in African colonization. Also omitted is the great iron and glass exhibition hall, which featured giant canvasses by Anton von Werner (*Congress of Berlin*, 1881), Adolph Menzel (*Coronation of King Wilhelm I in Königsberg*, 1865), and others artists, both German and non-German alike. No French paintings were included in the exhibition, because the French, citing the Germans' non-participation in the Paris Universal Exposition of 1878, refused to send any works. As many as 20,000 people are said to have visited the Jubilee Exhibition on a single evening (June 6, 1886) and according to reports it attracted more than 1.2 million visitors before closing on October 31, 1886. An uncontested box-office success, the exhibition generated a profit of more than 15,000 marks from total revenues of 70,000 marks.

In the eyes of Prussian Minister of Culture Gustav von Gossler, the exhibition had also shown the rest of Europe that "art had gradually taken up its dwelling among us, had found in the north a firm home." (Beth Irwin Lewis, *Art for All? The Collision of Modern Art and the Public in Late-Nineteenth-Century Germany*. Princeton: Princeton University Press, 2003, pp. 97).

Hopes that the exhibition had finally displayed a "unified" German art, however, went unrealized. In fact, throughout the 1880s, Berlin figured only marginally in a German art scene characterized by regional distinctiveness and competition – as Munich's Third International Art Exhibition in 1888 made abundantly clear.

Friedrich Albert Schwartz opened in 1860 his own shop in Friedrichstrasse 73 and from the beginning he worked as an architectural photographer for companies as Borsig (Steel) or Schwartzkopff, and the communal companies as Städtische Gasanstalt. He recorded buildings and machines, for example locomotives. Around 1868 Prince Carl of Prussia gave him the title of a „Hofphotographer“ (court photographer). On behalf of the magistrate, and partly at his own risk, Schwartz began to **capture the transformation of Berlin from the royal residence to the modern city**. In his photographic records the disappearing of historical buildings and old working places predominate in contrast to the photographer Hermann Rückwardt, who concentrated on the new buildings from the mid-1880s onwards. In addition to the documentation of the historical cityscape, there are also pictures of new technical buildings which interested Schwartz, for example the construction of the hall of the Anhalter Bahnhof. A big project was the photographic documentation of the construction of the Berlin city tramway from 1878 to 1882 and the demolition of the old cathedral at Lustgarten around 1890.- not in Heidtmann, not in Berlin Bibliography, not in Kiewitz.

We could locate only three different portfolios in the: Archiv der Universität der Künste, Berlin

not in KVK, COPAC or OCLC.

Photographs of a German Garden

Sonntag, Ernst (photogr.)

Ansichten aus dem Park des königl. Lustschlosses zu Pillnitz (cover title). 27 original albumen photographs, various sizes from 210 x 330 to 250 x 365 mm mounted on boards. - Dresden, around 1883. Contemporary brown cloth folder with gilt printed title. Folio (365 x 480 mm). Rubbed and soiled. Mounts slightly dust-soiled, photographs in good condition with only minimally fading. A very scarce suite of photographs. GBP 5.500.-

Exceedingly rare portfolio with photographs of the Pillnitz Castle & Gardens in Dresden, including images of trees. A present for Otto von Bismarck, from his property at Schönhausen.

The photographs were made by Ernst Sonntag, who has been resident in Dresden between 1884 and 1910. The images show the Pillnitz Castle and its park. The 28-hectare park surrounding the main buildings was famous for its botanical attractions from all over the world. Among them is a camellia tree more than 230 years old – one of the oldest in Europe. Legend has it that Carl Peter Thunberg brought it from Kyoto in 1776. The tree was planted in its current location in 1801. The park also features a late 18th century English garden with an English pavilion, a Chinese pavilion, a conifer garden and an orangery. The English pavilion, built in 1780, is a copy of Donato Bramante's Tempietto in Rome. It is located next to a pond in the English garden. In 1804, the Chinese Pavilion was erected on the northern edge of the park. While the Chinese elements of the castle are only decorations, this small pavilion was built in the authentic Chinese style. The paintings on the walls inside depict actual Chinese landscapes. Also shown is a replica of the red royal gondola which Friedrich August I. used for transport between his residence in Dresden, the Royal Palace, and his country seat in Pillnitz. The palm house was built between 1859 and 1861. Covering 660 square metres and 93.7 m (307 ft) in length, it was the largest greenhouse in Germany at the time.

The images dated 1883, included are: Königl. Lustschloss, Lustgarten, Lustgarten von der Maille nach dem Speisesaal gesehen, Mittelpalais, Neues Schloß, Flora mit Ruine, Flora vor dem Rondell, Flora. Große Durchsicht, Allee und Maille, Bergpalais, Bergpalais, Chinesischer Pavillon, Englischer Pavillon, Englischer Pavillon, Orangerie, Abies Casiocalpa, Pinus Benthamiana, Große rothe Buche, Große Camellie, Partie vom Kaiserflügel ..., Partie von der großen rothen Buche, Palmenhaus, Palmenhaus innere Ansicht, Prinzengarten, Alte Reitbahn, Kegelbahn, Chinesischer Teich mit Ruine. Ernst Sonntag (aktiv ca. 1884 - 1910). Über die Person des Photographen und seine Beziehungen zu Hermann Krone gibt es keine genauen Angaben. 1884 - 1907 sind drei Atelier-adressen Sonntags in Dresden nachweisbar. Die letzte, "Wilder Mannstraße 63" firmierte unter dem zusätzlichen Titel "Vereinigte Fachschulen für Photographie und Malerei". 1903 berichtete der Deutsche Photographen-Verein über seine kurz zuvor abgehaltene Wanderversammlung in Dresden. Mit Formulierungen, die auf ein gutes Renommée Sonntags schließen lassen, wurden hier auch seine in der dazugehörigen Ausstellung gezeigten Kohle- und Gummidrucke erwähnt. In manchen Quellen erscheint der Ort Trachau bei Dresden als Wohnort Sonntags.- OCLC: no copy.

Scythian art in St. Petersburg Hermitage

Stephani, Ludolf.

Die Silbervase von Nikopol aus der Kaiserlichen Eremitage. Herausgegeben von C. Röttger. - St. Petersburg, Kaiserl. Hofbuchhandlung H. Schmitzdorff (C. Röttger), 1873. Typographical title-leaf, 8 mounted original photographs various sizes, mainly around 450 x 370 mm in excellent rich and dark contrasting prints. All photographs captioned in Russian, German, French and English on mounts. (4), 16 pages (text in variant size: 405 x 300 mm). Publisher's halfcloth- folder with printed covers. Imp.-folio. (800 x 580 mm). Covers slightly spotted and rubbed, flaps with tiny traces of worming. GBP 6.000.-

Exceedingly rare publication on the Nikopol amphora now preserved in the Eremitage with six photographs of the amphora and two photographs of other archaeological artefacts in gold found with the silver vase. The photographs of the vases are large prints, in excellent dark and contrasting tonality.

Dedication copy to Otto von Bismarck: Zur Erinnerung an den Aufenthalt in St. Petersburg, April 1873.

The Editor was the curator of antiques at the Hermitage Ludolf Stephani (1816-1887). He had been a councillor of state and a full member of the Academy of Sciences in St. Petersburg since 1850, where he represented classical studies, a position which brought with it to be the head of the department of antiquities at the Hermitage Museum, where Stephani worked already as a conservator since the autumn of 1850. From 1859 the academy carried out excavations on the Black Sea coast to secure the ancient remains of the Greek colonies and the Bosporan empire. Stephani was concerned with the scientific description and interpretation of the finds until his death. The Scythian amphora was among the most important finds of this excavation campaign. The egg-shaped body of it found in the Dnieper Region near Nikopol consists of two parts. The surface is entirely covered with relief and flattened representations making up three friezes. The upper frieze depicts griffins tearing at stags. The middle one has the cast figures of Scythians and horses which join together to create different scenes, with the sacrifice of a horse in the centre. The lower frieze bears elements of floral ornamentation and is decorated by birds and rosettes. The lower part of the vessel has three pouring lips. The representations on the amphora are assumed to reflect Indo-Iranian cosmological belief. Taken as a whole, the vessel could have been perceived as a World Tree prototype. One of the key motifs of the whole set of representations is that of sacrifice, as is further evidenced by the scenes of beasts being torn apart, where death is perceived as a sacrifice for the sake of the continuation of life. Of particular significance is the protoma of a winged horse on the body of the amphora, which may personify the Scythian deity Thagimasad - Poseidon, the patron of horses.

KVK: Mainz, Berlin, Kiel, Marburg, Dresden; COPAC: National Art Library (Le vase d'argent de Nicopol à l'Ermitage imperial); OCLC: no copy (?).

Geology

Tondi, Matteo.

Elementi di Oreognosia di Matteo Tondi, ... con 3 tavole incise in rame.- in Napoli: dalla Tipografia del regno Incisore C. Cataneo, 1824. 8° (225 x 150 mm) 521 pp., (1, blank), XXI, (1, blank), (4) with three engraved plates (Cataneo inc.). Contemporary printed wrappers, uncut copy, printed on good paper, fine. GBP 800.-

The mineralogist Matteo Tondi (1762 - 1835) was one of the first to popularize in Italy the new theories of A.-L. Lavoisier against those supporting the phlogiston theory then prevailing.

Ferdinand IV chose him in 1789 for a mineralogical expedition to Germany, Hungary and England, thanks to which Tondi discovered a new classification of metals. In 1789 he stayed at the Montan Academy of Schemnitz, and here, in addition to the platinum, succeeded in obtaining regulite metal from ores of manganese, molybdenum and tungsten, as well as oxides of calcium, manganese and barium. To compliment, Baron Born, authorities in the field of metallurgy, sent Tondi a sample of the Raab fossil collection.

During his travels (which took him to France, Spain and other regions of the old continent) Tondi put together a rich collection of fossils, not only European, but also Asian and American collection that was later the nucleus of the Mineralogical Museum university of Naples.

However, surprised by the French Revolution in 1799, he fled to Paris, where he was named adjunct to the Natural History Museum as assistant of Déodat de Dolomieu and collaborated with René Just Haüy in his studies of crystallography. Later he became general inspector of the Naples water works and professor of oryctography at the University of Naples and the direction of the Royal Mineralogical Museum.- Pogg. II, 1116-17; Vaccari, Mineralogy & Mining in Italy, Ward & Carozzi, Geology no. 2180; Schuh: „Scarce“

Trade Catalog

(Trade) **Majoliken- & Email Ofen-Fabrik** von Chr. Seidel & Sohn (Deckeltitel). Dresden around 1880. 4to (265 x 145 mm). 2 Bil. with lithogr. title and 79 partly col. plates in different techniques. Red cloth, gilt printed. Fine. GBP 1.200.-

Fine example of a rare trade catalogue for a producer of stove, oven and furnaces for the kitchen, bathroom and private room. Die zahlr. Abbildungen zeigen verschiedenste Produkte des Unternehmens wie Badeöfen, Emaille-Öfen u. -Bäder, Hochkachelöfen, Kochherde, Majolica-Kaminöfen, Ofen- Ornamente, Rökkokoöfen, etc. Die farb. Tafeln überwiegend in Lithographie. Die Tafeln mit ungenauer Nummerierung u. Nummerierungslücken.

on gas & liquids

Waals, Johannes Diderik van der (1837 - 1923).

Die Continuität des gasförmigen und flüssigen Zustandes. Von J. D. van der Waals. Aus dem Holländischen übersetzt und mit Zusätzen versehen von Friedrich Roth.- Leipzig: Johann Ambrosius Barth, 1881. 8°. VIII, 168 pp. with 2 plates. Ownership inscription on title. Contemporary half calf, gilt spine in compartments, hinges weak but holding. Handwritten annotations in pencil on pp. 2-7 by Gustav Mie or Heinrich Lehmann. GBP 1.200.-

First german edition, association copy. Gustav Mie's copy of van der Waals's classic dissertation on the continuity of gaseous and liquid states in the first german edition, which introduced the van der Waals equation, an equation of state approximating the behavior of real fluids. This dissertation, first published in dutch in 1873, one of the most famous in the history of physics, 'at once put his name among the foremost in science' (Maxwell).

In 1873, van der Waals obtained his doctor's degree for a thesis entitled *Over de Continuïteit van den Gas- en Vloeis-tofstoestand (on the continuity of the gas and liquid state)*, which put him at once in the foremost rank of physicists. In this thesis, he put forward an "Equation of State" embracing both the gaseous and liquid state; he could demonstrate that these two states of aggregation not only merge into each other in a continuous manner, but that they are in fact of the same nature. This equation of state was a dramatic improvement over the ideal gas law. It was van der Waals' genius that made him see the necessity of taking into account the volumes of molecules and the intermolecular forces ("van der Waals forces", as they are now generally called) in establishing the relationship between the pressure, volume, and temperature of gases and liquids.

"Van der Waals' idea of continuity was that there is no essential difference between gaseous and liquid states of matter, although one must consider other factors in addition to motion of the molecules in the determination of pressure. The important factors are the attraction between particles and their proper volume. . . . From these considerations van der Waals arrived at the equation $p + \frac{a}{v^2} (v-b) = RT$ where a expresses the mutual attraction of the molecules, and b is their volume. . . . Other experimenters have suggested different models and equations of state, but van der Waals' model is probably the most useful because it emphasizes the essential features of molecules that determine liquidity, without introducing too many 'realistic' complications. . . . An important practical application of the theory is the prediction of conditions necessary for the liquefaction of a gas; this was an important guide in the liquefaction of the 'permanent' gases" (Weber, *Pioneers of Science*, p. 41; see also p. 40)."

Van der Waals was awarded the Nobel Prize for physics in 1910 for his work on the equation of state of gases and liquids. The son of a carpenter, van der Waals began his career as a primary school teacher, advancing after additional training to the secondary school level where he became a Headmaster. He received his doctorate at Leiden at the age of 36 with the present dissertation, one of the most famous in the history of physics, and became professor of physics at the University of Amsterdam in 1877. Remarkably he wrote very little after his dissertation - a few articles and a book on thermodynamics co-authored in 1912.

His Nobel Prize was awarded for the discovery first published in his dissertation.

Parkinson, *Breakthroughs*, p. 382; Neville, *Historical Chemical Library*. P. 599; DSB XIV, 109.

Chess - Knight's problem

Warnsdorf, Christian Heinrich von.

Des Rösselsprunges einfachste und allgemeinste Lösung: mit sechs und neuzig Figuren in Steindruck, gefunden und dargestellt von... Schmalkalden, in der Th. G. Fr. Varnhagenschen Buchhandlung, 1823. Quarto (192 x 164 mm) 68 pp., (2, last blank) with 96 fig. on 16 fold. plates. Contemporary half calf, marbled boards, spine repaired, re-backed, inside some foxing and browning. GBP 1.000.-

A very rare german book on the knight's problem by the german lawyer and judge (Oberlandesgerichts-raths) working for the hessian government in Fulda.

The modern study of the knight's problem appears to have begun in the 18th century without knowledge of the mediaeval work, save perhaps for the half-board tour in Guarini's work. The subject first reappeared in Jacques Ozanam's *Récréations Mathématiques et Physiques*, which was a compilation in the tradition of C. G. Bachet's *Problèmes Plaisans et Déléctables* which first appeared in 1612, and was imitated in numerous other collections of puzzles, tricks, mathematical recreations and popular scientific effects for entertainment and instruction at social gatherings. The first edition of Ozanam's work was published in 1694 but (according to one of the later editors, C. Hutton) Ozanam died in 1717.

The first edition of Ozanam's work to contain the knight's tours by the mathematicians Raimond de Montmort, Abraham de Moivre and Jean-Jacques de Mairan was that published in four volumes in Paris by Claude Jombert in 1725 (vol.1, pp.260-9). Ozanam's compilation appeared in numerous revised and translated editions, under various editors and publishers until the mid 19th century.

It is natural to try to devise some simple rule governing movement of the knight which would lead to the completion of a knight's tour. Such a rule would obviously provide another method of demonstrating the knight's tour as a conjuring trick. Most such rules however are only imprecise guides ('rules of thumb' or 'heuristics') and if applied strictly do not lead to completely determined tours, while those that do produce a complete tour tend to be difficult to apply and work only under very restricted circumstances. However, the resulting paths can be used as a basis for constructing a complete tour, say by Euler's method. The tours of Mani and de Moivre follow the approximate rule: 'Tour the border first as far as possible, and then the central area'. Collini's method can be regarded as an elaboration of this idea. The most celebrated of these rules is that of H. C. von Warnsdorf, *Des Rösselsprunges einfachste und allgemeinste Lösung* {Knight's tours simple and general solution}, Schmalkalden (1823): "Play the knight to a square where it commands the fewest cells not yet used." The tours shown above are given in a review of Warnsdorf's work (I have not seen the original). Strictly applied the rule falls far short of producing a completely determined tour. The best it gives, before it reaches a position where it is undecided on the next move is 18 moves, starting b3-c1. Nevertheless much has been written about this rule, and recently it has been the subject of computer studies.

Warnsdorf claimed that when there is a choice of moves under the rule any of them can be taken, but examples can be given where this fails. The rule also involves a degree of backtracking, since you have to examine all possible choices of the next two moves to determine the next single move. Thus it may be claimed that it is not a proper tour-generating rule, in which all backtracking is prohibited.

KVK: Erfurt, Wolfenbüttel, Berlin (war loss); BL London, Zürich; OCLC: Harvard, McGill, NY Public, Columbia, Princeton.

Trying to arrange his own mineral collection

Woltersdorff, Johann Lucas.

Systema minerale. Mineral-System worin alle zum Mineral-Reich gehörige Körper in ordentlichem Zusammenhange nach ihren Classen, Ordnungen, Geschlechtern und Arten vorgetragen werden. Neue, von dem Verfasser selbst vermehrte und verbesserte Auflage.- Berlin, Buchhandlung d. Real-Schule, 1755. (210 x 270 mm). 60 pp. Contemporary german calf, lower spine with little worming, title with old inscription, partly erased, a few pages in upper margin with paper flaw and old repairs, but still a good copy. GBP 2.000.-

Very rare work by the mineral collector Johann Lucas Woltersdorff (1721 - 1772), who tried to find a system to arrange his huge collection. This is the enlarged second edition.

In attempting to organize his mineral collection in 1740, Woltersdorff found difficulties in the prevailing systems of Gessner, Woodward, and Scheuchzer. He there after developed his own method which is an early attempt to classify species by chemical composition. The text presents this classification in a series of tables in Latin and German. The major divisions are earths, stones, salts, hard earths, semi-metals, metals and petrifications. Woltersdorff was a preacher at several churches in Berlin. As a hobby he collected a large mineral collection, which was sold in 1772 by auction.- Beckman, Systematische Mineralogie, 1906. pp. 22-24; Cobres, Deliciae Cobresianae II, 685-6; Gatterer, Mineralogischen Literatur. I, 26-27; Kobell, Geschichte der Mineralogie. pp. 62-64; not in Sinkankas.

Zweite, relevante Ausgabe mit deutsch-lateinischem Paralleltex; gegenüber der Ausgabe von 1748 um 8 Seiten vermehrt. Woltersdorff (1721-1772) war Theologe und eifriger Sammler mineralogischer Gegenstände.

"Bei der Anhäufung seiner Mineralien und Steine fühlte Woltersdorff das dringende Bedürfnis, diese Schätze... auch systematisch zu ordnen. Die älteren diesbezüglichen Werke... gaben ihm hierfür nicht genügende Anhaltspunkte. Woltersdorff sah sich deshalb veranlaßt, selbst eine kurze Mineralogie auszuarbeiten und zu publicieren, welche 1748 ... erschien. Woltersdorff stellt darin den Grundsatz auf, daß sich die Mineralien eigentlich nur nach ihrer Mischung und Materie, aus denen sie zusammengesetzt seien, beurtheilen und ordnen lassen, wobei allerdings auch ihre Festigkeit, Härte, Durchsichtigkeit, Figur, Farbe, Geschmack und Geruch nicht außer Berücksichtigung gelassen werden dürfe. Diese Aufstellung leidet hauptsächlich an dem Fehler, daß darin neben den eigentlichen Mineralien auch Gesteine und Versteinerungen aufgenommen sind. Woltersdorff erkannte auch alsbald das Unzulängliche seines Systems... Er veranstaltete daher 1755 eine zweite, verbesserte Ausgabe seines Systema minerale, in welchem er nunmehr das Verzeichniß der Versteinerungen als Anhang beifügte" (Gümbel in ADB). - ADB 44, 184; Ferchl 588; Poggendorff II, 1364.

„Indonesia“ for Otto von Bismarck as birthday present

(Java) Woodbury & Page (photographers)

Wooden Box with **81 mounted albumen photographs** of Java (Dutch Indies) and one dedication leaf in javanese language dedicated to "Fürst Bismarck" (e. g. german chancellor Otto von Bismarck). Heavy paper boards (460 x 360 mm) with mounted albumen photographs (image size around 250 x 200 mm) by different photographers but mostly Woodbury & Page (with blindstamp: „W. & P.“ Photographien van Nederland. Indie Batavia). The images of the other photographers are not blindstamped. The handwritten dedication leaf in Javanese with gilt and colored ornaments, dedicated to Otto von Bismarck maybe by a representative of the javanese upper-class. All images titled by hand. Wooden box (500 x 395 x 140 mm) without cover. Fine condition of prints, a few faded, and boards (minor staining) and box. GBP 25.000.-

A very impressive collection of albumen photographs mainly by Woodbury & Page showing topographical views, genre scenes, market & street scenes, landscapes, portraits of Java with views from Bogor (Buitenzorg), Borodur, Garut, Jakarta (Batavia), Semerang among others, pictures of batik, railway viaducts, traditional music orchestras, copra production, fruit sales, rice cultivation and harvesting, shadow play actors & dancers, theater performances and many more of ethnology interest. Among the images are portraits of "Prince of Djocja in Old Javanese costume", "Sultan of Solo" and "Prince of Lombok, deposed in 1895 and deported to Bavia."

A very fine and important photographic survey of the Dutch East Indies. An invaluable historical, social, political and cultural resource brought together for Otto von Bismarck. Most of the images bear the blind-stamp of Woodbury & Page, but also included are photographs of other photographer, mainly of ethno-graphic interest.

Walter B. Woodbury (1834-1885), a Mancunian by birth, is the earliest known photographer of the Dutch East Indies. Aged 18 Woodbury emigrated to Australia in the hope of making his fortune in the Australian gold-fields. However, he was sidetracked by his passion for photography and became one of the leading exponents of the wet-plate process. He went on to hone his skills whilst living in Melbourne and, in 1854, won a medal at the Melbourne Exhibition which resulted in his decision to turn to photography professionally. Whilst in Melbourne he met his future associate, James Page, another British expatriate photographer, and both agreed to leave Australia in 1857 for Batavia and established their studio, Woodbury & Page, in the same year. After mastering the use of wet collodion plates in tropical conditions, Woodbury & Page went from strength to strength. Their work was acclaimed in *The British Journal of Photography* who reported that it was the first "to show the beauties of tropical scenery ever introduced to [England]" (*BJP*, 18 September, 1885, p. 596) and, in 1859, their photographs were marketed in England by Negretti & Zambra (scientific instrument makers to the Queen). After a short spell back in the UK, Woodbury returned to Java in 1860 and travelled extensively throughout the central and west of the country with Page and his brother, Henry James Woodbury (1836-1873). By 1861 the studio was moved to new premises and renamed Photographisch Atelier van Walter Woodbury where it remained until the company was liquidated in 1908. In 1863 Woodbury returned to England with his Javanese wife and, for the next 12 years, went on to invent prolifically (taking out patents for, amongst other things, optical kaleidoscopes, photographic apparatus and even musical railway signals). His breakthrough came with his patent for the Woodburytype in 1864, the photomechanical printing process which became the most commonly used method to illustrate fine books between 1870 and 1900.

Comprising views in Batavia and western Java, including: a group portrait of seated Javanese officials from Serang, Banten; a mosque at Banten; the Governor General's Palace, images around Buitenzorg, a mountainous city to the south of Batavia (which, by the end of the nineteenth century, was one of the most developed and westernized cities in Indonesia). Other images are from west Java, including Bandoeng, Tjitjalengka, Tjandjoer. Including: a raft ferry, upon which are a number of natives and a horse, at a river crossing; two native men and a horse in a road and also of notable Javanese figures and ethnographic studies, like an Indonesian dancer in traditional dress with musicians; four of the Regent of Bandoeng's dancers; female batik makers, the Regent of Rembang's gamelan ensemble; a group portrait of wayang kulit or 'shadow play' in action, a view of men and women harvesting rice; Javanese workers and tea drying in Garut,

The images are titles in ink as follows:

Frau beim Reispflanzen, Viaduct Tjibangkrang Preanger, Gamelang Bandong, Tänzerinnen Canondjaja, Markt-gruppe Buitenzorg, Sarong Weberin (= Sundanese sarong weaver in Bandung), Prinzessin vom Hofe in Djocja, Maleisches Kind, Fluss bei Cheribon (river at Cirebon), Sandmeer (Bromo), Fähre über den „Tjemandiri“ Tjandjoer, Reisernd(e), Rhede von Batavia, Moschee Tjandjoer, Jagd auf wilde Schweine, Junge Mutter (Buitenzorg), Ruinen Brambanan (Solo), Infanterie der Colonial Armée (neue Uniform), Eingeb(orene) Frau (Batavia), Haus des Residenten (Samarang), Batikken (Zeichnen und Färben inländischer Kleidungsstücke (Garoet), Am Brunnen einer Batav. Wohnung, Landschaft zwischen Batavia und Buitenzorg, Bekassi - Dorf bei Batavia, Landschaft bei Buitenzorg, Bereitung von Coprak, Schwalbennester Grotten (Fava's Südstrand), Ruine von Buru Budur, Poststation „Tjisokhan“ Tjandjoer, Ruine von Mundut, Berg Guntur (Garoet), Haus des Regenten von Bandung, Rathaus Batavia, Gras- und Paddie-Händler, Sitzung des Landrathes Patti (photographer blindstamp), Wachtthurm Samarang (photographer blindstamp), Brücke über den Tjitarum (photographer blindstamp), Überfahrt über den Tjitarum (Tjandjoer) (photogr. blindstamp), Frauen beim Kaffeepflücken, Palais des General Gouvenours Batavia (photogr. blindstamp), Miethwagen (dos a dos), Allee im Garten des Ge. Gouvenours Buitenzorg (blindstamped), Europ. Privathaus (Batavia) (blindstamped), Tjiliwung oberhalb Batavia, Badende Büffel, Eingeb(orene) Frau (Batavia), Fürst von Lombok, Javanen in National Tracht, Junges Mädchen aus dem Bade kommend, Sultan von Solo, Waringinbaum Batavia (blindstamped), Standbild von J. P. Coen (Batavia) (blindstamp), Brücke über den Tjimanuk Preanger (blindstamp), Dorf Manondjaja Preanger (blindstamped), Moschee Bantam (blindstamp), Batoc-Toelis Buitenzorg (blindstamp), Sogen „Heilige Kanone“ (Batavia), Gunung Gedungong (Preanger) (blindstamp), Ruine von Buru Budur (blindstamp), Baum mit fliegenden Hunden (blindstamp), Ruine von Buru Budur (blind-stamp), Gunung Berg Bubut Preanger (blindstamp), Altes Stadthor Batavia (blindstamp), Dorf bei Buitenzorg (blindstamp), Dorf (Preanger Hochland), Junge Prinzessin aus Bantam, Reiskochen, Frau Cocusnüsse schälend, Batikkende Frauen, Regent Bantam (blindstamp), Büffel vor dem Pfluge (blindstamp), Bellevue Buitenzorg (blind-stamp), Begräbnis von Eingeb(orenen), Krater des Pandaija (Preanger) (blindstamp), Büffel (blindstamp), Wajang wong (Inländisches Theater), Wajang wong, Früchteverkäufer, Inländische Tänzerinnen (Blindstamped), Prinz von Djocja in alt javanischer Tracht, Wajang Kulit (Schattenspiel)

**very rare illustrated treatise on conjoined twins,
preserved in natural cabinets of the duchy of Brunswick
and including a bibliography on this type of malformations**

Zimmer, Johann Christoph.

Physiologische Untersuchungen über Missgeburten, nebst der Beschreibung und Abbildung eini-ger Zwillingmissgeburten. G. Klüger, Rudolstadt, 1806. Octavo. (205 x 115 mm) Contemporary marbled boards. X, 84 pp., with 5 fold-out engraved plates executed by J. S. Walwert after the author's drawings. Contemporary marbled boards, two label on cover with number 880, little spotted throughout, else good copy. GBP 1.800.-

First and only edition, physical copies held by only 8 libraries worldwide (according to worldcat).

The author (1778-1820) was a surgeon and medician in Brunswick and after the german campaign of 1813 lectured anatomy at the Collegium Medicum there. He died early.

The work offered appears to have been his sole publication and is an explanatory account on the coming in being of malformations represented by certain specimen of human conjoined twins preserved in the anatomical collection and the Naturalienkabinett in the duchy of Brunswick. The plates show three different specimen of this curious type of malformation, which has attracted the attention of anatomists all since the first collections of natural specimen had started in the 17th century. The author - well aware of the writings of Soemmerring and others on the same subject - compares the human specimens with such of the animal world, completely abandoning the common explanation of malformations being a result of the mother's psychological condition and/or of severe sensual impressions on her mind and in order to do so Zimmer goes through quite a number of further cases of malformations reported in contemporary sources. The work ends with a commented bibliography of 30 reports on comparable cases, most of which being articles in learned journals from the 17th to the early 19th century.

Zückert, Johann Friedrich.

Die Naturgeschichte einiger Provinzen des Unterharzes nebst einem Anhang von den Mansfeldischen Kupferschiefern.- Berlin: bey Fiedrich Nicolai, 1763. Quarto (210 x 170 mm) and 8° (190 x 110 mm) (10), 212 pp. Contemporary half calf, morocco lettering piece, rubbed and soiled. Interleaved with blank pages, but with no handwriting. Old ownership stamp: R. Gr(af). v(on). Veltheim. Modern Ex Libris: Carl Volk. GBP 1.200.-

Very scarce work on copper slate in the german Oberharz area. A companion volume to the author's Die Naturgeschichte und Bergwerksverfassung des Oberharzes published in 1762. This work also describes the mineral resources of the Harz mountains of Germany in much the same manner as the earlier work. Johann Friedrich Zückert (1737 - 1778) was a german physician. He was a pharmacist for years before he studied medicine and finished in his studies in Frankfurt/Oder in 1760. He had a medical practice in Berlin and was the author of many books on medicine, balneology, and geology. Since 1765 he was a member of the Leopoldian Academy.

This work once belonged to a member of the famous Veltheim family, whose member had been interested in mineralogy. Like Franz Wilhelm Werner von Veltheim (1785 - 1839), a mining expert and after Gerhard's death head of the mining establishment in Berlin. And August Ferdinand Graf von Veltheim (1741 - 1801), who was in 1790 appointed by Empress Catherine of Russia as general inspector of mines and saltworks in the western regions of the Russian empire. He later established a widely acclaimed garden in Harbke which he opened to the public, and his home became a meeting place for many people who had attained social, scientific or literary status. There vistors found a large, carefully selected library, a fine cabinet of minerals and fossils, some collec-tions of engravings, etc. Geology was a favorite interest of Veltheim. He conceived a plan to write an extended work on the formation of the earth, but only the first part, *Etwas über die Bildung des Basalts* (1787) appeared. This work is of importance to the history of geology because Veltheim is the first to correctly attribute the origins of granite to a vulcanic mechanism.- BMC: 5, 2401; Hoover Collection no. 911.

hydraulic ram

Negro, Salvatore Dal.

Esperimenti e considerazioni sul' ariete idraulico.- Padova: tipografia del seminario, 1811. Quarto (290 x 210 mm) (2), 3-108 pp. with two fold. plates showing details of the instrument. Plain wrapper, clean and uncut copy. GBP 1.200.-

First edition of dal Negro's variant building of the hydraulic pump, invented by Montgolfier. The self-actuating hydraulic ram was patented in 1795 by Montgolfier. Salvatore Dal Negro (Born 1768 in Venice; died 31 January 1839 in Padua) was an Italian priest and physicist. He came from a humble background and studied theology in Murano. In 1791 he was ordained a priest and went to Padua, becoming first an assistant, and then a lecturer in experimental physics at the University of Padua. In 1806 the Napoleonic government appointed him government professor of mechanics and experimental physics. From 1831 he experimented with electromagnets and in 1832 demonstrated his electric motor. In 1809 Dal Negro invented the Oligochronometer, an instrument for measuring very short periods of time accurately. He built in 1832 the first electric engine with a quantifiable power out. Rotary motion was obtained from a pendulum with a ratchet device, and it could lift 60 grams by 5 centimeters in one second and so hence developed nearly 30 mW of mechanical power. Dal Negro described his experiments in a letter in April 1832 and later in a scientific paper: "Nuova Macchina letto-magnetica" in March 1834. His machines are stored at the Museum of the History of Physics at the University of Padua. Unfortunately they are not displayed.- Rouse, Historic Writings in Hydraulic 263.