CATALOGUE 52

SCIENCE AND MEDICINE

SIMON FINCH

CATALOGUE 52: *science and medicine*

250 items from stock

Cover illustration from item 13, Apianus, *Astronomicum Caesareum*, 1540
A list of references cited and a subject index are given at the end of the catalogue

SIMON FINCH RARE BOOKS LIMITED
53 Maddox Street, London W1S 2PN

Telephone 020 7499 0974
International +44 20 7499 0974

Fax 020 7499 0799
International fax +44 20 7499 0799

Email barbara@simonfinch.com
http://www.simonfinch.com

Designed and typeset by Adam Douglas
Photography by Matt Pia
Printed at Kendal, Cumbria, by Titus Wilson

Prices are in pounds sterling
VAT number GB 577 2327 21

1. *A cure for ophthalmia*

ADAMS [afterwards RAWSON], *Sir* William. Practical Observations on Ectropium or Eversion of the Eyelids, with the Description of a new Operation for the Cure of that Disease; and the Description of a Series of new and improved Operations for the Cure of the different Species of Cataract. London: J. Callow, 1814;

[*bound with:*] (—) Official Papers relating to Operations Performed By Order of the Directors Of the Royal Hospital for Seamen at Greenwich on several of the Pensioners belonging thereto for the purpose of Ascertaining the general Efficacy of the New Modes of Treatment of Dr. Adams for the Cure of the Various Species of Cataract and the Egyptian Opthalmia. London: W. Winchester, 1814;

[*and with:*] (—) Report made by Order of the Philomathic Society of Paris, by Drs. Magendie and Blainville on the Subject of the new Operations and Instruments invented by Sir William Adams for the cure of various Diseases of the Eye. Read and Approved by the Society the 28th of May 1814. [Offprint from the *Philosophical Magazine*, Aug. 1814.] London: Richard and Arthur Taylor, 1814. £3000

3 works in one vol., 8vo (210 × 132 mm.), pp. iv, 252 (pp. 131–136 misbound after p. 126), [ii] errata, verso blank; [iv], 21, [v] blank; 8. 3 stipple-engraved plates, including 2 printed in colour. Autograph note by Adams on inserted leaf bound after the second work. Some sporadic spotting. Elegant mid nineteenth-century binding of straight-grain red morocco, raised bands, decorated in gilt, gilt ruled and decorated borders to sides, with blind rolls inside border, gilt inner dentelles, all edges gilt. An excellent copy.

PRESENTATION COPY, INSCRIBED BY THE AUTHOR to 'Baron de Stift, Counsellor of State in the Service of His Majesty the Emperor of Austria — President of the University of Vienna &c &c &c by the author, London March 6th 1816'.

After studying eye surgery with John Cunningham Saunders at the London Infirmary, William Adams practised in the provinces, becoming eye surgeon at the West of England Infirmary, before moving back to London in 1810. His claims for having discovered a cure for opthalmia were the subject of a lengthy medical controversy, which probably explains his presentation of this work with the two additional pamphlets bound in at the rear and an explanatory manuscript note in between. The first pamphlet is concerned with Adams's operations at the Royal Seaman's Hospital in Greenwich, and the second, by Magendie and de Blainville, is a favourable report to the Philomathic Society of Paris on Adams's work. In his manuscript note, Adams tells of a further twenty operations at the Greenwich Hospital, all of which, he notes, were successful.

One of the plates shows surgical instruments; the other two, printed in colour, show eyes before and after surgery. This copy is the second edition, the first being published in 1812.

Wellcome I, p. 14 (first work only); not in Waller, Osler, or Garrison–Morton.

2. *Let there be light*

ALDINI, Giovanni. Saggio di osservazioni sui mezzi atti a migliorare la costruzione e l'illuminazione dei fari con appendice sull'illuminazione dei fari col gas. Milan: Imperiale regia stamperia, 1823. £1100

4to (220 × 141 mm.), pp. viii, 208, [2]. Uncoloured full-page engraved plate, 6 hand-coloured folding engraved plates, engraved vignette at head of introduction. Light foxing (confined to pp. 48–54). Contemporary quarter calf, red sides, flat panelled spine decorated and lettered in gilt. Joints just a little rubbed. A very good crisp copy.

FIRST EDITION. The nephew of Galvani, Aldini made a successful academic career and published important works on electrical reactions and magnetization. In the course of a famous series of public experiments held in front of an audience of British scientists, Aldini used a voltaic battery to stimulate animal muscles and to induce quivers in a

corpse. His later works were concerned with the construction and function of lighthouses, and with fire-fighting and quarrying. In this book, illustrated by attractive coloured engravings of lighthouses, Aldini praises the gas-fuelled mechanisms which predominated before their replacement by the safer oil-fired mechanisms.

3. *Francis Willughby's copy, an annotated source for his own* De historia piscium

ALDROVANDI, Ulisse. De Piscibus Libri V. Et De Cetis Lib. Unus; Ioannes Cornelius Uterverius ... collegit. Marc Antonius Bernia in lucem restituit ... cum indice copiosissimo. Bologna: Nicoló Tebaldini, 1638. £6500

Folio (353 × 225 mm.), pp. [iv], 732, [26]. Engraved allegoric title, *c.* 400 ichthyological woodcuts in text, many full-page. Tear to foot of p. 559, repaired and just affecting one illustration, otherwise clean with only very occasional and light spotting. Contemporary calf, expertly rebacked to style, corners bumped and a few abrasions to extremities. Francis Willughby's copy, with his signature and shelf-mark on title, and a number of marginal markings presumably in his hand. A superb association.

FRANCIS WILLUGHBY'S COPY of the fourth edition. First published in 1613, Aldrovandi's unprecedented survey of the fish species was conceived as part of the author's extraordinarily ambitious project to build the first complete 'scientific' zoological encyclopaedia. Only two of the parts, the *Ornithology* and *De Animalibus Insectis*, were published during his lifetime, while *De Piscibus* was edited by his pupils from his manuscripts. Aldrovandi's concern with actual observation and with descriptions from specimens, explicit in the building of his own museum of natural history, became compelling when the naturalist met Guillaume Rondelet in Rome, where the French physician was collecting specimens for his own work. The two spent days examining species in Rome's fish market, and the Italian naturalist started gathering material for what became one of the greatest collections of his time. As a scientist of the sixteenth century, Aldrovandi was necessarily dependent for the parts related to exotic species on the accounts of earlier or foreign naturalists, in particular Gesner, Salviati, Belon and Rondelet. Nevertheless, his study is the first complete ichthyological work which attempts to substitute, correct and integrate the received traditional literature with as much direct observation as possible, in the spirit of a new, modern, scientific, and experimental attitude. The scientific and demonstrative approach emerges particularly in the carefulness and abundance of the illustrative apparatus, which the author conceived as a necessary complement to the text rather than as mere ornament.

Francis Willughby (1635–1672), one of the foremost naturalists before Linnaeus, owned and marked this copy, evidently in the course of the preparation of his own *De Historia Piscium* (1686). The unique weight of Aldrovandi's influence on the major subsequent works on natural history, culminating in Linnaeus's monumental survey, is evident in this association copy.

Brunet I, 155; Nissen ZBI, 70; Wellcome I, 172; Wood 185; Osler 1766.

4.

ALEXANDER, William. An Experimental Enquiry concerning the causes which have generally been said to produce putrid diseases. London: T. Becket, P. A. De Hondt, and T. Cadell, 1771. £400

8vo, pp. [viii], 256 (including advert leaf). Occasional spotting. Largely uncut and unopened, trimmed at tail, in original boards, contemporary pink paper backstrip (evenly sunned) lettered in gilt, paper shelf-label at tail.

FIRST EDITION. William Alexander carried out numerous experiments into the causes of putrefaction and sought to understand the relation between putrefaction in organic matter and 'putrid diseases' in living animals.

NLM/Blake p. 10; Wellcome II, p. 29.

5. *The Alphonsine Tables*

ALFONSO X, *King of Castile and Leon*. Tabulae astronomicae. [Preceded by Johannes Saxoniensis, Canones in tabulas Alphonsi.] [Venice: Erhard Ratdolt, 4 July 1483.] £12,000

Small 4to (186 × 138 mm.), ff. [94]: complete. 41 lines, gothic letter, incipit of *Canones* printed in red. 2 woodcut illustrations, one 13-line and numerous 6-line woodcut initials, all hand-coloured; several woodcut tables with headings and initials touched in yellow. Table on c_7 slightly shaved at fore-edge, occasional minor spotting. Nineteenth-century half vellum, marbled paper sides in imitation of tree calf, double yellow-green spine-labels. Early manuscript annotations and drawing on verso of front blank leaf, early foliation. An excellent copy.

FIRST EDITION of the Alphonsine Tables, the most influential planetary tables and prime guide-book for navigation for three centuries. In his grand cultural plan of renovation and progress, Alfonso X el Sabio promoted the flourishing of one of the most learned communities of scientists and men of letters at his court, and encouraged the translation of many Arabic works of science and literature into Castilian. Having found the *Tabulae Toletanae* that had been in use for nearly a century unsatisfactory, he commissioned new astronomical observations and new collation of Arabic studies. This Latin version is a translation from the Spanish version now lost. Together with the 'Canon', an introductory apparatus of instructions by John of Saxony, the Alphonsine Tables became the most influential set of astronomical tables in Europe. The rules for calculation, also learnt by Copernicus, often proved to be somewhat difficult, especially for users who needed reference on simple and specific issues. The tables therefore underwent some transformations aimed at reducing and tailoring the calculating effort, and were printed partially or in a reduced form as 'Resolved Tables'. This process of 'functionalization' of Alfonso's tables led to the introduction of paper discs, called 'volvelles', a device that allowed an immediate and 'analogue' approach to the calculation of the astronomical positions, which finds its most spectacular and unrivalled expression in Apianus's extraordinary *Astronomicum Caesareum* (see item 13 below).

Hain 868; BMC V 287 (IA 20525); Klebs 501.1; Essling 302; Sander 277; Goff A-534; Stillwell 14.

6. *With an unrecorded cancelled early version of the title*

AMPÈRE, André Marie. Recueil de Memoires, Notices, Extraits de Lettres ou d'Ouvrages periodiques sur les Sciences, relatifs a l'Action mutuelle de deux courans electriques, sur celle qui existe entre un courant electrique et un aimant ou le globe terrestre, et celle de deux aimans l'un sur l'autre. Paris: Crochard, 1822. £3500

8vo (220 × 137 mm.), pp. [2] first title, verso blank, [2] second title, verso blank, [3]–124, 169–250, 252–258, [i] bl., 259–344. 9 folding engraved plates. Some spotting and staining on a few leaves. Entirely uncut and almost entirely unopened in original paper wrappers, slightly frayed.

EARLY ISSUE WITH AN UNRECORDED TITLE of Ampère's ever-changing collection of memoirs on electrodynamics. The unrecorded title is found here together with the replacement title by which the work is now known: *Recueil d'Observations Electro-Dynamiques, contenant divers Mémoires, Notices, Extraits de Lettres au d'Ouvrages périodiques sur les Sciences,* etc. Other indicators of an early issue are the termination of the work as it stands at p. 344 and the non-inclusion of the paper 'Memoir sur les Mouvemens Electro-Magnetiques et la Theorie du Magnetisme' that later made up pp. 125–168. The complex method by which issues of this collection were assembled resulted in the publication of the work before this particular section was ready. No other copy has been located with the cancelled title found here.

The bibliographical complexity of this work is a direct reflection of Ampère's particular mode of thinking: 'His work was marked by flashes of insight, and it often happened that he would publish a paper in a journal one week, only to find the next week that he had thought of several new ideas that he felt ought to be incorporated into the paper. Since he could not change the original, he would add the revisions to the separately published reprints of the paper and even modify the revised versions later if he felt it necessary' (Norman)

Cf. Norman 44–45 (earlier and later issues respectively).

7.

AMPÈRE, André Marie. Recueil de Memoires, Notices, Extraits de Lettres ou d'Ouvrages periodiques sur les Sciences, relatifs a l'Action mutuelle de deux courans electriques, sur celle qui existe entre un courant electrique et un aimant ou le globe terrestre, et celle de deux aimans l'un sur l'autre. Paris: Crochard, 1822 [?1823]. £6500

8vo (220 × 137 mm.), pp. [iii], 4–168, [i] bl., 169–250, 252–258, [i] bl., 259–378, [i], '358–360'. 10 folding engraved plates. Recent brown paper wrappers, red morocco label, gilt lettering. A very good copy.

ONE OF THE FINAL AND MOST COMPLETE FORMS of Ampère's collection (see above). This issue is more extensive than the most complete copy owned by Norman, and is probably that alluded to in the note to item 45 in the Norman catalogue: 'Another, probably later version, has been noted with additional pages 361–378, plus an additional page of errata (p. 383) and ten instead of nine plates.' This copy additionally has pp. 223–236, which are missing from the Norman copy and to which the additional plate relates. It also includes a duplicate copy of the 'Extrait fait par M. Savary' (pp. 345–356), loosely tipped in. This latter pamphlet is found in the Norman copy, as is the 'Extrait d'une Lettre de M. Ampére à M. Faraday' (pp. 365–378).

We are aware of only one copy more complete than the present: a previously unrecorded copy handled by us (Finch catalogue 38, item 5) with text extending to p. 380 and with four pages of content and errata and an additional errata leaf.

Cf. Norman 45.

8. *'The* Principia *of electrodynamics' (*DSB*)*

AMPÈRE, André Marie. Théorie des Phénomènes Électro-dynamiques uniquement déduite de l'expérience. Paris: Méquignon-Marvis, 1826. £22,500

4to (269 × 219 mm.), pp. 226, [1] errata. 2 folding engraved plates. Some light spotting. Mottled half calf, gilt panelled spine with five raised bands, red morocco label, original wrappers preserved. Inscription by the author to the Baron de Humboldt, three photographs of the latter inserted. A very good copy.

FIRST EDITION, PRESENTATION COPY TO ALEXANDER VON HUMBOLDT, of Ampère's greatly influential work, the development of the cardinal formula of electro-dynamics elaborated by 'the Newton of electricity'. This is the issue with pp. 85–92 correctly numbered. Ampère's first draft of his theory on the relationship of electricity and magnetism had been published in his *Recueil* in 1822. This work clarifies and develops that theory in mathematical terms; it unifies 'the fields of electricity and magnetism on a basic noumenal level' and remains the masterpiece of a scientist who, 'almost single-handedly, created a new science' (*DSB*).

This copy was presented by Ampère to Alexander von Humboldt (1769–1859), whose studies on the behavior of gases had taken into account, and partly criticised, Ampère's theory of the 'tide' induced by a core inside the thin crust of the earth. Von Humboldt fundamentally accepted Ampère's theory, but wished to limit its scope to earlier stages in the formation of the planet as we know it.

Grolier/Horblit 3a; Norman 50.

9.

(ANATOMY.) Lifesize anatomical wall chart of the human body. Deventer: Kluwer, *c.* 1870. £700

Large folio (834 × 557 mm.) Brown paper covered folder, red cloth tape edges, printed coloured paper foldouts. Crease and partial tear across the vena cava superior just before entering the heart, crease across the left bronchial tube, inner margin to the liver fold fragile, but holding. Some minor marks and wear to the folder but overall this unusual and complex chart is in excellent condition.

A spectacular nineteenth-century wall chart of a lifesize human body, in an excellent state of preservation: a fine example of mid nineteenth-century medical illustration. The folder opens out to display a lifesize standing body, with printed coloured paper foldouts revealing progressively deeper body layers. The lower half of folder shows the lower body with the legs in three layers: musculature, circulatory system, and the bones. The upper half of the body is much more detailed, with the same three layers but also with foldouts of the individual body organs, which themselves fold out to reveal the interior of lungs, liver, heart, etc. The body parts are numbered. All the foldouts are printed on both sides, the verso showing the posterior view. Such is the complexity of the foldout of the internal organs that the deft skills of a surgeon are needed simply to unfold them. Metal clips at the top and right hand side secure the larger individual foldouts.

10. *Terrestrial and celestial globes*

ANDREAE, Johann Ludovic. Mathematische und Historische Beschreibung des gantzen Welt-Gebäudes, zum nutzlichen Gebrauch Zweyer auf eine neue Art verfertigten Himels- und Erd-Kugeln, mit sonderbarem Fleiss zusammen getragen und ans Licht gestellet. Nuremberg: Paul Lochners, 1718. £3000

Small 4to (199 × 155 mm.), in three parts, pp. [xiv], 44, 96, 120, [1], title in red and black. Engraved allegorical frontispiece (small tear in lower blank margin), 12 folding engraved plates. Title lightly browned and with old stamp in margin and crossed-out ownership inscriptions towards foot. Contemporary speckled calf, spine elaborately gilt in compartments. A very good copy.

FIRST EDITION of this rare treatise on terrestrial and celestial globes, with numerous tables to assist astronomical calculations. According to *ABPC* no copy has appeared at British and US auctions in the past 30 years. *NUC* lists four copies only: at the Beinecke Library, Yale; Boston Public Library; Princeton; and the University of Illinois.

Zinner, *Literatur*, 231.

11. *The first book on orthopaedics*

ANDRY DE BOISREGARD, Nicolas. L'Orthopédie ou l'Art de Prevenir et de Corriger dans les Enfans, les Difformitiés du Corps. Le tout par des moyens a la portée des Peres & des Meres, & des Personnes qui ont des Enfans à élever. Paris: la veuve Alix and Lambert & Durand, 1741. £5500

2 vols., 12mo (194 × 170 mm.), pp. [iv], cxviii (actually xcviii), 345, [3]; v, [i], 47, [i] bl., 365, [5], Engraved frontispiece following first title, 14 engraved plates. Both title-pages with tiny puncture holes close to imprint. Partly uncut in contemporary French polished tree sheep, spine gilt, citron and black morocco labels, foot of spine of vol. 2 just very slightly damaged. An excellent copy in an attractive contemporary binding.

FIRST EDITION of this classic of both paediatrics and orthopaedics. 'Following a long survey of human anatomy, there are instructions for the breast feeding of infants, directions for handling, dressing, feeding, and exercising children as well as specific treatment for diseases common to young children. Most of the work is concerned with preventing and correcting poor body posture and other defects caused by improper habits during the formative years. Andry also presents measures to be employed in correcting deformities such as curvature of the spine, club foot, stooped shoulders, etc. He places great emphasis on prevention and rehabilitation and offers sound advice for correcting not only bodily deformities but also deformities of the teeth and gums, speech defects, and mutism' (*Heirs of Hippocrates*). 'This is also the first book on diseases of children to include mention of chlorosis' (Garrison–Morton). Andry was convinced of the direct correlation between poorly constructed furniture and restrictive clothing and orthopaedic problems in children, and several of the plates are devoted to these problems and their remedy.

The work is actually 'the first book on orthopedics, which term Andry himself introduced' (Garrison–Morton). The plate of the crooked tree tied to the straight stake has come to symbolize the orthopaedic principle.

Garrison–Morton 4301; Grolier *Medicine* 42; *Heirs of Hippocrates* 697; NLM/Blake p. 15; Norman 55; Waller 418; Wellcome II p. 45.

12.

APIANUS, Petrus. Instrument Buch ... erst von new beschriben. Zum ersten ist darinne begriffen ein newer Quadrant ... [Ingolstadt: at the author's press, 1533.] £4500

4to (309 × 202 mm.), ff. 54. Large title woodcut, numerous woodcuts in text, 18 of which are nearly full page, elaborated cursive initials. Slight worming near inner margin with slight loss of letters, one corner and a marginal tear restored, waterstain on lower inner margin affecting 15 leaves. Nineteenth-century half vellum, marbled paper sides. A good copy.

FIRST GERMAN EDITION of Apianus's basic treatise on mathematics and astronomy. Apianus discusses the use of various methods and instruments of mensuration including quadrants and dials, and ends with a lengthy account of the use of hands as instruments of mensuration. The *Instrument Buch* is profusely illustrated with attractive woodcuts. It is often quoted as an early source book in positional astronomy, and the fine woodcut on the title, showing mathematicians and astronomers observing and measuring the positions of stars with various instruments, is often reproduced.

Petrus Apianus was the latinized name of the German astronomer and mathematician Peter Bennewitz ('Bennewitz' means 'bee-keeper'; 'apis' is Latin for 'bee'). Apianus was the first to show how to calculate longitude by observing the distance of the moon from various stars. He was professor of astronomy at Ingolstadt and one of the few professors to give instruction in arithmetic in the German language. Some famous sundials made by Apian still exist in Austria.

This is a copy of the rare variant with the title in black. Like most copies, it lacks the eight or nine additional woodcuts at rear, not intended for this edition.

Cf. Smith *Rara Arithmetica*; Honeyman I, 113; Stillwell 812; Houzeau 2398; Wellcome I, 341.

13. *The most beautiful science book ever produced*

APIANUS, Petrus. Astronomicum Caesareum. [Ingolstadt: at the author's press, May 1540.] P.O.A.

Imperial folio (465 × 317 mm.), ff. 59; title with woodcut border and large woodcut beneath, arms of the dedicatee Charles V and his brother Ferdinand of Spain on verso, 36 full-page woodcut astronomical figures, of which 21 have a total of 83 volvelles, 38 of 44 silk marker threads (one replaced) preserved in their entirety, with 4 of 12 seed pearls, numerous other woodcut diagrams in the text and large woodcut arms at end, all in fine contemporary handcolouring, 53 11-line and 39 6-line historiated woodcut initials; a little dampstaining in gutter at beginning and end, a little thumbsoiling to lower outer corners; original blind-tooled calf, extensively worn but carefully restored, remains of gilt decoration preserved. Ownership inscription at head of title: 'M. Georg Philip Fordenbach Von Baden, Vicedecgant Zie' Neühaussen, 1693', with a note of his ecclesiastical promotion dated 1705 beneath. Preserved in a modern red morocco-backed folding case.

FIRST EDITION of 'the most luxurious and intrinsically beautiful scientific book that has ever been produced' (de Solla Price); an exceptionally complete copy.

'The most spectacular contribution of the book-maker's art to sixteenth-century science was without doubt the *Astronomicum Caesareum* of Petrus Apianus. Designed for Charles V and his brother Ferdinand, the volume was in every way a luxurious and princely production. Its pages were large, brilliantly hand-coloured, and filled with ingeniously contrived mechanisms, sometimes with five or even six layers of paper disks, arranged to give planetary positions plus a variety of calendarial and astrological data. Published in 1540 ... the book graphically displayed Ptolemaic astronomy in a fashion fit for a monarch's eyes' (Owen Gingerich, 'Apianus's Astronomicum Caesareum', *Journal for the history of astronomy* II, 1971, p. 168).

This work, which took Apianus eight years to produce and was printed on his private press at Ingolstadt, is really as much a scientific calculating instrument as a book. Preceded only by Schöner's *Aequatorium* (1521) — a smaller work of such rarity as to be practicably unprocurable — the *Astronomicum* is the earliest instrument book

to function not simply as an instructional handbook accompanying an instrument but as an actual working instrument, or set of instruments. For the dissemination of calculating technology in a standardized and reproducible form, Poulle has compared the appearance of 'paper instruments' to nothing less than the advent of printing (see *Les instruments de la Theorie des planetes* 1.83). 'A handsome volume, with thirty-seven full-page [*sic*] volvelles or revolving discs, in accord with Apian's belief that diagrams with movable parts are of greater aid than mathematical tables in solving astronomical problems. In fact, his volvelles are so constructed that each may function as an equatorium without the need of employing planetary tables. Those in the present volume relate to the calculation of the longitude of Mars. Published with a privilege for thirty years granted by Charles V on 3 July 1532, Part II contains *Observationes cometarum quinque*, including an account of the comet of 1531. The final section on the *torquetum* had been issued in Apian's *Introductio geographica*, Ingolstadt 1533.

'The *Astronomicum* is notable for Apian's pioneer observations of comets (he describes the appearances and characteristics of five comets, including Halley's) and his statement that comets point their tails away from the sun. Also important is his imaginative use of simple mechanical devices, including volvelles, to provide information on the position and movement of celestial bodies' (*DSB*). This work embodies 'the culmination of the rediscovery of Ptolemy' (Gingerich).

This is an exceptionally complete and large copy. Copies usually have far fewer volvelles, as for example the Honeyman copy which has 76. This copy also retains a number of the sliding seed pearls (meant to be used as markers) which are almost always missing.

Stillwell 19; Van Ortroy 112; Zinner, *Literatur*, 1734.

14. *The classic Greek astronomy, with its Latin translations and commentaries*

ARATUS of Soli. Phaenomena [translated from Greek into Latin by Rufius Festus Avienus]. DIONYSIUS PERIEGETES. De Situ orbis [translated by Avienus]. ARATUS. Phaenomena [translated and commented by Germanicus Julius Caesar]. ARATUS. Phaenomena [translated by Marcus Tullius Cicero]. SERENUS, Quintus. Liber medicinalis [edited by Victor Pisanus]. Venice: Antonius de Strata, de Cremona, 25 Oct. 1488. £16,000

Chancery 4to (206 × 148 mm.), 118 unnumbered leaves (of 122, without 4 blanks: first blank a_1, medial blank g_8, and final two blanks p_7, p_8). 38 lines, types 2:84R, 84Gk. 28 woodcuts, mostly of which are half-page. Corner of i_5 torn away with partial loss to 6 lines of text, h_1 a little loose, closed tear to n_8, some soiling and a few small stains, some marginal worming. Nineteenth-century half vellum, marbled paper sides, green morocco spine-label, some wear to extremities. Bookplates of C. W. Dyson Perrins and Robert Honeyman to front pastedown. A very good copy.

FIRST EDITIONS of all except the Germanicus. The *Phaenomena* ('astronomy') of Aratus, the celebrated didactic poem of the third century BCE, describes with elegant clarity and little mythological allusion the relative positions of the chief stars and constellations. The three principal Latin versions were traditionally classed under Avienus, the 4th-century author of the largest version, which expanded the original 1,154 Greek hexameters into 1,878 verses. In the medieval understanding of Greek scientific heritage, the *Aratea* was the principal source for Greek astronomical knowledge, partly because prominent Roman translators applied themselves to the task of transmitting the text, thus granting its longevity. What survives of Cicero's translation only covers verses 229–700, while Germanicus' is a compendious adaptation in 725 verses. (The latter had previously been published as part of the Bologna 1474 edition of Manilius.) The illustrations, all of which occur in Germanicus' text, come from the manuscript tradition. Most blocks, the reverse copy of Santritter's woodcuts for Ratdolt's Hyginus of 1482 and 1485, had been used a few months earlier by Thomas de Blavis, in Venice, for his Hyginus. The last work, a treatise on diseases and remedies in verses, became popular in the ninth and tenth century after being copied by order of Charlemagne.

Goff A-1432; Hain 2223; BMC V 294 (IA 21262); GKW 3131; Klebs 137.1; Essling 431; Sander 718.

15. *The first biological text to be printed*

[ARISTOTLE.] Libri de animalibus. [Venice: Johannes de Colonia and Johannes Manthen, 1476.] £110,000

Chancery folio (302 × 199 mm.), 251 leaves (of 252, lacking final blank ff6). Types: 8*:109R, 35 lines, quire register to ff_5^r. Decorative armorial first initial in gold over blue, several 6- and 5-line initials in blue decorated with red penwork, numerous 2-line initials alternately blue and red, paragraph initials touched in red. Lower portion of title-page supplied in neat eighteenth-century manuscript facsimile, very occasional light marginal soiling. Fine eighteenth-century English red morocco gilt, rich border of floral motifs, vines, and palmettes enclosing an elaborate centrepiece of small tools to sides, panelled spine with five half-raised bands, compartments finely and profusely gilt, title and imprint in gilt within second and third compartment, inner dentelles gilt, marbled endpapers. Expertly rebacked preserving almost all of the original spine. Early inscription to verso of first leaf, attesting the use of the book by a 'frater Egidius', inscription to head of title, occasional sixteenth-century pen annotations. An exceptionally bright copy in a handsome English binding.

FIRST EDITION OF THE FIRST BIOLOGICAL TEXT TO BE PRINTED. The book gathers Aristotle's three major works on biology, *De historiis animalium*, *De partibus animalium* and *De generatione animalium*, in the translation given by Theodore Gaza (*c.* 1400–1475/76) edited by Ludovicus Podocatharus. Aristotle's works, specifically concerned with descriptive zoology, animal physiology, and embryology, were the first extensive study of animated beings founded on observation and empirical evidence. Each part stands as a landmark in its specific discipline. The *Historia*'s 'comprehensiveness and acumen made it the outstanding descriptive zoology of ancient times ... It outlasted the work of such later encyclopedic compilers as Pliny, and combined with Aristotle's other zoological works it became ... the major ingredient in Albertus Magnus's *De Animalibus*, which dominated the field until the sixteenth century' (*DSB*). *De generatione animalium*, 'the first great compendium of embryology ever written' (Needham), contains the account of Aristotle's research on chick embryos, with the first formulation of the theory based on a male 'dynamic' element working on a female 'plastic' element. 'Book II presented Aristotle's embryological classification of animals and a discussion of the question of epigenesis versus preformation — an antithesis that Aristotle was the first to perceive, and which was to define the subsequent history of embryology' (Norman).

Norman 69; Klebs 85.1; Osler 239; Grolier *Medicine* 2A; Goff A-973; Proctor 4312.

16.

ARISTOTLE. Habes. Hoc. In. Codice. Lector. Aristotelis libros de Generatione, & interitu duos, Meteóron, hoc est sublimium quatuor, de mundo ad Alexandrum Macedoniae regem unum contra L. Appuleii interpretationem, Ex opere de animalib. decem... Item eiusdem Aristotelis vitam ex monimentis Philoponi Alexandrini, quaeomnia Petrus Alcyonius de graeco in latinum a se conversa nunc primum ex impressione repraesentanda curavit. [Venice: Bernardinus Vitales, Apr. 1521.] £2250

Folio (310 × 215 mm.), 164 unnumbered leaves. 2 full page woodcuts (ff. 56^v and 66^r), running titles, date and printer's name in colophon. Ownership inscription at foot of title ('Didaci Columnesij Spoletani 1631'), two very small early annotations to text. Later limp vellum with author and date of publication in manuscript to spine, 'Alcy Phil' boldly inscribed at an early date on lower edge. Some very light browning to extreme margins, one inkspot at lower margin of f. 90, fourth and fifth quires slightly spotted. A very good copy.

FIRST COLLECTED EDITION of Aristotle's works on natural philosophy and natural science (with the exception of the *Physics* and *De Caelo*), edited by the Venetian humanist Pietro Alcionio. The collection, which also includes the Pseudo-Aristotle's *De Mundo*, was printed by Bernardino de' Vitali in Venice to meet the increasing demand for Aristotle's texts, which had become accessible after half a century of incessant scholarly work of translation into Latin. Dedicated to Pope Leo X, the book contains Aristotle's works on cosmology, zoology, animal physiology, embryology, and psychology, in a progression from speculations on the universe, down to the study of animated forms of life, and finally to mankind. Some of Aristotle's intuitions, in

particular his embryologic distinction between epigenesis and preformation, and his theory whereby embryos are produced by the interaction of the male dynamic element with the female plastic element, have determined the course of the subsequent history of science (Needham). The 'comprehensiveness and acumen' (*DSB*) of Aristotle's exploration of the functions of living beings meant that his work outlasted such later encyclopaedic compilers as Pliny and dominated the field until the sixteenth century.

Although the origins of Pietro Alcionio (*c.* 1487–1527) are unknown, the Venetian humanist who had studied with Marco Musurus was renowned among his contemporaries. The first mention of him occurs in Erasmus's letter to John Watson in 1516, where he is praised for his eloquence. Alcionio probably began his career as a corrector at the Aldine press, he published some translations from Greek classics and a Ciceronian dialogue, and became professor of Greek in Florence in 1522. Shortly after the election of Clement VII to the papacy he obtained a chair of Greek at Rome. He witnessed the Sack of Rome in May 1527, and was wounded and died later the same year. Of his many translations into Latin listed by Ambrogio Leoni — Isocrates, Demosthenes, and Aristotle — only this work is now known.

Cranz–Schmitt 107.880.

17. *The father of scientific ichthyology, edited by Linnaeus*

ARTEDI, Peter. Ichthyologia sive Opera Omnia de Piscibus... Posthumia Vindicavit, Recognovit, Coaptavit & Edidit Carolus Linnaeus. Leyden: Conrad Wishoff, 1738. £1500

8vo (194 × 109 mm.), pp. [iv], 66, [2]; [iv], 80; 71–92; [iv], [iv], 84, [4]; [iv], 118, [22]; [ii], 112, [2]. In five parts, each with divisional title: *Bibliotheca Ichthyologica*, *Philosophia Ichthyologica*, *Genera Piscium*, *Synonymia Piscium*, and *Descriptionis Piscium*. Woodcut initials and head-pieces. Some light spotting and browning, slightly heavier on early and later leaves, light old inkstain to extreme lower margin of first 10 leaves. Contemporary half calf, sprinkled paper sides, panelled spine with four half-raised bands, speckled edges. Corners bumped, some wear to edges. A good copy.

FIRST EDITION of Artedi's most important work, the first fully scientific survey on fish. Linnaeus, who had been Artedi's close friend since their student days at Uppsala, published this treatise without alterations after the author's sudden accidental death, and ensured the long-lasting fame of Artedi as the father of ichthyology as a science. Linnaeus substituted Artedi's original dedication to his parents for one of his own to George Clifford and Ljunberg and Biur, acknowledging the financial support he was granted for its publication. In his work Artedi applies his taxonomy to the world of fish and integrates it with substantial innovative contributions in comparative anatomy.

Waller 11771.

18. *The skies at night brought into the Victorian parlour*

ASPIN, Jehoshaphat. A Familiar Treatise on Astronomy, Explaining the General Phenomena of the Celestial Bodies; with Numerous Graphic Illustrations ... Written expressly to accompany Urania's Mirror or, a View of the Heavens; consisting of Thirty-Two Cards, on which are represented all the constellations visible in Great Britain; on a plan perfectly original designed by a lady. Fourth Edition, with considerable augmentations and improvements. London: for M. A. Leigh, 1834. £1500

8vo (209 × 122), pp. xii, 199, [1]. 4 large folding engraved plates, the last coloured (heading slightly shaved), spotting, occasional slight soiling to text. Original pale green boards with paper label on upper cover, rubbed, corners bumped, neatly rebacked in green cloth. Accompanied by 32 numbered engraved cards, each 140 × 200, the majority with original tissue-guards pasted onto verso, the first with slight red staining, several with pencil scribbles on versos. The two preserved together in a modern green cloth box.

Aspin's *Familiar Treatise* to accompany the cards of 'Urania's Mirror' was first published in 1825. It explains the constellations the cards represent and the basics of

the science of astronomy in language suitable for its youthful audience. Designed by a woman, the cards show constellations visible in the night skies of Britain, with easily identifiable and accurate representations of the constellations. The cards are also pricked through with holes so that the reader can hold them up in front of a light and get an immediate impression of the constellation's luminosity.

19. *Contemporary diced russia*

BACON, Francis. Opera omnia, quatuor Voluminibus comprehensa: Hactenus Edita, ad Autographorum maxime fidem, emendatur; Nonnulla etiam, ex MSS Codicibus deprompta, nunc primum prodeunt. London: R. Gosling, 1730. £1800

4 vols., folio (369 × 240 mm.), collates as the Gibson copy. Engraved frontispiece to each vol., woodcut tailpieces. Sporadic light spotting throughout, but generally very crisp and clean. Contemporary diced russia, spine with raised bands, gilt decorations and rules to compartments and bands, black morocco label, gilt roll-tooled border to sides. Armorial bookplates of John Ward. A handsome set in excellent condition.

FIRST EDITION PRINTED IN ENGLAND. According to Gibson, this is the seventh edition of Bacon's collected works, and the first to be published in England. The first edition was published in 1665 in Frankfurt, other editions were published in Amsterdam, Leipzig, and Copenhagen prior to this. The works are arranged according to subject. Volume I includes *Novum Organum* and Dr. Rawley's life of Bacon, volume II contains the bulk of his natural history writings and his last will and testament. The third volume contains the rest of his natural history, *New Atlantis*, and his historical works, while the fourth volume is mainly made up of his political writing and other short pieces. The works are published in the language they were written in, English and Latin. The editor was John Blackbourne.

Gibson 248.

20. *The only serious rival to Recorde for a hundred years*

BAKER, Humfrey. The Wel Spring of Sciences, which teacheth the perfect worke and practice of Arithmeticke, both in whole Numbers and in Fractions, set foorth ... London 1562. And now once again perused augmented and amended in all the three parts by the saide Authore: whereunto he hath also added certain tables of the agreement of measures and weights of divers places in Europe, the one with the other, as by the Table following it may appeare. London: Thomas Purfoot, 1591. £1800

Small 8vo (136 × 89 mm.), ff. [vii], 198, 25. Black letter, line diagrams and tables, decorated woodcut initials, woodcut portrait of 'Lucrecia Romana' on verso of last leaf. A couple of rust spots, but still clean and crisp internally, pencil calculations in margins. Attractive Victorian binding of full red morocco, raised bands on spine, with gilt rules and decorations to raised bands, gilt vignette over blind patterned ground in compartments, gilt filleted panel, with decorations in corner, and blind rolled device alongside rules, marbled edges. Turner Collection bookplate. An excellent copy of a scarce book.

NINTH EDITION. This little pocket arithmetic, first published in 1568, proved extremely popular and continued to be re-edited until 1670; *STC* lists fifteen editions by 1631. A practical rather than theoretical work, it is dedicated to the Company of Merchant Adventurers. From the fourth edition of 1574 onward, it was augmented by a 50-page list of tables of the relative values of the weights and measures of different European cities and states. The book is written in lay terms, often using practical problems as examples: 'If 15 shyllinges woorth of Wyne will serve for the ordinarie of 46 men, when the tunne of Wyne is woorth 12 pounds, how many ...' (f. 47). Baker also translated an early French work on navigation, *The Rules and Righte ample Documents touching the use and practise of the common Almanack*s (1558).

'The first rival to Recorde's *Ground of Artes*, and the only serious one that appeared in Great Britain for a hundred years, was *The Well Spring of Sciences*, written by one Humphrey Baker — a native of London — in 1562, and published in 1568. The work is a commercial arithmetic, is evidently under many obligations to Recorde, and was

written to meet the criticism of continental scholars on the backward state of the subject in England' (Smith, *History of Mathematics*, I, p. 321).

No copy of any edition has appeared at auction since 1978. *STC* locates six copies of this edition, and all early editions are scarce. Naturally such useful pocket books suffered a high level of attrition in ordinary use.

STC 1213; Taylor, *Mathematical Practitioners of Tudor and Stuart England*, pp. 172–173.

21. *The discovery of a new element*

BALARD, Antoine Jèrôme. Mémoire sur une Substance particulière contenue l'eau de mer. [Offprint from *Annales de Chimie et de Physique.*] [Paris: Imprimerie de Feugueray, 1826.] £3750

8vo (189 × 120 mm.), pp. 48, preserving contemporary blue paper wrappers. Inscribed by the author on the upper wrapper 'L'auteur à son ami Moquin Tandon Balard'. Bound with a small collection of chemical articles in a contemporary miscellany, comprising 7 other near-contemporary scientific articles by researchers in Montpellier and its region, most inscribed by their authors to Moquin Tandon. Contemporary half calf, preserved in a slipcase with morocco-backed chemise.

RARE FIRST PRINTING, PRESENTATION COPY TO HIS FELLOW NATIVE OF MONTPELLIER, THE DOCTOR AND BOTANIST MOQUIN TANDON (1804–1863), of Balard's account of his discovery of the element bromine. The liquid halogen bromine was first extracted from seawater drawn from the salt-marshes of Montpellier in 1826, and was recognised by Balard to be not merely a new substance, but an entirely distinct element. Bromine, the only nonmetallic liquid element, had remained obscure to scientists until the nineteenth century because it is never found free in nature on account of its high radioactivity. The process of extraction, refined soon after Balard's discovery, produced the element in quantity and it was to become a major industrial resource, used in automotive fuels, in dyes, in photographic emulsions, as bleach modifiers, in fire retardents, in disinfectants, and in methylene bromide fire extinguishers.

Poggendorf I, 91; not in Duveen.

22.

BARBARO, Daniello. La Pratica della Perspettiva ... Opera molto utile a Pittori, a Scultori, & ad Architetti ... Venice: Camillo & Rutilio Borgominieri, 1569 [colophon also dated 1569];

[*bound after:*] RUSCONI, Giovanni Antonio. Della Architettura ... Con Centosessanta Figure Dissegnate dal Medesimo, Secondo I Precetti di Vitruvio, e con chiarezza, e brevità dichiarate Libri Dieci. Venice: Giolito, 1590. £17,500

2 works in one vol., folio (290 × 200 mm.), pp. 195, [13]; [xii], 143, [1]. Barbaro: woodcut device and headpiece to title, numerous diagrams, initials, and a fine series of headpieces executed in perspective. Rusconi: title within an elaborate woodcut architectural pediment, fine woodcut illustrations, diagrams, head- and tailpieces, and initials. Early vellum over boards with yapp edges, covers with double-ruled borders in blind, spine with later paper label lettered in manuscript, red mottled edges. A few small worm-holes to lower cover, wants ties, two very small worm-holes to margin of first title, occasional trivial thumbing. Superbly fresh copies with fine impressions, in unsophisticated state from the Fürstenberg library at Donaueschingen.

FIRST EDITIONS of these two influential Italian manuals for artists and architects. Danielo Barbaro (1513–1517), was a Venetian aristocrat, architect, and geometer, and his *La Practica della Perspectiva* was one of the most respected sixteenth-century texts on perspective. It was intended for an expert audience of artists, architects, and stage designers, and its presentation is mathematical. Many of the diagrams represent deconstructed polyhedra, but there are also some excellent architectural illustrations, and the most unusual woodcut ornaments used for the headings of each part are themselves showpieces of perspective drawing. The manual notably contains one of the earliest descriptions of the use of a biconvex lens in the camera obscura (p. 92) to assist the artist in drawing scenes from nature.

Giovanni Antonio Rusconi's lavishly illustrated abridgement of Vitruvius is one of the most attractive architectural works of the period, and shows a firmly mannerist interpretation of the original treatise. The illustrations include a delightful series demonstrating the development of homes from the primitive hut to the small house, examples of tools and machinery, craftsmen at work and constructional diagrams. Rusconi (*c.* 1520–1587) was an associate of Palladio and began the illustrations for what was intended to be a new illustrated version of Vitruvius with full Italian text, but was apparently deterred from completing the project by the appearance of a superb translation by Barbaro in 1556.

The first work is known in several issues: with both title-page and colophon dated 1568, with either title or colophon dated either 1568 or 1569, with both dated 1569 (as here), or in an issue with an undated title within an elaborate border. Any real precedence between these variants seems not to have been established. The second work appears here in its second issue, distinguished by the addition of a list of errata to the verso of the final leaf.

Barbaro: Adams B-171; Mortimer *Italian* 39. Rusconi: Adams R-960; Mortimer *Italian* 551; Fowler 280.

23. *The Spanish way of death*

BARNADES Y CLARÌS, Miguel. Instruccion sobre lo arriesgado que es, en ciertos casos, enterrar a las personas sin constar su muerte por otras senãles mas que las vulgares; y sobre los medios mas convenientes para que buelvan en sí los anegados, ahogados con lazo, sofocados por humo de carbon, vaho de vino, vapor de pozos, ù otro semejante; pasmados de frio, tocados del rayo, y las criaturas que nacen amortecidas. Madrid: Antonio de Sancha, 1775. £1750

8vo (198 × 140 mm.) pp. [xvi], 509. Woodcut intitial. Contemporary vellum, title in black ink at head of spine. Small hole in vellum on lower side, some very light browning and spotting to endpapers, title and pp. 25–27, otherwise very clean and crisp. An excellent copy in attractive unsophisticated state.

FIRST EDITION of this very scarce work by the Spanish botanist and personal physician to King Carlos III. This work, itself published posthumously, is concerned with various aspects of death and dying, from accounts of the funeral rites of various cultures and civilizations, to ways of testing the dead, from case histories of resurrection from death, accounts of rigor mortis, and the decay of bodies, to the treatment of and medication for the dying.

The book was published by Antonio de Sancha, perhaps the greatest of eighteenth-century Spanish publishers, whose 1777 version of *Don Quixot*e is one of the most beautiful books of the period. De Sancha was an intellectual of note, and a personal friend of the literati, thinkers, and poets at the court of Carlos III. His books are noted for their beauty and the quality of their production.

Palau 24217; not in Wellcome; *NUC* lists no copy, but the *RLIN* database records copies at the National Library of Medicine and the University of Minnesota Bio-Medical Library.

24. *The founding text of ophthalmology*

BARTISCH, Georg. Augen-Dienst: oder Kurtz und deutlich verfasster Bericht von allen und jeden in-und äusserlichen Mängeln, Schäden, Gebrechen und Zufällen der Augen, wie sie immer Namen haben mögen, samt ihren sonderbaren Kenn-Zeichen, Ursachen und benöthigten Curen, ingleichen auch allen hiezu erforderten Hand-Griffen, Instrumenten, Artzney-Mitteln und andern Zugehörungen, umständlich, aufrichtig und deutlich, aus eigener, so wol dem gemeinen Ruhm nach, als durch öffentlich erlangte Zeugnusse wolbeglaubt und beträfftiger Erfahrung, zu des Nothlenden Nächsten Nutzen und Besten, verabfasset: und mit gehörigen Kupffern, auch einem vollständigen Register versehen. Nunmehr zum andernmal an den Tag gelegt. Nuremberg: Lichtenthaler, 1686. £5750

4to (205 × 165 mm.), pp. [xl], 426, [16]. Engraved portrait, additional engraved title, 49 plates (on 52 sheets, the overlay flaps to 2 plates not in position but found on additional accompanying 'plates'), plate 24 torn, plate 29 mounted, top of plate 45 torn away and repaired (with loss only of plate numeral and extreme plate margin), plate '49' strengthened at foot (no loss to engraving), portrait and additional title slightly stained; printed title soiled, pp. 371–374 damaged and repaired at head, small rust hole to lower margin of pp. 393–394, occasional browning or soiling. Contemporary marbled half vellum, patterned paper sides, extremities rubbed and slightly frayed, portion of paper torn away at upper edge of lower board.

LAST EDITION of 'the most comprehensive sixteenth-century treatise on eye surgery and treatment and one of the earliest surgical works printed in the vernacular; its Greek and German titles established the phrases by which "ophthalmology" ("Augenheilkunde") became known ... Bartisch, court oculist to the Elector of Dresden, was famous for his operations on cataract, in which he used a fine, clean needle to depress the lens through the sclerotic; he was also the first to practice extirpation of the bulbus in cancer of the eye, and was notable, in that age of the itinerant quack "cataract-coucher," for his emphasis on post-operative care. Bartisch's operations for cataract, along with his ingenious surgical instruments, pharmaceutical apparatus and masks for curing squint and strabismus, were illustrated in nearly 100 striking woodcut illustrations, made after Bartisch's own colored drawings from life. The illustrations of the eye and brain are remarkable for their use of overlay flaps to portray successive anatomic sections' (Norman).

NLM/Krivatsy 854; Waller 754. First edition: Becker 22; Garrison–Morton 5817; Gorin pp. 37–38; Lilly p. 49; Norman 125.

25. *The first English book on geometrical survey*

BENESE, Richard. This boke sheweth the maner of measurynge of all maner of lande, as well of woodlande, as of lande in the felde and comptyng the true nombre of acres of the same. [Edited by Thomas Paynell.] Southwark: James Nicolson [?1537]. £9000

4to (185 × 129 mm.), ff. 104. Errata leaf at end. Black letter. Title within woodcut border, woodcut diagrams in text, some with red highlights, diagram on V_4^v pasted on cancel slip. A few early English manuscript notes in margins, repairs to title (not affecting any text or woodcut border, though touching some early inscriptions) and a few other leaves. Recased to style in old limp vellum, modern collector's ex-libris leaf inserted before title, old speckled edges, preserved in a morocco backed folding box. A good copy of a very scarce English book.

FIRST EDITION OF THE EARLIEST ENGLISH TEXT-BOOK ON GEOMETRICAL SURVEY AND AREA-MEASUREMENT, an important work which ran to four further editions by 1565. Using a range of simple tools such as a string knotted at intervals and a series of tables, Benese provides an accurate system of measuring for regular and irregular parcels of land. Richard Benese (*d.* 1546) was the last canon of the Augustinian monastery at Merton, South London, and was doubtless intimately involved in the quantification of monastic landholdings. After the dissolution of Merton his manifest expertise in this discipline allowed him to become Surveyor of Works at Hampton Court and chaplain to Henry VIII (Taylor, *Mathematical Practitioners of the Tudor and Stuart England,* p. 168).

STC 1873.

26. *Handsome surgical atlas*

BERNARD, Claude, & Charles Huette. Précis iconographique de médecine Opératoire et d'anatomie chirurgicale. Paris: Mequignon-Marvis, 1856. £1250

Small 8vo (175 × 110 mm.), pp. [iv], xxvi, [2], 496. 113 full-page hand-coloured engraved plates with multiple figures, frontispiece with engraved portrait of Vesalius shown in his cabinet dissecting a cadaver, half-title. Contemporary tree calf, flat spine with gilt fillets and gilt panel at foot, red morocco label, marbled endpapers. Extremities rather worn, some foxing inside. Nineteenth-century inscription to verso of half-title. A good copy.

LATER EDITION of Bernard's handsome and popular work, first published in 1846 and republished several times over two decades. Profusely illustrated with hand-coloured

steel engravings, this atlas describes a great number of surgical procedures and instruments with detailed figures drawn from life or cadaver dissection.

Heirs of Hippocrates 1793. Other editions: Cushing B324, B325; Wellcome, II, p. 151.

27. *Neurological science from the outside*

BESSIÈRES, G. L. Introduction a l'Etude Philosophique de la Phrénologie et Nouvelle Classification des Facultés Cérébrales. Paris: at the principal bookshops, 1835;

[*bound with:*] CASTLE, Michael. Corso di Lezioni sulla Frenologia. Milan: Crespi, 1841;

[*and with:*] CASTLE, Michael. Phrenologische Analyse des Charakters des Herrn Dr. Justinus Herner. Heidelberg: Karl Groos, 1844;

[*and with:*] GIACOMA, P. M. Riflessioni sul Sistema Frenologico del D. Gall e Proposta di un Craniometro ... Turin: Favale, 1836. £750

4 works together, 8vo (204 × 125 mm.). Bessières: pp. 219; 2 folding engraved plates illustrating the localization of the cerebral faculties. Castle, *Corso*: pp. xii, 277, [1]; full-page engraved plate (slightly shaved). Castle, *Phrenologische*: pp. xxvi, 74; lithograph portrait of J. Herner. Giacoma: pp. 117, [3]; large folding lithographic plate. Contemporary blue half calf, blue-black marbled sides, flat spine finely gilt and lettered, an attractive 'Romantique' binding.

FIRST EDITIONS of four works that gathered the latest standpoints in neurological science just before the surgical revolution dramatically changed the tools and approaches for exploring the functions of the human brain. The main preoccupation which engaged Besserières, Castle, and Giacoma was the mapping of the cerebral functions. Portions of the human brain are illustrated in connection with specific skills or feelings, and a newly invented instrument, the 'craniometro' (encephalometer) is introduced by Giacoma to measure the skull proportions and relate them to the personality of individuals. In an entertaining, if somewhat peculiar, sequence of figures, St. Bruno, Francis Bacon, Kant, Van Dyck, Sterne, L'Hopital, and Du-Guesclin provide the visual 'proof' of the theories: the first presents the ideal skull for contemplation, the second shows an impressive hyper-development of the upper-anterior parts, good for philosophy, the third carries the evidence of a speculative attitude and indeed of the 'unintelligible' mind, and so on.

28.

BEUTEL, Tobias. Arboretum mathematicum, darinnen zu befinden: Himmels-Figuren u. Geburts-Stunden hoher Häupter, auch aussgerechnete Finsternüsze, Sonnen-, Mond-, Sternen-Uhren, Astrologia, Themata und richtig calculirte Longitudines & Latitudines der Städte des Churfürstenthums Sachsen; Astrologia sana, licita & Naturalis, Oder Heilsame zulässliche und natürliche Astrologia ... Dresden: Bergen, 1669;

[*bound after:*] — Chur-fürstlicher sächsischer stets grünender hoher Cedern-Wald auf dem grünen Rauten-Grunde, oder, Kurtze Vorstellung der chur-fürstl. sächs. hohen Regal-Wercke. Dresden: Bergen, 1671. £4000

2 works together, 4to (190 × 149 mm.), pp. [xxiv], 46, [3], 311; [iv], 312–435; [160]. Engraved allegorical frontispiece to the *Arboretum* by Hoeckner and Romstet after Schibling, astronomical and astrological woodcut diagrams in text, several woodcut head- and tailpieces. Latin and German text. Uniform light browning throughout. Contemporary vellum over boards, early ink title on spine.

FIRST EDITIONS of the two most successful books of the Dresden court astrologer Tobias Beutel. The *Arboretum mathematicum*, many times reprinted throughout the eighteenth century, combines geometrical studies on the position of the planets and the moon with astrological remarks on the horoscopes of reigning monarchs, and introduces a unified perspective linking the microcosm of seventeenth-century European politics to the macrocosm in an erudite *summa* of German Renaissance

astronomical and chronological science. It also gives the latitude and longitude of some 500 cities.

The second work is a classic in the tradition of court ceremony and ritual, and includes a description of all the Electoral regalia, from the palace to the art galleries, the scientific cabinets, the library, and theatre.

Thorndike VIII, p. 330 (*Arboretum Mathematicum*).

29.

BEYER, Johann Hartmann. Stereometriae inanium nova et facilis ratio, geometricis demonstrationibus confirmata: & necessarius obscuriorum quorundam delineationibus illustrata: qua corporum regularium omnium, tam rectilieorum quam curulineorum capacitates promtissime explorantur. Frankfurt: Palthenius for Johan Rhode, 1603;

[*bound after:*] CAPELLO, Jacob. De Mensuris Libri Tres. I. De mensuris linearum, quibus interualla metimur. II. De mensuris capacitatis quibus tum arida, tum liquida corpora metimur. III. Miscellanea, in quibus multae quaestiones tractantur ad rem nummariam pertinentes. Opus absolutum cum multis tabulus. Frankfurt: Wolfgang Richter for the widow of Levinus Hulse, 1607. £2000

2 works together, small 4to (196 × 155 mm.), pp. 191, [1] bl., 266, [4] index (misbound), 267, [1] bl.; & pp. [viii], 191, [38] tables. Folding table at p. 16 of first work, woodcut head and tailpieces, decorated initials, woodcut devices above imprint to both titles, tables and diagrams in text, particularly in second work. First title laid down, repair to margins of one of unnumbered tables at rear, otherwise internally very good and clean. Contemporary quarter calf, maroon paper sides, paper spine-labels with neat manuscript titles. Wear to extremities. A very good copy.

FIRST EDITIONS. The Frankfurt physician and mathematician Beyer's *Stereometria* is a dense early treatise on gauging, and includes a chapter on the extraction of cube roots. It preceded Kepler's *Stereometria* by 12 years. Beyer is also the author of a work on fractions, *Logista Decimalis,* 1603, and wrote to Kepler in 1616 concerning his book on mensuration, using both the decimal comma and sexagesimal symbolism for the decimal, and laying claim to the invention of decimals.

De Mensuris, a treatise on measurement by the Protestant theologian Jacobo Capello, is divided into three books, the first concerning length, the second on capacity, and the third a miscellany of different subjects including giants, Noah's Ark, the Temple of Solomon, etc. The folding table in book I distinguishes between the Roman foot (of 12 inches), Greek (12½), Parisian (13½), Egyptian (14¼), Hebrew (15), and the Babylonian (16⅔). Capello's work is more of a history of measurement than a mathematical treatise. It has not appeared at auction since 1979 according to *ABPC*.

Beyer: Cantor III, pp. 619; Smith, *History of Mathematics* II, p. 245; Poggendorff I, 183.

30. *The medieval* quadrivium

BOETHIUS, Anicius Manlius Severinus. Hec sunt opera ... In porphirii Isagogen ... Contra eutichen & Nestorium de duabus naturis: & una persona christi liber unus. De arithmetica ad Patritium simmachum libri duo. De musica libri quinque. De geometria libri duo. De philosophie consolatione libri quinque [with the commentary of Thomas Aquinas]. De scholarium disciplina liber unus. [Venice: Gregorius de Gregoriis, 10 Feb. 1497/98; 8 July 1499.] £52,000

Chancery folio (307 × 217 mm.), in three parts, ff. [2], 202; [2], 71, [1], [4], 92. Gothic letter, double column, 65 lines and headline. Numerous white-on-black woodcut initials, woodcut diagrams to text, printer's device at the end of part 2. Two colophons attesting the dates: 8 July 1499 (2nd part), 10 Feb. 1497 [1498] (3rd part). Occasional light marginal staining, a few ink-stains to upper margin of some leaves in *De Musica*. Contemporary blind-tooled calf over wooden boards, tools of fleurs-de-lys, an eagle, small and large roses and a heart and harrow (which suggests an Augustinian provenance) within quadrangular or circular medallions and series of cartouches, arranged in a blind-ruled grid surrounding a rectangular central panel,

engraved brass catches (ties wanting), small paper label on spine. Corners and foot of spine worn, some worm-holes and abrasions. Early pen annotations in two hands, extensive note to front pastedown in the same hand as the first small layer of notes, two ownership inscriptions: 'Conventus Tabulensis'? [Benedictine abbey of Tholey, diocese of Treves, founded 623] and 'Cristophorus Caresreuterus'. An exceptionally clean and attractively unsophisticated copy.

RARE SECOND EDITION of Boethius's *summa* of the medieval *quadrivium*, one of the most influential, widely known, and persistently used tools for the transmission of culture in Western civilization. Severinus Boethius, the learned statesman known to philosophy as 'the last of the Romans', witnessed the fall of the Roman Empire, and his works were instrumental in bridging the Roman world and the Gothic dominion. In the course of his diplomatic career at the court of Theodoric, Boethius played a key role in the establishment of a canon, both philosophical and scientific, which was to become the backbone of medieval education and culture. His *De Arithmetica* is an adaptation of the *Arithmetike eisagoge* of Nicomachus of Gerasa, author of the second century CE whose work on music, *Encheiridion harmonikes*, was most probably the source for Boethius's *De Musica*.

This collected edition, printed for the second time in the same workshop that had produced the *princeps* a few years earlier, also contains the two hugely influential books on geometry which stemmed from Boethius's translation of Euclid's *Elements*. The completely genuine nature of these books, if proved, would determine the date of the first use of Arabic numerals in Western Europe.

Boethius's philosophical and scientific contributions, here collected in a sort of syllabus most probably intended for use in the libraries of the monasteries, exercised a far-reaching and unrivalled influence on the development of an intellectual method and a terminology which were used as the fundamental set of cultural tools for nearly twelve centuries.

BMC V 351 (IB 21143) + V 350 (IB 21129); Hain 3352*; Klebs 192.2; Goff B768; Polain (B) 721, 741.

31. *On impact*

BORELLI, Giovanni Alphonso. De Vi Percussionis Liber. Bologna: Jacob Monti, 1667. £3800

4to (225 × 162 mm.), pp. [xii], 300, 30, [2], 37. Woodcut printer's device on title, 5 engraved plates (the second with very small tear at outer margin), woodcut diagrams in the text. Lower outer corner of half-title and title very slightly frayed, occasional light soiling. A very good, crisp copy in later vellum.

FIRST EDITION of Borelli's first book on mechanics, considered by Borelli himself 'not only [an] exercise in pure mechanics but ... [a] necessary introduction to what he would consider his most important work, the *De motu animalium* [of 1680]' (*DSB*). 'As well as the detailed discussion of impact, the book deals with the dynamics of falling bodies, vibration, gravity, fluid mechanics, magnetism, and pendular motion' (*Bib. Mech.*).

Bakken, p. 5; *Bib. Mech.* pp. 41–42; Riccardi 6.1, 159.

32. *Bosse's edition of Desargues on sundials*

BOSSE, A[braham]., *ed.* Le Manier Universalle de Mr Desargues ... Lyonnois, pour poser l'essieu & placer les heures & autres choses aux cadrans au soleil ... Paris: Pierre des Hayes, 1643. £950

8vo (202 × 137 mm.), pp. [vi], 28, 68. Frontispiece, engraved dedication, additional engraved title, 28 plates, many in duplicate, 66 plates in all. Contemporary vellum (stained), the plates fresh and clean. Bookplates of Dora H. Grosvenor and Turner Collection, University of Keele. An excellent copy.

FIRST EDITION of Desargues's work on sundials. Gerrard Desargues is regarded as one of the founders of modern geometry. His most important work, in which he invented his new form of geometry, was entitled *Brouillon project d'une atteinte aux evenemens des rencontres du Cone avec un Plan*. He was part of the mathematical circle surrounding Marin Mersenne, a circle that included Rene Descartes, and the Pascals father and son. This work is one of a number he published on practical subjects,

including perspective and the cutting of stone for buildings. Desargues's own writing was very dense and theoretical and needed to be expanded into more publishable form by Abraham Bosse. Many of the plates are duplicated several times in order to relate to the text on the facing page.

Brunet. I, p. 1128.

33. *Presentation to Paul Desforges Maillard*

BOUGUER, Pierre. Entretiens sur la cause de l'inclinaison des orbites des planetes. Paris: Claude Jombert, 1734. £3000

4to (249 × 190 mm.), pp. [iv], 63, [1] bl. 2 engraved folding plates. Contemporary mottled calf, triple blind fillet to sides, gilt panelled spine with five raised bands, brown morocco label, inner dentelles gilt, red edges. Author's presentation inscription to title, 'Author dono dedit hunc librum Amico Paulo Desforges Maillard', a later ownership inscription to front blank leaf. Some wear to cover, some rubbing to extremities, clean tear to upper part of second plate, neatly repaired with no loss. A good copy.

FIRST EDITION, PRESENTATION COPY of Bouguer's essay on the orbit of the planets, composed for the annual competition organized by the Academy of Sciences in 1732 and 1734. Bouguer (1698–1758) had become associate geometrician to the Academy at the age of 29, having won three prizes for essays on geodetic subjects, thus establishing himself as the leading French theoretical authority on that discipline. The success of this and others of his works among the scientific community led to his being sent on the celebrated expedition to Peru that was to measure an arc of the meridian near the equator in 1735. His later concern with the measurement of the intensity of light, although highly original (see below), did not obscure his remarkable early achievements in geodesy, nautical observation, and measurements.

This copy was presented by the author to Paul Desforges Maillard (1699–1772), a contemporary French poet now mainly remembered for his correspondence with the progressive and enlightened Madame de Graffigny, their letters being an important source for historical insight into the eighteenth-century French literary and philosophical milieu.

Honeyman 445 (2nd edition, only, 1748); only one copy of this ed. listed in *NUC* (US Dept. of the Navy, Naval Observatory, Washington).

34. *The outstanding contribution to optics in the eighteenth century*

BOUGUER, Pierre. Traité d'Optique sur la Gradation de la Lumière: ouvrage posthume ... publié par M. l'Abbé de la Caille ... pour servir de Suite aux Mémoires de l'Académie Royale des Sciences. Paris: H. L. Guerin & L. F. Delatour, 1760. £3000

4to (255 × 190 mm.), pp, xviii, [ii], 368. Engraved printer's device on title, large woodcut device at head of p. 1, woodcut head- and tailpieces throughout, 7 folding engraved plates. With small ownership label of Sig. Dott. Nicola Pasanisi pasted on to foot of title. Some light spotting, occasional browning. Contemporary French mottled calf, corners bumped, score on lower cover neatly repaired with replacement mottled calf, joints skilfully repaired, spine elaborately gilt in compartments and with red leather label. A good copy.

FIRST EDITION. Bouguer is the founder of photometry, the measurement of light intensities. His invention of the heliometer allowed him to make the first quantitative measurements of the light coming from the sun and the moon. 'Bouguer's achievement was to see that the eye could be used, not as a meter but as a null indicator ... In his *Essai d'optique sur la gradation de la lumière* (1729), he showed how to compare lights in this way ... Just before he died, Bouguer completed a much larger work on photometry, the *Traité d'optique sur la gradation de la lumière*, published posthumously (1760) by his friend the Abbé Nicolas de la Caille. The *Traité* goes far beyond the *Essai*, describing a number of ingenious kinds of photometers, including a method of goniophotometry, and even attempting an elaborate theory of the reflection of light from rough surfaces, although this was not successful. The third and last part of the book, however, gives a valid elementary theory of the horizontal visual range through an obscuring atmosphere, arriving at a law, usually credited to

H. Koschnieder, considered to belong to the twentieth century. It is fair to consider Bouguer not only the inventor of the photometer but also the founder of an important branch of atmospheric optics. The eighteenth century is not an outstanding epoch in the history of optics, but Bouguer's contribution to that science is notable by any standards' (*DSB*).

Norman 285; not in the Becker collection.

35. *The first definitive statement of Boyle's Law*

BOYLE, Robert. New Experiments Physico-Mechanical, Touching The Spring of the Air, and its Effects, (Made, for the most part, in a New Pneumatical Engine) Written by way of Letter To the Right Honorable Charles Lord Viscount of Dungarvan, Eldest Son to the Earl of Corke. Oxford: by H. Hall, Printer to University, for Tho: Robinson, 1662;

[*issued with:*] — An Examen of Mr. T. Hobbes his Dialogus Physicus De Natura Aeris. As far as it concerns Mr. R. Boyle's Book of New Experiments touching the Spring of the Air, &c. With an Appendix touching Mr. Hobbes's Doctrine of Fluidity and Firmness. London: by J. G. for Thomas Robinson Bookseller in Oxon, 1662;

[*and:*] — A Defence Of the Doctrine touching the Spring and Weight Of the Air Propos'd by Mr. R. Boyle in his New Physico-Mechanical Experiments; Against the Objections of Franciscus Linus. Wherewith the Objector's Funicular Hypothesis is also examin'd. London: by J. G. for Thomas Robinson Bookseller in Oxon, 1662. £5500

Small 4to (187 × 152 mm.), pp. [xvi], 207, [1] blank; [viii], 98 (actually 96, pp. 85–86 repeated, separated by a blank), [2] bl.; [xii], 122, [2] bl. In 3 parts, general title and 3 divisional titles, the first with woodcut device of the University of Oxford, ornamental head- and tailpieces, woodcut initials, engraved diagram to second part, folding diagram to first part wanting. Contemporary sprinkled calf, expertly recased and rebacked, calf spine with four raised bands, lettered in gilt. Early inscription to title, 'Ed[inbu]r[gh] Castle 28 August 1678 / Cardross', further early inscription to first text-leaf of first part cancelled and the name 'Cardross' substituted. Very clean, and with good, strong paper.

SECOND EDITION OF THE *NEW EXPERIMENTS*, THE FIRST TO CONTAIN THE DEFINITIVE STATEMENT OF WHAT BECAME KNOWN AS BOYLE'S LAW; ISSUED WITH THE FIRST EDITIONS OF THE OTHER TWO PARTS. Boyle had first published his experiments on the physical nature of air in the *New Experiments Physico-Mechanical touching the Air* in 1660. In this work he conclusively demonstrated, for the first time, the truth that sound is conveyed not in a vacuum but by air. He also proved that it is the weight of air which supports the column of a barometer. He demonstrated the weight of air, its elasticity, and its necessity for respiration and combustion. He also observed that properties such as light and magnetism are not dependent upon air for transmission. Such pioneering experiments met with approval on the one hand, but also considerable scepticism, and so by 1662 a second edition was called for; to which was added the defence found in the present copy against Boyle's detractors. 'This second edition ... is particularly important for what Boyle called an "hypothesis" but what we know as "Boyle's Law": that the volume of air in a confined space varies inversely as the pressure. He demonstrated this by much experimental detail: with experiments in rarefaction performed by others, including Hooke, and on compression performed by himself' (*PMM* 143).

This copy has an interesting provenance: it was in the possession of the covenanter Henry Erskine, Earl of Cardross, at a time when he was still imprisoned in Edinburgh Castle on account of his family's resolve to have a Presbyterian minister perform worship in their own house. Following Erskine's release in 1669 (just under a year after he inscribed this copy of Boyle), he was to make complaint to the king in London over his imprisonment, before sailing for America and establishing a plantation at Charlestown Neck, South Carolina (*DNB*).

Wing B3999 (first part); Fulton 14 (first part); Madan 2586 (first part); Fulton 16 (third part); Wing B3941 (third part); Grolier/Horblit 15; Dibner 142; Norman 300; *PMM* 143; Sparrow 25.

36.

BOYLE, Robert. Experiments and Considerations about the Porosity of Bodies, in two Essays. London: for Samuel Smith, 1684. £2000

Small 8vo (169 × 105 mm.), pp. [iv], 145, [1]. Title within double-ruled borders. Contemporary calf, sometime rebacked to style, red morocco label lettered in gilt. Covers rather worn, some light spotting and browning, mainly marginal. Early inscriptions ('Ken: Richmond'). An excellent copy.

FIRST EDITION. 'To a modem physiologist the *Porosity of Bodies* is of signal interest, for it marks the beginning of the study of osmotic pressure and of the exchange of substances through living membranes, which is at the basis of the regulation of all bodily processes ... The second part of the essay deals with the porosity of solid bodies, and once more we find Boyle speaking in terms of atomic structure and arrangement' (Fulton).

Wing B3966; Fulton 149.

37.

BOYLE, Robert. The Philosophical Works ... abridged methodized and disposed under the General Heads of Physics, Statics, Pneumaticks, Natural History, Chymistry, and Medicine. By Peter Shaw, M.D. The whole illustrated with notes, containing the Improvements made in the several Parts of natural and experimental Knowledge since his time. London: W. & J. Innys, and J. Osbourne, and T. Longman, 1725. £1500

3 vols., 4to (222 × 170 mm.). 21 folding plates, woodcut tailpieces. Internally very fresh and clean. Contemporary calf, vol. I with panelled sides, vols. II and III with blindtooled borders, the three sometime uniformly rebacked in sprinkled calf, red and black morocco labels. Repair to one upper outer corner of vol. II, a little worming to spines and one cover. Contemporary inscription of David Drummond on title of vols. II and III.

FIRST EDITION of Shaw's abridgement of Boyle's works. Shaw also published an abridgement of Bacon's works in 1733, and was an early translator of Boerhaave. He was physician to George II.

Fulton 244.

38.

BREYSIG, [?Johann Adam]. Beyträge zum Grundstudium in Zeichnen überhaupt neu von Breysig. [No place, no publisher, *c.* 1810]. £500

8vo (168 × 105 mm.), title and 11 mounted lithographs (each measuring 120 × 60 mm.) on black background. Inscription of author on title, each lithograph inscribed with the word 'lampe' or abbreviations of it. Paper wrappers, a little stained. An excellent copy.

FIRST EDITION of this scarce work on drawing and proportion, relating in particular to curved objects. Most of the lithographs show spirals, vases and urns with analytical geometrical diagrams alongside them. Johann Adam Breysig (1766–1831) was a painter of scenery, drawing teacher, and inventor of a round panorama, and seems the most likely Breysig to be the author of this, although it is not mentioned in the biography of the author by Thieme Becker.

39. *The first complete trigonometrical tables in print*

BRIGGS, Henry. Trigonometria Britannica; sive de doctrina triangulorum libri duo. Quorum Prior continet Constructionem Canonis Sinuum Tangentium & Secantium, una cum Logarithmis Sinuum & Tangentium ad Gradus & Graduum Centesimas & ad Minuta & Secunda Centesimis respondentia ... Posterior vero usum sive Applicationem Canonis in Resolutione Triangulorum tam Planorum quam Sphaericorum e Geometricis fundamentis petita, calculo facillimo, eximiisque compendiis exhibet: Ab Henrico Gellibrand. Gouda: Pieter Rammasein, 1633. £3500

Folio (352 × 226 mm.), pp. [8], 110, [2], [284]. Half-title, title with geometric device, woodcut head- and tailpieces, initials, diagrams, numerous tables. Front pastedown and preliminary blanks with minor repairs or reinforcements, one other leaf reinforced at inner margin, a little light browning or dampstaining. Contemporary calf, blind-tooled borders, rebacked to style and recornered. Early inscription (cancelled) of Rob[ert] Butler, whose initials also appear 'R. B.' in gilt on both covers; numerous early annotations, including the addition of further logarithmic values to outer margins of many tables; later bookplate of the Turner Collection, Univeristy of Keele. A good copy.

FIRST EDITION OF THE FIRST COMPLETE TRIGONOMETRICAL TABLES TO BE PUBLISHED. The *Trigonometria Britannica* was Briggs's final work, the printing of which was entrusted by the dying mathematician to his friend and colleague Henry Gellibrand (1597–1636), then professor of astronomy at Gresham College, London. Gellibrand contributed a preface to these tables of sines and tangents, explaining the application of logarithms to plane and spherical trigonometry, and the whole was published under the guidance of Adrian Vlacq.

De Haan 5051; Brunet I. 1258; Honeyman 506

40. *With the original wrappers bound in*

BRILLAT-SAVARIN, Jean Anthelme. Physiologie du Gout, ou Méditations de Gastronomie Transcendante, Ouvrage Théorique, Historique et à l'ordre du jour, Dédié aux Gastronomes parisiens. Paris: A. Sautelet, 1826. £5000

2 vols., 8vo (226 × 135 mm.), pp. xiv, [5]–390, with 'Avis au Lecteurs' leaf inserted after title; 442. An exceptionally good, crisp copy, uncut and preserving original wrappers (including spines laid to a separate leaf at end of each volume) in later blue half morocco.

FIRST EDITION, FIRST ISSUE (with the 'E' of 'Bourse' in the imprint of vol. 1 facing horizontally) of this classic of gastronomy, with its original wrappers bound in. Only 500 copies were initially printed, but the *Physiologie du Gout* became a phenomenally popular title and has been reprinted, reissued, translated, and illustrated countless times since. The work 'contains a little of everything: humor, wit, philosophy, science, anecdotes, aphorism, physiology, and above, all, chemistry ... culinary chemistry ... The book has become an uncontested classic of the table, filled with verve and wit. The ex-judge who wrote it owes his fame to this, his only book, whose aphorisms are known throughout the world' (Carteret). Among the best known of the aphorisms are: 'Tell me what you eat; I'll tell you what you are.' 'The discovery of a new dish does more for the happiness of the human species than the discovery of a star.', and 'The destiny of nations depends on the manner in which they feed themselves.'

Carteret I, p. 146–147; Crahan 491; *Heirs of Hippocrates* 1128; Vicaire 116; see Bitting 60 (later editions only).

41. *Beddoes's edition, with a Blake frontispiece*

BROWN, John, M.D. The Elements of Medicine ... translated from the Latin, with comments and illustrations, by the author. A new edition revised and corrected with a biographical preface by Thomas Beddoes, M.D. and a head of the author. London: J. Johnson, 1795. £750

2 vols., 8vo (227 × 140 mm.), pp. xiii, [iii], *xxx-clxiv, xv-xxxi, 312; 366, 8 index. Frontispiece portrait of the author by William Blake after Donaldson, folding table. Uncut in original blue grey boards, buff paper backstrip lettered in black, vol. II with original paper spine-label. Upper margin of leaf lxxvii–lxxviii torn away, text not affected. Neat inscription in contemporary hand on front pastedown reads, 'Dr Vincent Solenghi, an eminent Physician at Rome is preparing a Translation of Brown's Elements of Medicine; and Dr. Dellu, a Brunonian of Pavia is writing a system of Physiology upon the Brunonian Plan. N. P. for Oct. 1. 1795'; further ink inscriptions in same contemporary hand in margins of pp. *cxxxi & xxi. Spines worn at foot, internally crisp and fresh, a very good copy in original state.

FIRST BEDDOES EDITION. The Scottish doctor John Brown's Brunonian Doctrine was based on the idea that every living thing is alloted 'a certain portion' of excitability, and illnesses are caused either by an excess (sthenia) or a depletion (asthenia) of this quality. The Brunonian Doctrine had extraordinary influence on contemporary

medical thinking and practise, particularly on the continent. Originally published in Latin in 1780, *The Elements of Medicine* was subsequently translated into several languages, the first English edition appearing in 1788. It was the cause of a two day brawl between Brunonians and non-Brunonians at the University of Gottingen that had to be put down by a troop of cavalry. Brown's professional success was marred by an inability to look after money; he was often unable to provide for his family, and spent time in prison for debts. He died after giving himself large quantities of opium and alcohol to treat his gout.

This edition is Thomas Lovell Beddoes's account of the Brunonian system, and includes an analysis of his writings. His preface shows a strange mixture of distaste and veneration for Brown: he calls him 'the candid, ingenious and humane ... unfortunate genius' (dedication), yet refers to his editorial duty as 'a task so extremely unpleasant' (p. vii). Beddoes was in some senses an axial figure in the Romantic movement: coming into contact with many of its key figues, sharing narcotic experiences with Keats and Coleridge, while pursuing his own experiments on the borderline between life and death, including his pioneering work in the field of anaesthetics.

Heirs of Hippocrates (1795 Philadelphia edition) 1018; NLM/Blake p. 66; Osler 2153; Wellcome II, p. 249; Bentley 438.

42. *A fine association copy of the very rare first paper on Brownian Motion*

BROWN, Robert. A Brief Account of Microscopical Observations Made in the Months of June, July and August 1827 on the Particles Contained in the Pollen of Plants; and on the General Existence of Active Molecules in Organic and Inorganic Bodies. [London: privately printed for] Richard Taylor [1828].

£50,000

8vo (219 × 140 mm.), pp. 16. Plain grey paper wrappers. Presentation inscription in ink by author on title to Dutrochet; single page of manuscript notes by Dutrochet loosely laid in. Modern collector's case. The Norman–Freilich copy with the Freilich bookplate on inside pastedown of box. Fine condition.

FIRST EDITION, PRESENTATION COPY, of the excessively rare privately-printed paper describing 'Brownian motion' for the first time. Like many wealthy scientists of his day, Brown had his results published privately and distributed to friends, colleagues, and the press. Brown's article was soon communicated to a larger audience via the *Philosophical Magazine.* It was Brown's initial research that led to Ramsay's 1879 discovery that the motion Brown encountered occurs at the molecular level. Einstein turned to this research in the twentieth century, explaining the motion as a manifestation of the kinetic theory of heat.

Although the fame of Brownian motion now eclipses his own name, in his day Robert Brown (1773–1858) was a giant among botanists. Humboldt referred to him as 'botanicorum facile princeps'. Among his many achievements was the discovery of the cell nucleus, the flowing of protoplasm, and major improvements in the classification of plants into families and genera. Perhaps the most far sighted was the founding of the department of botany at the British Museum, which was to grow into an internationally important centre of phylotaxonomic research.

Brown presented this copy to his fellow scientist Rene Joachim Henri Dutrochet (1776–1847), the founder of cell biology and an important physiologist. Dutrochet was probably studying the same phenomena and in contact with Brown over their respective results. While Brown was discovering the nucleus of the cell, Dutrochet is given credit for developing cell theory. Dutrochet also conducted valuable research on photosynthesis, diffusion, and osmosis. 'His chief observation was that certain organic membranes [in plants] allow the passage of water but stop the molecules dissolved in it' (*DSB*).

Dibner 156; Norman I:353; *PMM* 290; Waller 11473.

43.

BUNSEN, Robert. Gasometrische Methoden ... mit 60 in den text eingedruckten holzschnitten. Braunschweig: Freidrich Viewig and Son, 1857. £580

8vo (215 × 134 mm.), pp. [x], 305, [1] bl., [1]. 60 engraved illustrations in the text. Occasional foxing, ink inscription at head of half title. Contemporary black half morocco, extremities slightly rubbed, spine lettered in gilt. A good copy.

FIRST EDITION of this milestone in analytic chemistry. The work documents the technique that Bunsen developed in order to conquer the practical requirements of his job examining the gases discharged from blast furnaces. It 'brought gas analysis to a level of accuracy and simplicity reached earlier by gravimetric and titrimetric techniques ... [On the problem of gaseous absorption, Bunsen] showed the experimental limits within which Henry's law of pressures and Dalton's law of partial pressures are valid' (*DSB*). Bunsen's technique became the standard and remained so for the rest of the century.

Partington IV, p. 286; Norman 373.

44. *Freud's daughter's lesbian lover on identical twins*

BURLINGHAM, Dorothy. Twins A Study of Three Pairs of Identical Twins with 30 Charts. London: Imago Publishing Co. Ltd. [1952.] £175

Large 8vo, pp. x, 94. 30 folding charts printed in two and three colours (A–B in red and blue, 1–28 in red, blue, and black), of which 18 are double-page and 12 concertina'd with three folds. Original green cloth, spine lettered in gilt, extremities rubbed, spine faded.

FIRST EDITION of this pioneering and ingeniously illustrated report The studies were made in London between 1940 and 1945 at the Hampstead Nurseries, a 'residential war home for children, of any age from 10 days to 10 years, financed by the 'Foster Parents' Plan for War Children, Inc., New York', which Dorothy Burlingham (1891–1979) established in collaboration with her longtime companion Anna Freud. Three sets of identical twins were studied: Bert and Bill, from birth to 3 years; Bessie and Jessie, from birth to 3 years, 7 months; and Madge and Mary, from 3 years, 7 months to 5 years, 7 months. The coloured charts are used to identify the twins' activities, the first two depicting their sleep patterns, the others carefully differentiating the developmental progress of each set of twins by use of colour coding. The work is still of considerable academic interest in this field and was recently republished.

45.

CABEO, Niccolo. Philosophia magnetica. Ferrara: Franciscus Succius, 1629. £8500

Folio (298 × 210 mm.), pp. [16], 412, [12]. Engraved title with allegorical and architectonic motifs, numerous text woodcuts and engravings, many half-page, woodcut ornaments and initials. Contemporary mottled calf, coat of arms in gilt to sides, gilt panelled spine with six raised bands, compartments finely decorated with flowers and fillets, red morocco label, inner dentelles gilt, all edges red. Minor rubbing, small worm-hole to back cover. Bookplate of Thomas Seyssel d'Aix to front pastedown. A fine copy.

FIRST EDITION, FIRST ISSUE, OF THE FIRST WORK TO DISCUSS ELECTRICAL REPULSION, 'perhaps the most significant discovery of the century following Gilbert' (Wolf). In fact, this book is only the second, after Gilbert's *De Magnete*, to discuss the phenomenon of magnetism. The brilliant Ferrarese Jesuit, Niccolo Cabeo (1586–1650), critically examines Gilbert's discoveries and theories, opposing the latter's views on terrestrial magnetism and sympathetic telegraphy. This first issue from Ferrara is distinguished from the second (issued at Cologne in the same year) by the arms of Louis XIII at the head of the title and its dedication to 'Rex Christianissime'. 'Copies of this first edition ... are much sought after' (Wheeler).

Wheeler Gift 97 (Cologne issue); Sommervogel II, 483; Wolf, *A History of Science* (1939), pp. 298, 303; Mottelay, *Bib. Hist. of Electricity* (1922), pp. 109–110.

46.

CASSANI, José. Tratado de la Naturaleza, Origen, y causas de los Cometas. Con la Historia de Todod los que se tiene noticia haverse visto, y de los efectos, que se les han attribuido, donde se manifiesta quan sin fundamento se dice que son infaustos. Y con el Mehodo de Observar Astronómicamente sus lugares aparentes, y hallar los verdaderos en el Cielo: su curso, su magnitud, distancia de la tierra, y de formar las Ephemerides, con lo demàs que à la Astronomis toca. Madrid: Manuel Fernandez [1737]. £2000

Small 8vo (147 × 95 mm.), pp. [xvi], 256, [2]. Folding engraved plate, woodcut decorations throughout. Some light browning or soiling. Modern polished sheep, covers decorated in blind, red leather spine-label. A good copy.

FIRST EDITION of this rare Spanish treatise on comets. Cassani was a Jesuit, professor of mathematics at the Imperial College in Madrid between 1701 and 1732, and one of the first eight members of the Spanish Royal Academy, which was inaugurated in 1713. Cassani believed that comets were spots or impure parts of the sun, thrown out from its body and capable of only rectilinear or circular motion. Thus he does not include the cometary theories of scientists such as Horrocks, Hevelius, Halley, and, most notably, Newton. His chief source appears to have been Riccioli. He was inspired to publish this work, which was based on studies and observations made in the early part of the century, by the appearance of a new comet in 1737.

In three parts, the work covers the nature of comets, their effects, and cometary theories, with the final chapter of the book containing 20 problems for the student to solve. The folding plate illustrates these problems with 19 different mathematical figures and an unnumbered 20th depicting a comet from three different angles. Most of the decorations are made up from various combinations of star woodcuts, an unusual piece of book design.

Lalande p. 405; Palau Y 7377; Sommervogel II, 814.9; *NUC* records just one location, Boston Public Library.

47.

CAVENDISH, [Henry.] Observations on Mr. Hutchins's experiments for determining the degree of cold at which quicksilver freezes. London: J. Nichols, 1784. £900

4to (295 × 232 mm.), pp. [ii], 26. Stab-sewn as issued, entirely uncut and unopened.

FIRST EDITION of one of the few separate printings of Cavendish's publications, extremely scarce, especially in original state. This important paper contains the last of Cavendish's famous investigations on the subject of heat, and is the only one published during his lifetime. It deals with the freezing of mercury and with the properties of certain freezing mixtures. 'Cavendish was the first in England to freeze mercury, in a mixture of pounded ice or snow and dilute nitric acid, on February 23, 1783' (Partington, III, p. 308).

Berry, pp. 144–50; not in Duveen.

48.

CAVERHILL, John. A Treatise on the Cause and Cure of the Gout. London: J. Nourse, 1769. £300

8vo (228 × 140 mm.), pp. xi, [1], 187. 3 plates. Original blue grey paper boards, top edge cut, others uncut, spine expertly restored to style, new label. Contemporary ownership inscription of Thomas Chapman at head of title, inscription on prelim dated August 1843, modern bookplate of Bent Juel Jensen. A very good copy of a rare book.

FIRST EDITION of a misguided treatise by one of the lesser figures in medical history. In this work, Caverhill 'put forward the theory that the matter of nerves was earthy, and descended through the nerves to form the bones, and that the friction of this earthy substance, in its way to the bones, gave rise to animal heat. He followed this by *Experiments on the Causes of Heat in Living Animals*, 1770, in which he attempted to

prove his theory by a large number of barbarous experiments on rabbits, destroying various nerves or portions of the spinal cord, and awaiting the death of the animals' (*DNB*). Although his grander theories were a little wayward and conjectural, Caverhill was capable of some acute observational writing. The *Treatise* contains three handsome and well-executed plates of the muscles, arteries and veins of the feet. This is a scarce book, not in Garrison–Morton, Osler, or Waller, *ESTC* recording only four copies.

NLM/Blake p. 82; Wellcome II, p. 316.

49. *One of the earliest collections of natural history*

CERUTTO, Bendetto, & Andrea Ciocco. Musaeum Franc. Calceolari iun. Veronensis a Benedicto Ceruto medico incaeptum; et ab Andrea Chiocco med. Physico excellentiss. Collegii luculenter descriptum, & perfectum. Verona: Angelus Tamus, 1622. £10,000

Folio (308 × 203 mm.), pp. [l], 746. Half title, allegorical engraved titlepage, engraved folding plate, 43 engraved ilustrations in text (8 full page). Few small repairs only slightly affecting text, minor worming, faint dust soiling to a few leaves. Contemporary vellum, soiled, small tears at top of spine. The Freilich copy. An excellent copy.

FIRST EDITION of one of the earliest collections of natural history. It was assembled over many years by the naturalist Francesco Calzolari and continued by his grand nephew of the same name. The work was edited by the Venetian physician Benedetto Ceruto and completed by Andrea Ciocco. The folding plate shows the numerous items in the museum: apothecary jars flanked by shells and marine animals line the shelves, stuffed birds fill the top shelves, and from the ceiling are suspended such curiosities as a porcupine, blowfish, crocodile, and shark.

Nissen ZBI 857; NLM/Krivatsy, 2341.

50. *The medicalization of witchcraft*

CHAMPIER, Symphorien. Dyalogus singularissimus et perutilis viri occulentissimi domini simphoriani lugdunene. In magicarum artium destructionem cum suis anexis de fascinatoribus de incubis et succubis et de demoniacis per fratre Symonem de Ulmo sacre pagine doctorem et ordinis minor fideliter correctus. Estque dyalogus liber In quoaliqui simulde aliqua re coferentes disserentesqe introductur. [Lyons: Guillaume Balsarin, 1498.] £18,000

Small 4to (197 × 138 mm.), 20 leaves. 28 lines. Full page woodcut on verso of title, woodcut white-on-black initials. Few neat marginalia in brown ink in sixteenth-century hand. Slight marginal damp staining and soiling. Brown half morocco, paper sides, spine ruled and lettered in gilt, in board slipcase. The Haskell F. Norman copy, with his bookplate.

FIRST EDITION of Champier's treatise on the uses and sources of witchcraft, which he attributes to a diseased imagination, although he also believes in demonic possession. The treatise takes the form of a dialogue between Champier and his pupil Andreas, Champier arguing that tales of witches' sabbaths are usually either illusions or tricks of the devil. Judges should therefore exercise great caution and perhaps recommend medical treatment for the supposed witch. Champier was a distinguished Lyonese physician, humanist, and first bibliographer of medicine. He wrote several compilations and treatises which combined medicine, philosophy, history, religion, and the occult. Generally he disapproved of magic and was particularly opposed to the use of astrology in medicine.

BMC suggests 1498 as the year of publication. As Norman notes, the woodcut device on $a1^{v}$ was also used in Balsarin's editions of Brant's *Ship of Fools (*11 Aug. 1498 and 11 Sept. 1499). GW suggests that rather than being the editor, Simone de Ulmo was the ecclesiastical censor of the text.

BMC VIII 279; GW 6552; Goff C-421; Pell 3512; Pol. 1059; Klebs 267.1; Norman 439; Thorndike, V 111–118.

51. *Hypnotism*

CHASTENET, Armand Marie Jacques de, *Marquis de Puységur.* Mémoires pour servir à l'histoire et à l'établissement du magnétisme animal. [Paris:] 1784. £8000

8vo (195 × 120 mm.), pp. 232. Printer's device on title. Original blue wrappers, with paper label on spine, lettered in early manuscript. Author's inscription to M. Bergasse le Cadel on verso of title and p. 3, his signature on p. 4, a few contemporary pen annotations. Sympathetic consolidation to wrappers, tear to title carefully repaired, some light browning affecting last two leaves, occasional rust spots. A very good copy in original wrappers.

FIRST EDITION, PRESENTATION COPY, of Puységur's major work, a landmark in the history of hypnotism. 'It was while working with mesmerism that he discovered what he called somnambulism which eventually evolved into today's hypnotism. Although the mesmeric trance was an unwanted phenomenon in Mesmer's therapy, the Puységur brothers recognized that the trance provided an opportunity to muster the mind's power to aid the patient. Even before Mesmer abandoned his practice in 1785, Puységur was collecting data on somnambulism and he developed a therapeutic regimen which involved what today we would call posthypnotic suggestion' (Eimas). The book was published in the same year as a document of the inquiry into the activities of Mesmer ordered by Louis XVI. The commission of enquiry, which included Lavoisier and Benjamin Franklin, dismissed Mesmer's experiences and stated that no evidence could be found of a 'magnetic field' as he had claimed. Puységur in his work rejected the magnetic fluid theory, while putting forward the idea of a psychological exchange of force between 'magnetizer' and patient. Three editions were published during the author's lifetime, but only much later, in 1843, was Puységur's theory perceived as distinct from Mesmer's theory, and became known as hypnosis.

Wellcome II, 331; Caillet 2273; *Heirs of Hippocrates* 1097.

52. *Ballooning in the wake of the Montgolfiers*

CHAUSSIER, François, & *Abbé* N. Bertrand. Description de l'Aérostate de Dijon, Contenant le détail des procédés, la théorie des opérations, les dessins des machines & les proces verbaux d'experiences ... Suivi d'un essai sur l'application de la découverte de M.M. de Montgolfier, a la extraction des eaux des mines. Dijon: de Causse, 1784. £350

8vo (193 × 122 mm.), pp. [ii], vi, 224. 4 folding plates at rear, woodcut tailpieces, portrait of Guiton Morveau pasted onto verso of front free endpaper. Recently rebound in dark blue quarter morocco, gilt ruled compartments and lettering on spine, marbled sides, edges uncut. Bookplate on front free endpaper with motto 'peu ne puis rien ne suis q'un chapuis' below a scaffolding structure. A good copy.

An account of experiments conducted at the Academy of Dijon by Baron Guyton du Morveau in the year following the Montgolfier brothers' first ascent in a balloon. The Dijon experiments included some of the first attempts to make steerage systems for balloons by the use of sails and oars, the use of balloons to extract water from mines, and the whole of the second part concerns the use of inflammable gases. The folding plates at rear show these experiments, and also a map showing the route of a balloon flight.

53. *The foundations of organic chemistry*

CHEVREUL, Eugène. Recherches chimiques sur les corps gras d'origine animale. Paris: Levrault, 1823. £1500

4to (212 × 140 mm.), pp. xvi, 484. With half-title and errata leaf. 4 engraved plates, 3 of which are folding. Uncut and unpressed in original printed pink wrappers, backstrip almost completely worn, preserved in a cloth box. A remarkably fresh copy.

FIRST EDITION of Chevreul's first great work. Chevreul started his comprehensive program of research on animal fats in 1811. His findings were published in this book, which revolutionized chemical sciences and 'founded the discipline of organic

chemistry' (*En français dans le texte*). Through a process of acidification of soaps made from animal fats Chevreul was able to define fats as esters of glycerol and fatty acids, and identified and described for the first time a number of acids: oleic, margaric, butyric, capric, and caproic acids. 'Few areas of chemistry at this time had been so thoroughly explored' (*DSB*). His investigation prompted the forming of his methodological general remarks, which, published in the following year under the title of *Considérations Générales sur l'Analyse Organique et sur ses Applications,* inaugurated a new rigorous analytical method in chemistry.

En français dans le texte 237.

54. *Reconciling religion and Newtonian science*

CHEYNE, George. Philosophical Principles of Religion: Natural and Revealed: In Two Parts. Part I. Containing the Elements of Natural Philosophy and the Proofs of Natural Religion arising from them. The Second edition. Corrected and enlarged. Part II. Containing the Nature and Kinds of Infinites; their Arithmetick and Uses: Together with the Philosophick Principles of Reveal'd Religion. Now first publish'd. London: George Strahan, 1715. £2750

Large 8vo (224 × 139 mm.), in two parts, pp. [xxxii], 360, [xxiv], 188, [4] adverts. Diagrams in text. Contemporary black morocco, gilt ruled and roll tooled panels to both sides, volutes to sides of panels, lozenge shaped floral tool at corners, five raised bands, gilt decorations to compartments, title in gilt in second compartment, gilt inner dentelles, marbled endpapers, gilt edges. Modern bookplate of Kenneth Garth Hudson. An excellent large paper copy in handsome contemporary panelled gilt morocco.

FIRST EDITION THUS, LARGE PAPER COPY. The first part alone had been previously published in 1705. Written for and dedicated to his pupil, John, Duke of Roxburgh, Cheyne's *Philosophical Principles* were mainly drawn from Newton. Included here is his unoffical discourse on Boyle in which he discusses Newtonian science from the point of view of natural theology. Although the book was rejected by his contemporaries as containing little of value, it was used in both English universities. Chapters I and III of the second part, 'The Arithmetick of Infinites', include a fascinating attempt to reduce religion to mathematical principles.

Cheyne's struggle with corpulence and excess became the subject of his popular later works on health and nutrition, *Essay of Health and Long Life* and *The English Malady*.

This is the issue with the edition statement in roman type rather than black letter; there appears to be no other distinction nor any priority between the issues.

Not in Babson or Wallis.

55.

[CHILD, Samuel.] Every Man his own Brewer, or a Compendium of the English Brewery. Containing the Best Instructions for the Choice of Hops, Malt and Water, and for the Right Management of the Brewing Utensils. Likewise the Most Approved Method of Brewing London Porter and Ale. Of Brewing Amber, Burton, Western and Oat Ales ... Of Air; its Properties and Effects on Malt Liquor. Of the Thermometer, its Use and Application, in Brewery. Of Fire and its Action on Malt and Vinous Extracts, Together with A Variety of Maxims and Observations deduced from Theory and Practice. And some Useful Hints to the Distillery for the Extracting a Fine Spirit from Malt and other Ingredients. The Whole illustrated by several Experiments etc. By a Gentleman, lately retired from the Brewing Business. London: J. Almon and Robinson & Roberts, 1768. £700

12mo (170 × 100 mm.). pp. [iv], vi, ix–xxviii, 29–256, [4] adverts of books printed by Almon. Contemporary calf, sometime rebacked, spine with raised bands, gilt ruled compartments, brown label. Bookplate of Alex Boswall Esq. of Blackadder. Internally crisp, a very good copy.

FIRST AND ONLY EDITION of this rare early English work on the art of brewing. Maclean lists one copy in the British Isles and two in North America. Maclean also lists a 19-

page treatise by Samuel Child with the same title, published in 1790, which ran to several editions. On this basis, the authorship of the present work is attributed to Childs by Kress and *NUC*, although *ESTC* records it as anonymous.

This copy has leaf 29–30 as a cancel, which collates with the British Library copy, as listed in *ESTC*. Copies are known with the cancelled leaf having, on the recto, the drop-head title 'The philosophy of brewing'; our copy has 'The philosophy of brewing; or, a compendium of the English brewery.'

Maclean, p. 26; Kress S4517.

56.

CIVIALE, Jean. De La Lithotritie ou Brioement de la Pierre dans la Vessie ... avec cinq Planches. Ouvrage dédie et présenté au Roi. Paris: Bechet Jeune, 1827;

[*issued with:*] (—) Rapport. Fait à l'Académie royale des Sciences, par M.M. Le chevalier Chaussier et le baron Percy, sur le nouveau moyen du Docteur Civiale, pour détruire la pierre dans la vessie, sans l'opération de la taille. [Paris: *c.* 1827;]

[*and with:*] (—) Lettres sur la Lithotritie ou brioement de la Pierre dans la Vessie ... Paris: J. B. Bailliere, to be sold by the same publisher at London and at the Dépôt de la Libraire médicale Française in Brussels, 1828. £900

3 works together, 8vo (202 × 127 mm.), pp. lx, 254, [14]: 5 folding plates by Muller, lithography by Engelmann; pp. 76, folding table; & pp. 182, folding plate. Very slightly darkened, a few spots, but crisp and clean, repair to verso of explanation to plate IV of first work, dampstain and closed tear to *Lettres* plate. Contemporary dark green half calf, marbled sides, gilt rules, spine with motifs and title in gilt and with remnants of two nineteenth-century paper shelf-labels, speckled edges. A little wear to extremities. A very good copy.

FIRST EDITION of Civiale's key work advancing the new technique of lithotrity. Civiale was a specialist in urology, devoting his entire career to that discipline, and he was particularly interested in the removal of bladder stones without resorting to lithotomy, a painful and gruesome operation. He invented a number of instruments, illustrated in the plates of the first work here, that could be introduced into the bladder trans-urethrally to crush the stone, and he performed his first successful human lithotrity in 1824. The three parts were issued together, but are sometimes found bound in a different order, as for example in the Wellcome copy.

Heirs of Hippocrates 1484; Garrison–Morton 4289; Waller 1987; Wellcome II, p. 350.

57. *Military science*

COLLADO, Luis. Pratica Manuale di Arteglieria; Nellaquale si tratta della inventione di essa, dell'ordine di conduria, & piantarla sotto à qualunque fortezza, fabricar mine da far volar in alto le fortezze, spianar le montagne, divertir l'acque offensive à i Regni & provincie, tirar co i pezzi in molti & diversi modi, far fuochi artificiali; con altri bellissimi secreti all'essercitio dell'arteglieria appartenenti. Nuovamente composta & data in luce ... Venice: Pietro Dusinelli, 1586. £5000

Folio (333 × 217 mm.), ff. [vi], 92. Title within woodcut border with woodcut arms of Don Carlo D'Aragona, the dedicatee, 2 woodcut plates, 35 woodcut illustrations and diagrams in the text (of which 6 are full-page), woodcut initials. An excellent copy in old vellum over boards, internally crisp, fresh, and clean.

FIRST EDITION of 'the first really detailed, well-illustrated technical manual on both the theory and practice of artillery' (Hall); 'very rare', according to Cockle. Collado, a Spanish engineer who lived for a long time in Italy, also includes other subjects of military interest such as engineering, mining, and secret writing. He is said to have been the first to conduct practical tests of firing.

Cockle 664; Hall 46; Spaulding–Karpinski 39.

58.

CONDORCET, [Marie Jean Antoine Nicolas Caritat,] *Marquis de.* Essais d'analyse ... Tome premier [all published]. Le marquis De Condorcet a Mr. D'Alembert, sur le systême du monde et sur le calcul intégral. Paris: Didot, 1768. £1750

4to (220 × 163 mm.), pp. [iv], lii, 93, [1] bl. Half-title, woodcut vignette and head-piece in classical style. Contemporary half calf, sprinkled paper sides, flat panelled spine with foliate rolls, pale tan label. A few minor abrasions to covers, corners slightly rubbed, some light spotting to last quire. A most attractive copy in contemporary state.

FIRST EDITION of one of Condorcet's earliest essays after his famous *Du calcul intégral* (1765) and *Du problème des trois corps* (1767), which were instrumental in securing his membership of the Academy of Sciences in 1769. This essay fostered Condorcet's popularity among contemporary mathematicians, with its application of the new integral calculus in verification of Newton's discoveries in the *Principia*, which had been derived using more limited, geometric methods. Having earned a reputation through his successful mathematical publications, Condorcet was introduced into the milieu of the distinguished mathematician and *philosophe* Jean le Rond d'Alembert. D'Alembert in turn introduced his young protégé to the intellectual world of the Parisian salons, and of course to the *philosophe* movement. The practical use of calculus in the area of political decision-making was later explored by Condorcet in his *Essai sur l'Application de l'Analyse à la Probabilité des Decisions Rendues à la Pluralité des Voix* (1785), where he exposed the weaknesses of democratic majority rule and attempted to ensure that decisions made by assemblies represented the closest version of a 'probabilistic truth'.

59. *The quadricentennial edition*

COPERNICUS, Nicolaus. De revolutionibus orbium coelestium libri VI. Ex auctoris autographo recudi curavit Societas Copernicana Thorunensis. Accedit Georgii Joachimi Rhetici de libris revolutionum narratio prima. Torun: the Copernican Society, 1873. £1500

Large 4to (343 × 264 mm.), pp. xxx, [i], [i] bl., 494. Woodcut diagrams within the text. Original morocco backed boards (to a design resembling mottled calf), joints slightly scraped, spine gilt blocked in blind and ruled and lettered in gilt. An exceptional copy.

LARGE PAPER COPY of this memorial edition of Copernicus's *De revolutionibus,* published in the Polish town where he was born on the 400th anniversary of his birth. This is a particularly well-preserved copy of this lavish edition. The detailed prologue provides a scholarly critique of the variations between the author's manuscript of *De revolutionibus* and the early printed versions, while an appendix reproduces the text of Rheticus's *Narratio Prima* of 1540, in which the Copernican theory was first announced.

60. *A Philadelphia physician puts Harvey in his place*

COXE, John Redman. An Inquiry into the claims of Doctor William Harvey to the discovery of the circulation of the blood, with a more equitable retrospect of that event, to which is added, an Introductory Lecture, delivered in the third of November, 1829, in vindication of Hippocrates from sundry charges of ignorance preferred against him by the late Professor Rush. Philadelphia: C. Sherman, 1834. £850

8vo (220 × 140 mm.), pp. xxvi, [27]–258. A little darkened, some spotting. Original drab boards, brown cloth backstrip with original paper spine-label, ends to spine chipped, some light wear to edges. Inscribed by Coxe facing title to 'Horace Binney Esq with the grateful respect of his obliged friend, the author'. A very good copy in original condition.

FIRST EDITION, PRESENTATION COPY to the prominent Philadelphia lawyer, Horace Binney (1780–1875). 'Coxe objected to Harvey's receiving the sole credit for discovering the circulation of the blood, and in this work he brings the reader's attention to the

important contributions made by Galen, Servetus, Vesalius, and others in the understanding of the circulatory system' (*Heirs of Hippocrates*, p. 409). Coxe studied with Benjamin Rush, and became a personal favourite, living in Rush's house as part of the family while helping Rush fight the yellow fever epidemic of 1793. Rush applauds his involvement and commitment in his account of that epidemic (pp. 340–341, item 199 below). 'The Lecture in Vindication of Hippocrates' that forms the second part of this work is a respectful rebuke to his mentor for suggestions made in an 1811 lecture that Hippocrates was ignorant of anatomy. Coxe was the first physician in Philadelphia to advocate and use vaccination (he named his son Edward Jenner Coxe), and produced one of the earliest American drug compendia.

Osler 749; *Heirs of Hippocrates* 1290.

61. *Cramer's Rule and Paradox*

CRAMER, Gabriel. Introduction a l'Analyse des Lignes Courbes Algébriques. Geneva: Cramer and Philibert, 1750. £1200

4to (240 × 190 mm.), pp. [xxiii], [i] bl., 680, xi, [i] errata; printed 'Avis' pasted on to verso of half-title. 33 folding engraved plates, folding table, woodcut device on title, diagrams in text, title in red and black. Some browning, light dampstain to lower margins of some leaves. Contemporary French mottled calf, spine gilt in compartments, red morocco label, joints cracked at head and tail of spine, corners damaged. Ownership inscription on title and another on front free endpaper (the latter partially erased), bookplate of C. W. Turner. A good copy.

FIRST EDITION of Cramer's most important work, containing 'Cramer's Rule' for solving systems of linear equations and 'Cramer's Paradox' relating to the number of curves of a given degree passing through a given set of points. 'The first chapter ... defines regular, irregular, transcendental, mechanical and irrational curves and discusses some techniques of graphing, including our present convention for the positive directions of coordinate axes. The second chapter deals with curves, especially those which simplify their equations, and the third chapter develops a classification of algebraic curves by order of degree, abandoning Descartes's classification by genera. Both Cramer's rule and Cramer's paradox develop out of this chapter. The remaining ten chapters include discussions of the graphical solutions of equations, diameters, branch points and singular points, tangents, points of inflection, maxima, minima, and curvature' (*DSB*).

Smith, *History of Mathematics* I, p. 520.

62. *The first book published in Italy on the astrolabe*

DANTI, [Pellegrino] Egnazio. Trattato dell'Uso, e della Fabbrica dell'Astrolabio ... Con il Planisferio del Roias. Florence: Giunti, 1578;

[*bound with:*] BOTTRIGARI, Ercole. Trattato della Descrittione della Sfera Celeste in piano di Cl. Tolomeo ... tradotto in Parlare Italiano. Aggiontovi ancho la ragionevole confirmatione d'alcune demostrationi. Bologna: Alessandro Benaccio, 1572. £3250

2 works together, 4to (203 × 148 mm.). Danti: pp. [xii], 316; numerous woodcut diagrams and illustrations in the text (5 full-page), woodcut and typographical head- and tailpieces, woodcut historiated initials, woodcut coat of arms of the Medici family on title. Bottrigari: pp. [xvi], 93, [3]; woodcut diagrams and illustrations in the text, woodcut and typographical head- and tailpieces, woodcut historiated initials, printer's device to title and on verso of last leaf. Contemporary Italian vellum over boards, flat spine with gilt framed title and a gilt-stamped dragon, edges sprinkled red and yellow. Early ownership inscription on title. Some tiny worm-holes to spine, some worm-tracks along the inner side of last quires, without loss, occasional light browning and spotting. Very good copies.

GREATLY ENLARGED SECOND EDITION OF THE FIRST BOOK PUBLISHED IN ITALY ON THE ASTROLABE BOUND WITH THE RARE FIRST EDITION of Ercole Bottrigari's translation of Ptolemy's *Planispherium* from Latin into Italian.

Egnatio Danti (1536–1586) was the Grand Ducal cosmographer to Cosimo I de' Medici, and was charged with producing the maps that were to adorn the Map Room of the Palazzo Vecchio in Florence. Also reader in mathematics at the Florentine

Studio, Danti was mainly an inventor of scientific instruments, and wrote numerous celebrated texts on their structure and use. He built the gnomon of S. Maria Novella and the astronomical instruments situated on the facade of the same church, and in the 1570s he became a key authority in the process of reform of the calendar, having observed in 1574 that the equinox was eleven days earlier than the contemporary calendar. The sixth part of this work contains the Italian translation of Cataldi's *Anemographia*, introduced with a large woodcut by way of a part title. The precise description of the astronomical and geodetic instruments known at the time makes this work one of considerable importance in the history of astronomy. Another issue of this second and preferred edition was published, with a variant in the title, which begins with 'Primo Volume' instead of 'Trattato' (see next item). The illustration at p. 107 is believed to be, in the first edition of 1569, the earliest picture of woman using a scientific instrument (Simcock).

Riccardi describes the *Trattato della Descrittione della Sfera Celeste* as 'rare and little known', and only one copy is cited in *NUC* (supplement.) The work consists of the translation of a corrupted text derived from Ptolemy, called *Analemma*, concerned with the determination of angles used in the construction of dials through projection on to the meridian plane. The celestial sphere is then projected on to a plane and thus described in the following work, *Planispherium*, which sets the theoretical basis for the use of a 'modern' astrolabe. A second section of the book as found here consists of a series of mathematical calculations drawn by Bottrigari .

Gamba 1342; Brunet II 519; Riccardi I 389 & 186; Adams D-124; Simcock, 'The Lady and the Astrolabe', *Bulletin of the Scientific Instrument Society* 51 (December 1996), 2–3.

63.

DANTI, [Pellegrino] Egnazio. Primo Volume Dell'Uso et Fabbrica Dell'Astrolabio, Et del planisferio ... Con l'Aggiunta dell'Uso, & Fabbrica di nove altri istromenti Astronomici, come nella faccia seguente si contiene. Florence: Giunti, 1578. £3750

4to (209 × 144 mm.), pp. [xvi], 325, [3]. Numerous woodcut illustrations of astrolabes, spheres, and other instruments (5 full-page), numerous figures and diagrams and several historiated woodcut initials to text, woodcut coat of arms of the Medici family on title, several woodcut tailpieces. Some foxing and browning, small tear to lower portion of p. 231, only just entering figure without loss, some worm-holes in the last few leaves, without loss, new front endleaf. Contemporary vellum, hinges reinforced. Bookplate of Nicolas de Landau on front pastedown. A good copy.

SECOND EDITION OF THE FIRST BOOK PUBLISHED IN ITALY ON THE ASTROLABE, this edition enlarged by about 100 pages and rare. This copy belongs to the issue whose title reads 'Primo Volume'(see previous item).

Gamba 1342; Brunet II 519; Riccardi I 389; Adams D-124; Simcock, 'The Lady and the Astrolabe', *Bulletin of the Scientific Instrument Society* 51 (December 1996), 2–3.

64. *Evolution comes out in the open*

DARWIN, Charles. The Descent of Man, and Selection in Relation to Sex. London: John Murray, 1871. £2000

2 vols., 8vo, pp. viii, 423, [1], 16; viii, [ii], 475, [1], 16: including half-titles and adverts. Original green cloth, extremities bumped, spine lettered in gilt. Extremities bumped, upper inner hinge broken in vol. 2, cracking in vol. 1, some spotting to initial and final blanks and half-titles. Small blindstamps of Brighton Public Library to upper corners of titles, cancelled in manuscript on versos. A good copy.

FIRST EDITION, FIRST ISSUE, of the work in which Darwin applied his theories of natural selection directly to human beings. *The Descent of Man* is the first work by Darwin to include the word 'evolution' (vol. 1, p. 2). A relationship between the ancestry of man and the apes was the logical outcome of the general theory of evolution outlined in *On the Origin of Species* (1859), but Darwin was forced to delay a detailed publication on that subject until the clamour of opposition which greeted the *Origin* had subsided. The first issue of 2,500 appeared on 24 February 1871 and a second followed swiftly in March.

Freeman 937; Garrison–Morton 170; Norman 599.

65.

DAVY, *Sir* Humphry. Elements of Chemical Philosophy ... Part I. Volume I [all published]. London: J. Johnson, 1812. £1500

8vo (224 × 138 mm.), complete with initial advert, errata leaf, and 16pp. publisher's adverts at end. 12 plates. Very clean and crisp, unopened and uncut in original blue grey boards, rebacked with brown paper retaining original label. Internally fine.

FIRST EDITION. Davy intended to write a 'Part II' to this work, but, as the contemporary reviewers predicted, he never got round to it. 'One of the earliest connected treatises on physical chemistry, as known at the date of publication and incorporating the results of the important discoveries made by the author. These include a description of fluor spar, the origin of fluoric compounds, the naming of hypoflouric acid, and a modification of Lavoisier's classification of the elements' (Duveen, p. 160).

Duveen, p. 160; Norman 609; Wellcome II, p. 436; Cole 344.

66. *Presentation to Sir James South, with authorial corrections*

DAVY, *Sir* Humphry. On the Safety Lamp for Preventing Explosions in Mines, Houses Lighted by Gas, Spirit Warehouses, or Magazines in Ships, &c. With some Researches on Flame. London: for R. Hunter, 1825. £2250

8vo (215 × 130 mm.), pp. viii, 153. Folding engraved frontispiece plate, spotted. Title browned, a few spots to early leaves of text. Presentation red morocco, covers panelled in gilt and blind, spine gilt in compartments, upper joint very neatly repaired. Inscribed to James South 'from his friend the author' at head of front free endpaper; and from the Royal Geological Society of Cornwall to whom it was bequeathed by South, with note to that effect on the endpaper and inserted copy of the bequest. With two authorial corrections in the additional Appendices. A handsome presentation copy, and an important association.

PRESENTATION COPY FROM DAVY TO THE ASTRONOMER SIR JAMES SOUTH. This second edition of Davy's complete account of his invention of the safety lamp re-uses the sheets of the first edition of 1818. The title is changed, an advertisement is added to the preliminaries (replacing a half-title to the first edition), and the Appendices have been extended, from just one Appendix to five, to include some comments on gas explosions in places other than mines. Davy's invention of the safety lamp was one of the glories of nineteenth-century applied science, although its effects were more economic than humanitarian: it saved few lives but enabled deeper and more dangerous mines to be worked, thus dramatically increasing production.

Sir James South (1785–1867), having been elected a member of the Royal Society in 1821, was approaching the zenith of his fame as an astronomer at the time of the presentation of this book. The following year he received the gold medal of the Astronomical Society for his observations (made jointly with J. F. W. Herschel) of 380 double stars. One of the founders of the Astronomical Society, he was elected its president in 1829. The royal charter granted to the Society in 1831 was made out in his name, which led to one of the bitter public arguments which blighted South's career, Charles Babbage on this occasion supporting him against the attacks of Richard Sheepshanks and Sir George Airy.

See Norman 613; Partington IV, pp. 61–70.

67. *The brain photometrically reproduced*

DEAN, John. The Gray Substance of the Medulla Oblongata and Trapezium. [Philadelphia: Collins, 1863.] £9500

Large 4to (320 × 240 mm.), pp. [iv], 75. 16 plates, of which 9 are photo-lithographed and 7 engraved (light spotting). Title and second leaf restored at inner edges and mounted on guards, second leaf also neatly restored at head, pin-prick worm-holes at extreme lower edges. Contemporary marbled boards, rebacked in black cloth, upper corner of upper cover neatly restored, others bumped. Contemporary ownership inscription in ink at head of title.

FIRST EDITION OF THE FIRST AMERICAN WORK TO BE ILLUSTRATED WITH PHOTOMETRICALLY REPRODUCED PLATES. The photolithographs for this monograph were produced by L. H. Bradford from photographs by Dean, while the engravings were produced by J. W. Watts from Dean's original drawings. The subjects which Dean used were both human and mammalian.

Courville 556.

68. *The great comet of 1680–81*

[DEMOCRITUS, *pseud.*] The Petitioning Comet or a brief Chronology of all the Famous Comets and their Events, that have happened from the Birth of Christ to this very day, Together with a Modest Enquiry into this present Comet. London: Nat Thompson, 1681. £750

Folio (289 × 187 mm.), pp. [ii], 12, without the 2-page preface. Woodcut globe on title. Disbound, title page leaf loose, all edges uncut. Last page darkened, otherwise clean and fresh.

FIRST AND ONLY EDITION. After an overview of comets and their significance, and a list of significant comets through the ages and the events they portended, the anonymous author gives detailed observations of 'this present Comet', which according to the author, first appeared on Friday 10 December, although Flamsteed noted that it was first seen by 'one Hill, an artificer with an instrument of 4 foot radius on Friday November 11th'.

The comet referred to here, although seen by Halley while in France, is not Halley's comet (which appeared in 1682), but the great comet that Halley had conjectured was on a 575-year cycle. According to Halley, it had last appeared in 1106, 531, and 44 BCE on the occasion of Julius Caesar's assassination. Halley's hypothesis of the 575-year cycle, though ingenious, was ultimately disproved in the early twentieth century by Cowell and Crommelin. This comet was also the subject of a debate between John Flamsteed and Isaac Newton, which Newton refers to in his *Principia*. Newton believed there to be two comets in 1680–81. Flamsteed insisted they were one and the same comet, which reappeared after passing the sun. Flamsteed proved to be correct, a fact that Newton acknowledged in a letter to Flamsteed in 1685.

The British library catalogue notes that the preface is signed 'Democritus'. *ESTC* gives four unnumbered prelims and notes the presence of 'A letter out of the country, from the author to the printer' signed 'Democritus', suggesting a 2-page preface missing from our copy.

Wing P1864; *The Correspondence of John Flamsteed* (Bristol, 1995–2001); Festou, Rickman, & West, 'Comets', *Astronomy & Astrophysics Reviews (A&AR)*, pt. I, vol. 4, pp. 363–447, 1993.

69.

DEWEY, John. Leibniz's New Essays concerning the Human Understanding. A Critical exposition. Chicago: S. C. Griggs, 1888. £750

Foolscap 8vo, pp. xviii, 272. Some pencil marginalia. Publisher's diagonally ribbed brown cloth, gilt lettering on spine, series title in black, 'Griggs's Philosophical Classics' on front cover. A fine copy.

FIRST EDITION of Dewey's second book, published shortly after he had been offered the chair of Professor of Mental and Moral Philosophy at the University of Minnesota. Dewey opens his first chapter with this statement by Leibniz, 'He who knows me by my writings does not know me', setting the tone — human, yet precise and analytical — for his critical exposition of Leibniz's *Nouveaux Essais sur l'entendement humaine* (1705).

70. *The first reflecting telescope*

DIGGES, Leonard & Thomas. A Geometrical Practical Treatize named Pantometria, divided into three Bookes, Longimetra, Planimetra, and Stereometria, Containing rules manifolde for mensuration of all Lines, Superficies and Solides, with sundrie strange conclusions both by Instrument

and without, and also by Classes to set forth the true Description or exact Platte of an whole Region ... With a Mathematicall discourse of the five regular Platonicall Solides, and their Metamorphosis into other five compound rare Geometricall Bodyes, conteyning an hundred newe Theoremes at least of his owne Invention, never mentioned before by anye other Geometrician ... Lately reviewed by the Author, and augmented. London: Abell Jeffes, 1591. £8500

Folio (268 × 190 mm.), pp [vi], 195 (but 197), [1] woodcut arms of Digges, [1], errata, [1] bl.; without initial blank. Woodcut illustration on title and numerous woodcut illustrations and diagrams within the text. Title soiled at head and outer corners slightly frayed, remains of sealing wax at two places in the margin of the dedication leaf, occasional light dampstaining and sporadic dust-soiling, one page (125) with pencil scribblings, one page (17) with portion of outer margin excised. Contemporary panelled sheep, rubbed, corners bumped, joints cracked.

SECOND AND BEST EDITION of this major Elizabethan mathematical work, enlarged and revised, with additional material by Thomas Digges on ballistics. This work contains the first description and illustration of the theodolite, which the elder Digges invented, and a remarkable description of 'perspective glasses' which anticipates the invention of the telescope.

Leonard Digges's *Pantometria* is a text of advanced practical geometry, surveying, and ballistics. The first book, 'Longimetra', is a treatise on surveying with the geometrical quadrant, geometrical square, and theodolite. There are five large woodcuts of instruments and 22 fine illustrations of surveying scenes. In the preface Thomas Digges describes his father's use of 'proportional Glasses duely situate in convenient angles with which he discovered things farr off', lens and mirrors which are more fully described by Digges senior in the text at chapter 21: 'Here, for the first time, we have indications of an instrument which we may call a reflecting telescope' (King, *The history of the telescope*, p. 29).

The second and third books, 'Planimetra' and 'Stereometria', are on plane and solid geometry and their application to measuring and gauging. Following these are the 'Mathematicall discourse on geometricall solides' by Thomas Digges — 'a thorough discussion of the Platonic solids' (*DSB*). The work is completed by the first appearance of Thomas Digges's treatise on ballistics: 'He was able, on the basis of his own and his father's experiments, to disprove many commonly held erroneous ideas in ballistics but was not able to develop a mathematical theory of his own. These appendixes constitute the first serious ballistics studies in England' (*idem*).

STC 6859; Taylor, *Mathematical Practitioners of Tudor and Stuart England*, 42.

71. *Boucher's deluxe engraved anatomy*

DISDIER, François Michel. Exposition exacte ou tableaux anatomiques en taillés-douce des differentes parties du corps humain ... Paris: Etienne Charpentier, 1758. £1200

Folio (375 × 255 mm.), ff. 60. Engraved title page by Boucher, 29 engraved plates by various artists, with facing text also engraved. Some dampstaining to margins, not affecting plates, final 7 leaves with expert paper repairs to top margin. Lately rebound to style. A good copy.

FIRST EDITION of a deluxe anatomy for physicians and artists, with an engraved title by the French master, François Boucher. It was unusual, then as now, for an artist of Boucher's standing to illustrate a medical work. His ornate and delicate engraved title shows an anatomy lesson in progress, framed in flamboyant baroque style, with the title and imprint above laid over an unfurled cloth, the whole looked down upon by various heavenly figures reclining on clouds, including Apollo and cherubim. Many of the plates, detailed yet elegant, clear and unfussy, were by Crepy and Charpentier in the style of Vesalius, and fourteen plates were inspired by Eustachi's recently redicovered anatomy.

François Michel Disdier was Professor of Surgery and Drawing Master at the Royal Academy of Painting at Paris. He was also in charge of the anatomy course at the Royal Academy of Painting and Sculpture which may account for his association with Boucher who was 'premiere peintre du Roy'. Surprisingly this deluxe edition was

unknown to Choulant, who only mentions a later anatomy for artists (Choulant–Frank 295).

NLM/Blake, p. 122; Cushing D186; J. Hill 9:35; Norman 13:228; Waller 2493 (date incorrect); Wellcome vol. II, p. 473.

72. *Rosalind Franklin's DNA papers*

(DNA.) WILKINS, M. H. F., R. G. Gosling, W. E. Seeds, Mary J. Fraser, and Robert D. B. Fraser. 'Physical Studies of Nucleic Acid'. Reprinted from *Nature*, Vol. 167, May 12 1951;

[*with:*] FRANKLIN, Rosalind E., & R. G. Gosling. 'Evidence for 2-Chain Helix in Crystalline Structure of Sodium Deoxyribonucleate.' Reprinted from *Nature*, Vol. 172, July 25, 1953;

[*and:*] — 'The Structure of Sodium Thymonucleate Fibres. I. The Influence of Water Content.' Received 6 March 1953. Reprinted from *Acta Crystallographica*, Vol. 6, Part 8–9, September 1953;

[*and:*] — 'The Structure of Sodium Thymonucleate Fibres. II. The Cylindrically Symmetrical Patterson Function.' Received 6 March 1953. Reprinted from *Acta Crystallographica*, Vol. 6, Part 8–9, September 1953;

[*and:*] — 'The Structure of Sodium Thymonucleate Fibres. III. The Three-Dimensional Patterson Function' Received 29 October 1954. Reprinted from *Acta Crystallographica*, Vol. 8, Part 3, March 1955. £16,000

Together 5 offprints, 8vo, various sizes. 'Physical studies' (212 × 138 mm.): pp. 7; yellow paper wrappers, signed in black ink 'R. G. Gosling' and 'M. F. H. Wilkins'. 'Evidence' (210 × 140 mm.): pp. 156–157, 4; signed in black ink 'R G Gosling'. 'Structure I' (265 × 200 mm.): pp. [673]–677; numerous figures including 9 illustrations of x-ray photographs of DNA fibres; signed in blue ink 'R G Gosling'. 'Structure II' (same size): pp. [678]–685; signed in black ink 'R G Gosling'. 'Structure III' (same size): pp. [151]–156; signed in blue ink 'R G Gosling'.

SIGNED COPIES OF FIVE OF THE KEY PAPERS BY FRANKLIN AND GOSLING, PRESENTING THE EMPIRICAL EVIDENCE FOR THE DOUBLE HELIX STRUCTURE OF DNA, DOUBTLESS ONE OF THE MOST IMPORTANT SCIENTIFIC BREAKTHROUGHS OF THE TWENTIETH CENTURY. Franklin and Gosling's paper 'Evidence for 2-chain Helix' was published a couple of months after the publication of Watson and Crick's paper and confirmed their radical findings. This collection also includes the 1951 paper by Wilkins, Gosling, and others on nucleic acids which had helped to initiate research on the structure of DNA. Five of the papers are signed by Franklin's colleague, Raymond Gosling, who as a graduate student at King's College London had taken the initial x-ray pictures of DNA on which Franklin was called in to work, and who subsequently attempted to mediate the tricky relationship between Franklin and Wilkins.

Watson and Crick, working concurrently with Franklin, took much of the credit for solving the theoretical problem of DNA structures in 1953. However, two of the papers in the present collection ('The Structure of Sodium Thymonucleate Fibres' I–II) were actually delivered on 6 March 1953 — days before the publication of Watson and Crick's seminal paper in the 25 April edition of *Nature*. Maurice Wilkins, who steered much of the important DNA research of the 1950s, and who was working with Franklin at King's College, was responsible for passing on some of her results to Watson and Crick which confirmed their findings. 'It is now accepted that Rosalind Franklin's research papers represented the first independent confirmation of the structural model devised by Watson and Crick. It is also recognised that Franklin must take credit for the discovery of the A–B transformation of DNA and that Watson and Crick's theory was based, to a far larger extent than they admitted, upon empirical data gathered by Franklin' (*DSB*).

Franklin and her scientific reputation fell victim to contemporary attitudes to women at Cambridge, where, for example, only males were allowed in the University dining rooms. Wilkins never overcame the mistake he made on first meeting Rosalind Franklin, when he mistook her for a lab assistant rather than a peer. Crick also later admitted, 'I'm afraid we always used to adopt a patronizing attitude towards her'.

Franklin it seems, was not bitter, and published papers, including the paper included here, 'Evidence for a 2-chain Double Helix', to corroborate Crick and Watson's results. In 1968 Watson published his account of the discovery of DNA, *The Double Helix*, which played down Franklin's contribution, and prompted her close colleague, Dr. Aaron Klug, to publish a paper in her defence in *Nature* (24 Aug. 1968). The publication of A. Sayres's *Rosalind Franklin and DNA* (1978) completed the rehabilitation of her contribution. Rosalind Franklin died from ovarian cancer in 1958 at the age of 37. Had she lived longer, and had her contribution been recognised at the time, she may well have shared the 1962 Nobel Prize for the discovery of DNA with Watson, Crick, and Wilkins.

A. Klug, 'Rosalind Franklin and the Discovery of the Structure of DNA', *Nature*, vol. 219, 808–810, 843–44.

73. *The first atlas of photomicrographs*

DONNÉ, Alfred, & Léon Foucault. Cours de Microscopie Complémentaire des études Médicales Anatomie Microscopique et Physiologie des fluides de l'économie ... Paris: J.-B. Baillière, 1844–45. £2500

2 vols., text volume 8vo (215 × 132 mm.), atlas folio (300 × 410 mm.); text: pp. [ii] half-title and adverts, [i] title, ii adverts, 550, [ii] adverts, 2, 2, 8, 3–4, 3–4 (all adverts); atlas: pp. 30, with 20 engraved plates; dampstain to lower outer corner of text of atlas volume (only just reaching plates), occasional light foxing (principally marginal), library stamp on half-title of atlas volume; rebound in matching olive green morocco and marbled boards, original buff printed wrappers to 8vo volume preserved.

FIRST EDITION of the first work to be illustrated with photomicrographs. This fascinating medical text-book was compiled for the microscopy course at the Ecole de Médecine with the aid of Donne's clinical assistant Leon Foucault.

Donné was *chef de clinique* at the Charité Hospital in Paris. In addition to his distinguished career in microscopy and bacteriology, he invented the first successful method of photo-engraving from daguerreotypes in 1839. During this process, an ordinary daguerreotype plate was etched with nitric add, which attacked only the bare silver parts, resulting in a weak etched plate from which about forty prints could be taken. In the same year, Fox Talbot developed his Negative/Positive process, which produced images on paper. Fox Talbot's method alone, however, was not accurate enough to illustrate so precise a work as a text-book of microscopy. Donné therefore combined the innovations of his peer with his own advances, and thus illustrated his treatise on microscopy with the first engravings after photomicrograph daguerreotypes.

Garrison–Morton 267.1; Gernsheim, *History of Photography*, pp. 116, 539; Roper p. 27; Waller 2526; Wellcome II, p. 479 (atlas only).

74. *The first German work entirely on electricity*

DOPPELMAYR, Johann Gabriel. Neu-Entdeckte Phaenomena von bewundenswürdigen Würckungen der Natur, welche bei fast allen Körper zukommenden Elektrischen Krafft, und dem dabey in der Finstern mehrentheils erscheinended Liecht einige berühmte Mitgleider der preisswürdigen Königl. Engl. Societaet der Wissenschafften vornemlich aber, Herr Hauksbee und Herr Gray in Londen und nach ein weitern Untersuchung, Monsieur du Fay in Paris durch viele Experimenta, zu unsern Zeiten glücklich hervorgebracht, und in unterschiedlichen Wercken dem Publico mitgetheilet ... Nuremberg: Johann Joseph for Wolff Moritz, 1744. £4000

4to (206 × 165 mm.), pp. [viii], 88. 5 folding engraved plates, woodcut headpieces, title in red and black. Very light browning. Contemporary vellum, title in gilt at head of smooth spine. Elaborate engraved armorial bookplate of Herzog zu Wallerstein-Oettingen library on front pastedown. An excellent copy.

FIRST EDITION OF THE EARLIEST GERMAN LANGUAGE BOOK ENTIRELY ON ELECTRICITY, in which Doppelmayr summarizes the research of Hauksbee and Gray in London and Dufay in

Paris, before adding accounts of his own experiments. In the the last two chapters, Doppelmayr proposes a hypothesis to explain away electrical attraction and repulsion as caused by air movements. (His ideas are beautifully if fancifully illustrated in the folding plates at rear.) He favours the earlier and less promising theoretical outlook of Hauksbee over the newer, more complex discoveries of Dufay.

'Doppelmayr's writings ... provide an index of the scientific interests and information current in Germany and particularly of the transmission of knowledge from England, France and Holland into Germany during the first half of the eighteenth century' (*DSB*). Doppelmayr effectively martyred himself in the cause of science: he electrocuted himself while trying out a newly invented condenser.

Bakken, p.55; *Wheeler Gift* 311; *NUC* records two locations: University of California, Berkeley, and University of Oklahoma.

75.

[DOSSIE, Robert.] The Elaboratory laid open, or, the Secrets of Modern Chemistry and Pharmacy Revealed: Containing many Particulars extremely necessary to be known to all Practitioners in Medicine. London: J. Nourse, 1758. £450

8vo (210 × 122 mm.), pp. [ii], xi, [3], 375, [9]. Some light browning, principally marginal. Contemporary boards, corners bumped, neatly rebacked in calf and relined.

FIRST EDITION. Dossie's work contains the first account of how to make sulphuric acid on a commercial basis. Divided into four parts, the first is largely concerned with the equipping of a chemical laboratory, the second and largest part explains the chemical make-up and preparation of medicine, while the shorter third and fourth parts deal respectively with 'Galenical Preparations' and 'Substitutions and Adulterations'. Dossie, a leading member of the 'Society instituted at London for the Encouragement of Arts, Manufactures and Commerce', is now perhaps best-remembered for his treatise on artists' techniques, *Handmaid to the Arts*, 1758.

Duveen p. 179; Ferguson I p. 222; NLM/Blake p. 125; Wellcome II p. 481.

76.

DRESSER, Matthew. De Partibus Corporis Humani et de Anima, eiusque potentiis, Libri Duo. Wittenberg: Heirs of Johann Cratonis, 1581. £2750

8vo (156 × 98 mm.), pp. [viii], 107, [26] index. Engraved vignette on title; occasional marginal ink annotations; some browning; attractively rebound in boards covered in paper with old printed text in red and black.

FIRST EDITION of this interesting and unusual work combining a treatise on anatomy (pp. 1–36) with a medico-philosophical analysis of the soul (pp. 37–105). This second part begins with an explanation of the Greek term *psyche*, and goes on to discuss the medical influences on the psyche of food, drink, sleep, rest, etc. The final two text pages contain a Latin–German glossary of medical terms.

NLM/Durling 1209; Wellcome I 1863.

77.

DRYANDER, [Eichmann] Johannes. Annulorum trium diversi generis instrumentorum Astronomicorum, componendi ratio atque usus. [De compositione Metheoroscopij, Joannis de Regio monte Epistola;] [Boneti de Latis ... Annuli astronomici utilitatum liber.] Marburg: Eucharius Hirtzhorn, 1537. £7500

4to (201 × 155 mm.), in three parts, ff. [44]. Many woodcut illustrations in the text, historiated and decorated woodcut initials. Tiny worm-hole running through lower margin. Modern boards. A very good copy.

FIRST EDITION of Dryander's important contribution to the invention and explanation of astronomical instruments, printed together with Regiomontanus's meteorological-

technical treatise, and also Bonetus de Lates's *Annuli astronomici utilitatum liber*, a work that had already been associated with an edition of Sacro Bosco's major *Textus De Sphaera*. Dryander studied mathematics and astronomy, and later became a doctor. His concern was chiefly related to the concrete realization of new devices and to the improvement of the existing instruments, to which he devoted the greatest part of his studies as Professor of Mathematics and Medicine at Marburg. This beautifully and effectively illustrated work associates the introduction of measurement tools with mathematical and geometrical explanations of the theory that lies behind their functions.

VD 16, E 674; Adams D-940; BM, *German Books* 255; Houzeau L.2459; Zinner, *Instrumente* 298.

78.

[DUCHESNE, Henri Gabriel.] Manuel du Naturaliste. Ouvrage Utile aux Voyageurs, & à ceux qui visitent les Cabinets d'Histoire Naturelle & de Curiosités. Dedié à M. de Buffon. Paris: G. Desprez, 1770. £175

8vo (167 × 108 mm.), pp. xii, 598, [2]. Half title, title within decorated woodcut border, with woodcut motif above imprint, decorated initials, head- and tailpieces. Text in double columns. Contemporary calf, raised bands on spine, gilt decorations in compartments, red morocco label, marbled endpapers, all edges red. Spine worn in places, otherwise an attractive original copy in excellent condition.

FIRST EDITION. This dictionary of natural history was dedicated to, and draws from the work of, the celebrated anthropologist and friend of Voltaire, Georges Louis le Clerc de Buffon, whose monumental *Natural History*, published in 1746, ran to 36 volumes. Duchesne also published a dictionary of industry and a biography of Giambattista della Porta. Later editions of this work were much augmented, from one to two volumes, and then to four volumes for the 1797 edition.

79. *His three great technical treatises*

DÜRER, Albrecht. Underweysung der Messung, mit dem Zirckel und richtscheyt, in Linien ebnen unnd gantzen Corporen ... [Nuremberg: Hieronymus Formschneyder,] 1525;

[*bound after:*] — Hierinn sind begriffen vier bucher von menschlicher Proportion [edited by Willibald Pirckheimer]. [Nuremberg: Hieronymus Formschneyder for Dürer's widow,] 1528;

[*and before:*] — Etliche underricht, zu befestigung der Stett, Schlosz, und flecken. Nuremberg: [Hieronymus Formschneyder,] October 1527. £44,000

3 works bound together in one volume, folio. *Underweysung*: 90 unnumbered leaves including final blank Q_4; with three additional lines of smaller text on title not present in all copies; 2 half-page woodcuts (one signed with Dürer's monogram dated 1525) of draughtsmen using apparatus for drawing in perspective, numerous woodcuts in text of diagrams, alphabets, architectural and geometrical designs, diagrams on C_5^v and K_1^r on pasted-in slips, diagrams on P_4^v and Q_1^r extended by slips. *Von menschlicher Proportion*: 126 unnumbered leaves including the 4 leaves forming folding extensions, numerous woodcut diagrams of the human body, many full-page. *Etliche underricht*: 36 unnumbered leaves, including an errata leaf and all but one of the folding extensions (this extension wanting), numerous woodcut diagrams of fortifications. Eighteenth-century sprinkled calf with sprinkled edges, blindtooled panelled spine with later shelf-mark, vellum page markers. Covers with slight surface worming, some diagrams attractively highlighted with early pale wash, 3 proportional diagrams in the second work with early manuscript grid in red, early manuscript foliation throughout, occasional staining and soiling, a few neat repairs, usually to the folding sheets, one leaf (with proportional diagrams) in the second work mounted. In all, these are very good copies in an attractive German binding.

FIRST EDITIONS of all three of Albrecht Dürer's great technical treatises, works which first presented to northern Europe the completely new attitude to artistic and architectural creation which had crystallized in Italy during the Renaissance. Dürer had begun work on a 'Treatise on Proportion' soon after his first trip to Venice in 1484–5 and completed the manuscript by 1523. He realised however that a more basic mathematical text was necessary for its full comprehension, so he delayed

publication and resolved to write the *Underweysung der Messung*, which was published in 1525. This 'Course in the Art of Measurement' is a series of instructions on the use of geometry and perspective, the fruit of Dürer's practical experience rather than a purely theoretical treatise. Its four books deal respectively with: the tracing of plane curves; with plane figures enclosed within straight lines or curves; with solids and architectural forms; and with the laws of perspective. Each contains numerous practical hints for the artist. Following the publication of this treatise, Dürer's attention was diverted towards his *Etliche underricht* which 'was a practical work dictated by the fear of invasion by the Turks, which gripped all of central Europe' (*DSB*). Published in 1527, it contains his principle architectural work, and his designs were put to use in the fortification of Nuremberg, Strasbourg, and the Swiss town of Achaffhausen. The 'Treatise on Proportion', put to one side in 1523, was finally printed in 1528 as *Vier bucher von menschlicher Proportion*. Dürer himself saw the first proof sheets, but he died in this year and the final publication was carried out posthumously by his friends.

Underweysung: Adams D-1057; *Berlin Katalog* 4607; Stillwell 161; *PMM* 54. *Von menschlicher Proportion:* Garrison–Morton 149; NLM/Durling 1295; Stillwell 622. *Etliche underricht:* Brunet II, 913; Fairfax Murray *German* 151; Stillwell 835.

80. *A double uterus*

EISENMANN, Georg Heinrich. Tabulae Anatomicae Quatuor Uteri Duplicis Observationem Rariorem Sistentes, ex decreto Facultatis Medicae Argentoratensis. Strasbourg: Amand König, 1752. £1450

Large folio (496 × 333 mm.), pp. [13] (the explanation to the first plate bound out of place at the end of the volume). 4 finely engraved plates (bound out of order), attractive woodcut decorations. Title with marginal tears at lower outer corner and lower outer edge (repaired), slightly soiled at foot. Uncut in contemporary half sheep, marbled sides, lower upper corner damaged, spine rubbed and chipped. From the library of Harvard Medical School with engraved bookplate on front pastedown, printed stamp on verso of title and lettering at foot of upper board. A very good crisp copy with strong impressions of the plates.

FIRST EDITION of this atlas describing and depicting a bipartite and double uterus. This monograph was written as a result of discoveries made during an anatomical demonstration performed on a young woman by Professor Jacobi in Strasbourg in 1751. Each plate is accompanied by an explanatory leaf with plentiful references to similar misformations found in earlier medical literature. The plates were drawn by I. M. Weis and engraved by P. Loutherbourg, who was also known as a miniature painter.

Garrison–Morton 6018; NLM/Blake p. 133; Wellcome II p. 517.

81. *From the botanical garden at Brandenburg*

ELSHOLTZ, Johann Sigismund. Vom Garten-Baw: oder Unterricht von der Gärtnerey auff das Clima der Chur-Marck Brandenburg, wie auch der benachbarten Teutschen Länder gerichtet, und in VI. Bücher abgefasset. Der Dritte Druck: Welcher so wol an Figuren, als am Text, abermahl vermehret und verbessert worden. Berlin: for the Author, 1684. £3500

4to (221 × 165 mm.), pp. [x], 395, [31]. 10 engraved plates, 4 woodcut illustrations within the text, woodcut device on title, woodcut head-piece and initial to sectional heading; title in red and black, first chapter heading in red. Fifth leaf with paper flaw affecting a few letters, another (pp. 109–110) neatly restored at lower outer corner, uniform light browning. Contemporary vellum, just slightly soiled. Contemporary ownership inscription in ink on title, later armorial bookplate of H. von Horn and recent library stamp on front pastedown. An excellent copy.

This encyclopaedic work, first published in 1666 with two less plates, covers all aspects of gardening, especially the medicinal qualities of plants. Elsholz was director of the botanical garden at Brandenburg from 1656, and acted as both botanist and physician to the Elector Frederic William. His greatest claim to fame is as the first physician to have studied anthropometry and human proportion (1654). His claim to be the discover of transfusion of drugs by venesection has not been verified, but he

was certainly one of the earliest people to use this method. He was also one of the pioneers of blood transfusion.

NUC records just one location for this edition (New York Public Library), one for the second edition of 1672 (Cornell), and none for the first.

82. *Less than a dozen copies known*

[ESTIENNE, Charles.] Les figures et portraicts des parties du corps humain. Paris: Jacques Kerver, 1575. £18,500

Folio (314 × 220 mm), ff. 34. Kerver's fine unicorn device on title, 61 full-page woodcut illustrations, 8 smaller woodcut illustrations (on E_7^{r-v}), and a different woodcut device at colophon. A few small marginal restorations, horizontal tear to one leaf neatly repaired, upper outer corner and lower outer margin of last leaf restored, lightly washed throughout. Sympathetically bound in modern panelled calf. A very good copy, with the woodcuts all in strong and dark impressions.

THE EXCESSIVELY RARE ISSUE OF THE PLATES ONLY, INCLUDING 3 PREVIOUSLY UNPUBLISHED IMAGES, of Charles Estienne's great *De dissectione partium corporis humani*, first published in Latin by Simon de Colines in 1545 and in French the following year. The printer Jacques Kerver is believed to have bought the original blocks of this work from the successors of Simon de Colines. Kerver's issue includes three beautiful and striking illustrations of a zodiac man, showing the internal organs of the male body and the relevant signs of the zodiac that affect each of them. These woodcuts, by Mercure Jollat, had not been published before. According to P. Huard and M. D. Gmek (*L'oeuvre de Charles Estienne et l'école anatomique parisienne*, 1965), they had originally been rejected by Estienne for being astrological.

ONLY TEN OTHER COPIES OF THE WORK ARE KNOWN: three in Paris (Bibliothéque Nationale, Bibliothéque Mazarine, and Sorbonne), one in Nancy, two in the Institut National Polytechnique at Grenoble (according to OCLC), one copy in the British Library, one in the Blocker Collection at University of Texas, and two copies at Yale (ex Harvey Cushing). One of the Yale copies is the only known copy of *Les figures et portraicts* dated 1557 (presumably a misprint), consisting of 61 plates, but without the plate containing the smaller woodcuts of the spine and the eye. The paper of that issue is watermarked with a crown and a shield, and initialled NB. The paper of both our copy and the Yale 1575 copy is without any watermark.

Cent et un livres anciens rares ou précieux, Sorbonne, 1991, no. 42; Cushing II.26 (collation as here and therefore incorrectly described in his text as containing only 59 plates).

83. *With original colouring probably from Ratdolt's shop*

EUCLID. [Elementa.] Preclarissimus liber elementorum Euclidis perspicacissimi: in artem Geometrie incipit quam foelicissime. [Venice: Erhard Ratdolt, 25 May 1482.] P.O.A.

Chancery folio (294 × 208 mm.), 138 unnumbered leaves. Types 7:92G (Preface and Proposition), 3:92G (Proofs), 6:56G (Diagrams), 7B:100R (Headlines: capitals only). Numerous fine white-on-black ornamental woodcut initials, hand-coloured, three-part white-on-black woodcut border, hand-coloured, more than 500 typemetal diagrams in margins, heading printed in red. Minor occasional spotting, unobtrusive ink stain to upper margin of last 4 leaves. Old white boards, vellum backstrip, red and brown morocco labels. Cover a little worn to extremities. Blank medallion in the lower portion of decorated margin filled with arms and initials 'P B', early eighteenth-century inscription in lower margin of title, attesting the provenance of the book from the library of a Jesuit convent; bookplate of Sir George Shuckburgh Bart. to front pastedown. A very good, attractive, hand-coloured copy.

FIRST EDITION of the first printed important mathematical work, a landmark in science as well as in book printing. One of the most accomplished of Ratdolt's productions, ground-breaking and yet extraordinarily polished and perfected, Euclid's *Elementa* inaugurated the era of science book printing by overcoming what had been the greatest obstacle: the printing of diagrams and geometrical forms. Ratdolt's dedication to Doge Mocenigo testifies to the passionate quest for a graphic solution without which the printing of mathematics books would have hardly served any purpose. The simple device of diagrams elegantly printed in the margins, introduced

here by Ratdolt, 'determine[d] the course of a road that became permanent' (Thomas-Stanford), and was established as the standard solution for tens of subsequent editions. It is now believed that the diagrams, previously identified as woodcuts, were in fact cast in typemetal. Two variants in the set up of the first nine pages are known. This copy presents the features of the status described as 'I a'. The hand-colouring of the initials is in a fine early palette, almost certainly associated with Ratdolt's workshop itself. The same palette appears in the initials of a near-contemporary Ratdolt production also in this catalogue: the *Tabulae astronomicae* of 1483 (see item 5 above).

The book reproduces the text revised and commented by Campanus, based on Adelard of Bath's medieval translation from the Arabic, enlarged with the contribution of more manuscripts. Campanus's recension continued to be printed until 1558. Sir Thomas Heath, in his standard modern edition, weights the unique influence of Euclid's *Elementa*: 'No work presumably, except the Bible, has had such a reign; and future generations will come back to it again and again as they tire of the variegated substitutes for it'.

BMV V 285; Thomas-Stanford 1 a; Dibner 100; GKW 9428; Goff E-113; Hain 6693; Grolier/Horblit 27; Norman 729; *PMM* 25; Proctor 4383.

84. *The first vernacular Euclid*

EUCLID. La prospettiva di Euclide, nella quale si tratta di quelle cose, che per raggi diritti si veggono: & di quelle, che con raggi reflessi nelli specchi appariscono. Tradotta dal R. P. M. Egnatio Danti cosmografo del seren. gran duca di Toscana. Con alcune sue annotationi de' luoghi piu importanti. Insieme con la prospettiva di Eliodoro Larisseo cavata della Libreria Vaticana, e tradotta dal medesimo nuovamente data in luce. Florence: Stamperia de' Giunti, 1573. £2750

Small 4to (209 × 150 mm.), pp. [viii], 110, [2]; [16]; [18]: in three parts, with divisional titles. Woodcut vignette of globe on title, woodcut tailpieces and initials throughout, numerous geometric diagrams to text. Third part printed in two columns in Greek and Latin. Very light marginal spotting. Eighteenth-century neoclassical half calf, marbled sides, spine elegantly gilt, red and green morocco labels. Early pen-mark and early faded 'ex dono' inscription to title. A very good copy.

FIRST EDITION of Egnazio Danti's translation of Euclid's *Optica*, the first vernacular and only sixteenth-century Italian edition. Included is the first publication of the *Capita opticorum* of Heliodorus of Larissa, in Italian, followed by the Greek original and its Latin translation. To this day this remains the only known work by the second-century Greek mathematician. Danti, cosmographer at the court of Cosimo I Medici in Florence, devoted his research to the invention of scientific instruments, in particular to devices for determining the calendar, in which reform he was instrumental. (See items 62 and 63 above.) Also a leading mathematician and a humanist concerned with the rediscovery of Greek mathematical and geometrical texts, Danti published Euclid's fundamental mathematical exposition of a theory of vision together with Heliodorus's previously unknown text on perspective, in a book that rendered for the first time in the vernacular the basis of Renaissance scientific disciplines.

BM *Italian*, p. 239; Wellcome I:2085.

85.

[EUCLID.] The elements or principles of geometrie. London: printed by J. P. for Samuel Crowch [and others], 1684. £750

8vo, pp. [xxxii], 141 (but 121), [14] index (possibly lacking blank before dedication?). Extra engraved title, 7 folding engraved plates. Contemporary sheep, a little rubbed, upper joint very slightly cracked at head. Remains of armorial bookplate on front pastedown, bookplate of C. W. Turner. A very good copy, internally clean and crisp in a good plain contemporary binding.

FIRST EDITION of this practical introduction to Euclid. The main definitions, axioms, and theorems are given in six chapters, followed by a set of 39 problems with

solutions. The book is dedicated to the dramatist Sir Ralph Freeman: we are told that 'These elements ... were at first prepared for his use'.

Wing E495 (variant issue).

86.

FABRY VON HILDEN, Wilhelm. Opera quae extant Omnia, partim ante hac excusa, partim nunc recens in lucem edita. Frankfurt: Johann Beyer, 1646;

[*bound with:*] SEVERINO, Marco Aurelio. De Efficaci Medicina Lib. III. Frankfurt: Johann Beyer, 1646. £3000

2 works together, folio (328 × 197 mm.). Fabry von Hilden: pp. [xxii], 1044, [19]; engraved additional title (soiled, slightly chipped at outer and upper edges), engraved plate of baths, 215 woodcut illustrations in the text, woodcut head-, tailpieces, and initials throughout. Severino: pp. [xiv], 297, [14] index (lower outer margin of first leaf repaired, no loss of letters); engraved additional title, woodcut illustrations within the text. Bound together in half calf, marbled sides, lately rebacked and recornered. Some browning and soiling in each work.

FIRST EDITIONS. Fabry von Hilden is remembered as the 'Father of German Surgery'. 'This large folio edition of his collected works includes his separately published monographs on dysentery, burns, lithotomy, and anatomy. Congenital malformations, skull fractures, carcinoma of the eye and penis, hydrocele, gangrene, mineral water baths, the concept of removing some healthy tissue along with the necrotic tissue in amputation, and a special operation for hernia are among the many topics discussed in his writings. Among the numerous instruments and appliances he designed were a bullet extractor, a tourniquet for controlling hemorrhage, a urinal for ambulatory use, and a field-chest of drugs and instruments for use by the army' (*Heirs of Hippocrates*).

Issued the same year by the same publisher, Severino's work makes a good complement to Fabry's work and some copies appear to have been issued together. In 1632 Severino had produced 'the first textbook of surgical pathology', his *De recondita natura*, also 'the first book to include illustrations of lesions within the text' (Garrison–Morton 2273).

Both works are similarly designed and have engraved titles incorporating portraits of the author. Fabry's is flanked by full-length portraits of Hippocrates and Dioscorides, while three scenes at the foot show a bed-side consultation, a selection of medical and surgical instruments, and doctors having just left the patient. Severino's, by Matthias Merian, is flanked by a healthy naked woman and a skeleton; at the four corners are representations of earth, air, fire and water as they affect health; and, in the centre at the foot, a pharmacist and a surgeon can be seen at work.

Fabry: *Heirs of Hippocrates* 247; NLM/Krivatsy 3842; Parkinson & Lumb 798; Waller 2908; Wellcome III, p. 4. Severino: NLM/Krivatsy 11052.

87. *Rosicrucian predictions*

FAULHABER, Johann. Fama syderea nova. Gemein offentliches Ausschreiben ... Anlangend Den Newen: und durch ein sonderbare Invention lanng zu vor prognosticirten Cometstern, So den 6. Monats Tag Decembr. ... 1618 ... An alle Philosophos, Mathematicos, sonderlich Astronomos und Gelehrte ... autoris manu propria ... verfasst ... Nun aber ... jetzo zum andern mal in offenen Druck publicirt durch M. Julium-Gerardum Goltdeegen Jenensem. Nüremberg: Simon Halbmayer [1619];

[*bound after:*] LICHTENBERGER, Johann. Prophecey und Weissagung Von dem Böhmischen Kriegwesen. So wol dem König in Böhmen und sämtlichen Churfürsten ... Beneben einem Kurtzen Verzeichnuss 45 geschehener und vergangenen Finsternüssen an Sonn unf Monn. Und dann Deren veraluffenen grossen conjunctionem de Obern Planeten in nechst vergangenen zehen Jahren beschrieben. Durch Henri Gottingi. [No place, no publisher:] 1620;

[*and:*] HUBERINUS, Moritz. Grosse Pronosticon und Practica Auff das Jahr ... 1621. Auff der ... Königsreichs Böhme &c, Der hoch ... statt Nürmberg und benachbarter Länder Meridianos gerichtet ... zu Ehren gestellet Dem ... Fürsten ...Fideirico, König in Böhmen ... Dann auch Der ... Princessin ... Frawen Elizabethae, Königin in Böhmen ... Nüremberg: Joh[an] Friderich Sartorius [no date, ?1620];

[*and:*] Epitome Vaticiniorum Singularium de Europae et Romani Imperii mutationibus. Das ist Kutzer Auszug etlicher Sonderlicher Conjecturen unnd Schrifftmessiger Gedancken ... [No place, no publisher, 1620;]

[*and before:*] FELGENHAUER, Paulus. Rechte Warhafftige und gank richtige Chronologia Oder Rechnung der Jahre, von der Welt und Adams Anfang an, biss zu diesen jetzigen Jahr Christi 1620 ... [?Prague:] 1620;

[*and:*] Propheceyen un Weissagungen jetzt gegenwertig und künffitige sachen, Geschicht und Zufäll biss sum Ende der Welte ankündend. Als nemlich: M. Johann Liechtenbergers, Johann Carionis, M. Josephi Grumpeck, Der Sibyllen, und vil anderer ... [No place, no publisher,] 1620.

Together: £10,000

6 works bound together, 4to (192 × 151 mm.). Faulhaber: pp. [24]; full-page allegorical engraving to verso of A4 entitled 'Schrifftmässige und Cabalistische Andeutung oder Vorbilding...'; some light browning, slightly heavier to engraving both sides of the leaf and facing page. Lichtenberger: pp. [16]; typographical headpiece. Huberinus: pp. [40]; woodcut armorial device to title, typographic ornaments. *Epitome*: pp. [16] including final blank leaf; woodcut ornament to title. Felgenhauer: pp. [26]; typographical headpiece; first edition. *Propheceyen*: pp. [ii], 115, [1]; 7 full page woodcuts inserted. Some light browning and spotting intermittently throughout. Contemporary full orange vellum, orange leather marker tabs to fore-edge, ties gone. A very appealing collection in contemporary state.

A fine astrological *Sammelband* combining popular prognostications for the Bohemian kingdoms at the opening of the Thirty Years War. Included is the *Fama syderea nova* in which the mathematician, alchemist, and Rosicrucian Johann Faulhaber published the success of his prediction for the appearance of the great comet of 1618. It is likely that Faulhaber had actually borrowed his prediction from the ephemerides of his friend Johan Kepler, but he vigorously (and successfully) defended himself against accusations of plagiarism (*DSB*). The work includes an apocalyptic engraving depicting Faulhaber with cross-staff and astrolabe, his assistant with a telescope, observing the blazing comet while images of war and discord crowd around the Imperial triple-headed eagle at the centre.

Together, these pamphlets demonstrate the vigorous contemporary culture of astrological research inextricably linked with more rational investigations of the heavens by men such as Kepler. This vigour is to be explained partly by the wealth of new astronomical data recorded by the new generation of European astronomers (Galileo and Kepler included), but also by the social and political turmoil into which Europe was thrown in 1618 by the Bohemian revolts, and by the uncertainty of the Imperial succession. As traditional structures and boundaries were breaking down, the stars were looked to as astral reflections of earthly disjuncture. Older traditions of prediction were also looked back on, notably the prognostications of the fifteenth-century astrologer Johann Lichtenberger, which appear also in this collection in an edition intended to apply his work to the particular events of 1620.

Thorndike, VIII, p. 486 (Faulhauber); IV, p. 473 (Lichtenberger)

88. *'Fermat invented number theory as an independent branch of mathematics'*

FERMAT, Pierre de. Varia opera mathematica ... Accesserunt selectae quaedam ejusdem epistolae, vel ad ipsum à plerisque doctissimis viris Gallicè, Latinè, vel Italicè, de rebus ad mathematicas disciplinas, aut physicam pertinentibus scriptae. Toulouse : Jean Pech, 1679. £28,000

Folio (345 × 210 mm.), pp. [12], 210, [4]. Title with woodcut vignette, woodcut head-, tailpieces, and initials, 2 engraved headpieces, 5 leaves of engraved mathematical plates, numerous figures

to text. Lightly and evenly washed throughout. Lately rebound to style in handsome mottled calf, spine attractively gilt, red morocco label. A very good copy.

FIRST EDITION of the majority of Fermat's mathematical work, published posthumously from his letters and notes by his eldest son. Fermat, who resolutely avoided publication of his work during his lifetime, is now rightly considered a founding father of the disciplines of number theory and probability, and he made very important contributions to the fields of analytic geometry and to methods of maxima and minima. 'In an important sense Fermat invented number theory as an independent branch of mathematics. He was the first to restrict his study in principle to the domain of integers' (*DSB*). He took up the challenge of number theory posed in Diophantus' *Arithmeticorum* (famously adding to the margin of his own copy a problem which became known as 'Fermat's Last Theorem'), taking delight in producing his own problems, only one of which he himself solved. The others became an important stimulus to later mathematicians to take up the challenge of number theory in the eighteenth and nineteenth centuries.

As the *Varia opera* demonstrates, Fermat was in constant correspondence with some of the greatest mathematicians of his day including Mersenne, Roberval, Pascal, and Gassendi. Although often at odds with Descartes, the two men concurrently and independently set forth a new system of analytic geometry. However, since Fermat did not publish his findings, preferring to communicate with colleagues by letter, it was Descartes who came to be credited with the invention of this discipline.

The present copy has the title in the second state, with woodcut ornament rather than engraved vignette. Copies are occasionally found with an engraved portrait of Fermat similar to that found in Fermat's 1670 edition of Diophantus' *Arithmeticorum libri sex*.

Norman 778; Dibner 108; Grolier/Horblit 30; Struik, pp. 143–150 and 219–227.

89. *Mathematics in the service of the Prince*

FIAMMELLI, Giovanni Francesco. La Riga matematica ... Dove si tratta del misurare con la vista di lontano senza strumenti, cioe con una sola riga, e levar piante di Citta, di eserciti, d'armate di mare, e profondita de' fiumi. Rome: C. Vullietti, 1605;

[*bound after:*] — I quesiti militari... fattigli in diversi tempi da diversi Principi, e gran Personaggi, e da lui risoluti con esempi e con l'esperienza. Rome: C. Vullietti, 1606;

[*and after:*] — II Principe Cristiano Guerriero. Osservanze, e precetti raccolti, osservati, e messi in pratica da lui nelle guerre delli paesi bassi, & altrove, ove si e trovato in persona. Dove si tratta di quanto fare dee non solo il Principe, ma ancora qual si voglia altro uficiale da che si piglia a far la guerra infino a tanto, che le dia in qualche modo fine. Rome: C. Vullietti, 1606 (1602 in register). £3000

3 works together in one vol., 4to (212 × 153 mm.), pp. [xvi], 302, [26]; [viii], 212, [20]; [xvi], 104, [12]. Woodcut printer's device, initials and head-pieces in all three works, and numerous woodcut illustrations and diagrams to text in *Riga matematica*. Some uniform light spotting and browning, one leaf of first quire (pp. [iii–vi]) disbound. Contemporary Italian vellum over boards, all edges red and speckled in brown, ink title to spine (modem white label to foot of spine). Two small inkstamps to front endpapers, from the Fürstenberg library at Donaueschingen. An attractive gathering of three good copies.

FIRST EDITIONS of Fiammelli's *Riga matematica* and *Quesiti militari*, and second edition, revised by the author, of *Il Principe Cristiano Guerriero*. The most famous of the treatises, *Riga matematica*, is a 'raro libretto' (Riccardi) devoted to the empirical measurement of distances mainly through the simple use of a straight stick or other very basic instruments. Conceived for the benefit of armies and mariners, the treatise formulates notions of geometry and trigonometry in practical terms in order to provide soldiers with straightforward solutions to a great number of tactical questions.

Fiammelli, a Florentine mathematician at the service of the Medici both in Florence and at the papal court of Rome, describes himself as a 'public mathematician'. In keeping with the Renaissance courtly tradition and in the belief that science should be put at the service of the Prince, Fiammelli rejected mathematics as a theoretical pursuit of chimeras, and produced a series of works which contributed to the perfecting of the art of war. In line with Machiavelli's founding text, Fiammelli's prince is essentially the builder and keeper of a militarily achieved state. The *Principe Cristiano Guerriero* mirrors the outlook of Machiavelli's *Principe* in giving instructions and suggestions related to the acquisition and conservation of power, paring down the political theories for the practical exploitation of geometrical concepts.

Cockle 591 (1602 ed.), 601,946; Riccardi I, 453–4; Gamba 1920.

90. *Paris-printed astronomy*

FINÉ, Oronce. De Mundi Sphaera, sive Cosmographia, primáve Astronomiae parte. Libri V. Ab ipso Authore recogniti, aucti, ac prorsus renovati: feorsúmq[ue] in studiosorum gratiam absque commentariis recenter impressi. Paris: Simon Colines, 1542;

[*bound after:*] KOEBEL, Jacob. Astrolabii Declaratio, eiusdemque usus mire ineundus, non modo Astrologis, Medicis, Geographicis, caeteris que literarum cultoribus multum utilis ac necessarius: verum etiam. Mechanicis quibusdam opificibus non parum commodus ... Cui accessit Isagogicon in Astrologiam iudiciariam. Paris: Guillaume Rikart, 1545;

[*and before:*] PUERBACH, Georg. Theoricae Novae Planetarum ... Figura Novem Sphaerarum & elementorum ordinem designans. Paris: Christoph Wechel, 1543. £3750

3 works in one vol., small 8vo (164 × 102 mm.). Finé: ff. 64; title within decorative woodcut border, 50 woodcut illustrations within the text, some almost full-page, 6 bleeding into margin with leaf extended and folded over, criblé initials (small worm-track at lower inner margins of central and final leaves). Koebel: pp. [61], [ii] bl.; printer's device on title, 16 woodcut illustrations in the text (most vignettes, 2 virtually full-page), final folding plate (usually lacking), but without the full-page chart. Peurbach: pp. 127, [i] imprint; large woodcut illustration on title, 2 folding woodcut plates, 44 woodcut illustrations within the text, several full-page (small worm-track at lower inner margins of early leaves). Three Paris-printed works of the 1540s, bound together in attractive tan calf to style with covers decorated in gilt and spine gilt in compartments, all edges gilt.

FIRST SEPARATE EDITION of Finé's treatise on cosmography. The final two chapters give a practical guide to mapmaking. In the first he gives instructions for making a map of a particular locality, using Southern France as a practical example. In the second he details three methods for the projection of a map of the world on a plane surface, each with diagrammatic explanations. The work is an excellent example of both the illustrative skill of Finé, who prepared the illustrations and initials, and the fine printing of Colines.

KOEBEL: probably the third edition of this very attractively illustrated work on the astrolabe which was printed in a number of editions, all apparently scarce. Koebel here abandons the old method of dividing the zodiac into twelve equal houses and adopts the more recent method of Peurbach and Regiomontanus. As well as the astrolabe, other scientific instruments are dealt with: the sectional title for this part reads 'Instrumenta Mathematicorum varia, cum eorundem usu. Quadrans optimus totius distinctionem habens. Sphaera materialis Triangulus Geometricus, Baculus Iacob, Umbraculum visorium. Virga Geometrica. Horologion manuale. Astrolabii usus. Noctilabium. Cylindri usus. Tam quo ad politionem, quàm quo ad usum.' Koebel's work is described in detail in Volume II of Gunther's *The Astrolabes of the World*.

This edition appears to be the third, after editions of 1532 and 1535. *NUC* denotes it the fourth, with a supposed first edition published in Nuremberg in 1517, but we suspect this to be a ghost. This copy contains the folding plate of astrolabe parts, often

lacking, although it wants the folding chart. *NUC* records four locations for this edition: Cornell, Harvard, Boston Public Library, and the Peabody Institute in Baltimore.

PEURBACH: second edition, first published in Wittenberg the previous year.

Finé: Adams F-468. Peurbach: Adams P-2275; Lalande p. 62.

91. *Foucault's pendulum and the rotation of the earth*

FOUCAULT, Jean Bernard Léon. 'Sur Divers Signes Sensibles du Mouvement Diurne de la Terre' [Offprint from *Comptes rendus des séances de l'Académie des Sciences*, 32 & 35, Paris: Mallet-Bachelier, 1851–52;]

[*bound with:*] BAEHR, G. F. W. 'Notice sur Le Mouvement du Pendule, ayant égard à la Rotation de la Terre.' Middelbourg: Abrahams Frères, 1853;

[*and:*] RICHELOT, Friedrich Julius. 'Über das Problem der Rotation eines festen Körpers, auf welchen beliebige Kräfte wirken.' [No place, no date;]

[*and:*] JACOBI, Karl. Praecipuorum inde a Neutono Conatuum, Compositionem Virium Demonstrandi, Recensio. [Offprint.] Göttingen: Rudolf Deuerlich, 1818;

[*and:*] RUEB, Adolph Stephanus. Specimen inaugurale de Motu Gyratorio Corporis Rigidi, nulla vi acceleratrice sollicitati. [Offprint.] Utrecht: Johann Altheer [1834]. £12,500

Square folio (254 × 195 mm.) Foucault: pp. 11, [1]. Baehr: pp. [iv], 20. Richelot: pp. [ii], 59, [1]. Jacobi: pp. [viii], 72; 2 full-page engraved plates. Rueb: pp. [iv], 74, [2]; folding table, folding engraved plate. Contemporary half calf, fillets in blind to corners and sides, panelled spine with five half-raised bands, dotted in gilt and filleted in blind, green morocco label, marbled sides. A very attractive copy.

FIRST EDITION, RARE FIRST OR EARLY OFFPRINT ISSUE, of Foucault's famous mechanical demonstration of the rotation of the earth, with the date of the first cited session of the Academy in the heading on p. [1] misprinted as '3 aôut 1851', with the first three lines signed '1, 2, 2', and with the colophon reading 'Paris Imprimerie de Mallet-Bachelier'. A milestone in mechanics, this work contains the demonstration that the plane of the swing of a pendulum turns towards the direction of the rotation of the celestial sphere. Although widely accepted since Copernicus, the theory of the rotation of the earth had never been proved with experimental evidence. Foucault's private experiments intrigued Louis Napoleon (later Napoleon III) to the point that he commanded the splendid public demonstration which took place in the Pantheon in Paris, 1851. A further year of research subsequently brought Foucault to perfecting a new instrument for the measurement of the earth's rotation, the gyroscope. Foucault's fundamental essay is here bound together with three other preceding or contemporary works on mechanics and rotation, in an academic retrospective *Sammelband*.

Dibner 17 & *En français dans le texte* 270 (offprint); *PMM* 330 (journal article); Norman 818.

92.

FOWLER, James Kingston. On the Origin of Anaemic Murmurs. London: J. & A. Churchill, 1884. £50

8vo (219 × 140 mm.), pp. 45, [1]. Half title, table pp. 18–19. Contemporary brown cloth, blind ruled border to sides, gilt title at centre of front cover. Two small marks near upper edge of upper side. An excellent copy.

INSCRIBED BY THE AUTHOR TO THE LIBRARY OF THE ROYAL COLLEGE OF PHYSICIANS. This was Fowler's first significant work, reflecting his research into the susceptibility of patients with anaemia to murmurs and palpitations of the head. Fowler's other works included *A Dictionary of Practical Medicine* (1890); with Sir Rickman Godlee, he

published a treatise on *The Diseases of the Lungs* (1898), and in 1921 he published a monograph on pulmonary tuberculosis.

93.

FRANKLIN, Benjamin. Experiments and Observations on Electricity, made at Philadelphia in America ... to which are added, Letters and Papers on Philosophical Subjects. The Whole corrected, methodized, improved, and now first collected into one Volume, and Illustrated with Copper Plates. London: for David Henry, 1769. £7000

4to (223 × 164 mm.), pp. iv, 496 (i.e. 508), [18] index, errata, and advert. 7 engraved plates, of which 3 are folding, one slightly shaved at outer edge. Some light browning, principally marginal. Contemporary calf, corners bumped, spine somewhat damaged. A good copy.

MOST COMPLETE EDITION of Franklin's renowned work on electricity. Franklin's reputation as the first great American scientist rests on his researches in electricity, which were inspired by his famous kite-flying experiment. Other experiments were made using Leyden jars, lightning-rods, lightning strokes, and charged clouds. Descriptions of all of these are found here. The 'Letters' in which the information is found were first published between 1751 and 1754. The first edition of the *Experiments and Observations* appeared in 1751, followed by a second of 1754, and the present third edition.

Bakken, p. 60; Sparrow 69; Sabin 25506; Waller 11340; Wellcome III p. 62; *Wheeler Gift* 367b.

94.

FRANKLIN, Benjamin. Oeuvres ... Traduites de l'Anglois sur la quatrieme Édition par M Barbeu Dubourg avec des additions nouvelles et des Figures an Taille douce. Paris: for Quillau l'aîné, Esprit and the author, 1773. £650

2 vols. in one, 4to (251 × 195 mm.), pp. xxviii, 338; xx, 318, [ii]. Half title, frontispiece portrait of Franklin, 12 plates, engraved head- and tailpieces. Vol. 1, p. 279 misnumbered 276, p. 336 misnumbered 236. Some spotting on title page of vol. I, and then occasionally throughout, contemporary ink annotations to errata, vol. I. Contemporary mottled calf, raised bands, gilt decorations in compartments, red morocco label, marbled endpapers, red edges. Bookplate of Turner Collection, Keele University. Some wear to corners, joints, and ends of spine, but still a very good copy in contemporary state.

FIRST FRENCH EDITION, published the same year that Franklin was elected one of the eight foreign associates of the Royal Academy of Sciences. The first volume is devoted entirely to electricity, being a reprint of the English editions with the addition of several pieces not included in any former edition. The second volume includes letters on a variety of subjects including meteorology, music, inoculation, and politics, together with *The Pennsylvania Fireplace*, *Observations on the Increase of Mankind*, *Letters to Shirley*, *Poor Richard* (which becomes *Le pauvre Henri*), the Craven Street letters, and a number of letters from Franklin to the editor. Brunet states that the translation was made by J. B. L'Écuy. The plates at the end of the first volume show laboratory experiments in electricity and magnetism. Evaporation, the Philadelphia fireplace, and a glass harmonica are among the subjects of the plates in the second.

Ford 315.

95. *One of the first American works on electricity*

GALE, T. Electricity or Ethereal Fire, considered; 1st. Naturally as the Agent of Animal and Vegetable Life. 2nd. Astronomically, or as the Agent of Gravitation and Motion. 3rd. Medically, for its artificial use in Diseases. Comprehending both the Theory and Practice of Medical Electricity and demonstrated to be the infallible Cure of Fever, Inflammation and many other Diseases; constituting the best Family Physician ever extant. Troy, N.Y.: Moffitt & Lyon, 1802. £1750

12mo (164 × 100 mm.), pp. 276, [4] index. Darkened, light water stains to lower margin of a few leaves. Contemporary sheep, red morocco label, gilt ruled compartments, rubbed. Ownership inscription of Jesse Everett dated 15 Apr. 1816 on front free endpaper; later the Honeyman copy. A very good copy in original condition.

FIRST EDITION. 'Among the first works on electricity printed in America. The author considers electricity to be the main cause of animal and vegetable life' (*Wheeler Gift*, I, p. 255). Most of the book deals with the practical treatment of various diseases by applying electricity, with a good deal of perhaps forgivable over-enthusiasm: 'I have clearly demonstrated that a proper use of electricity is capable of preventing all general diseases of the body' (p. 7).

Wheeler Gift, 636; Mottelay, p. 364; Honeyman IV, 1391; not in Wellcome, Garrison–Morton, Osler, or Waller.

96.

GALILEI, Galileo. Discorso al serenissimo Don Cosimo II. Gran Duca di Toscana Intorno alle cose, che Stanno in su l'acqua, o che in quella si muovono. Seconda Editione. Florence: Cosimo Giunti, 1612. £7500

4to (223 × 164 mm.), pp. [4], 77, [1] approbation, [2] device leaf. Title with woodcut armorial device, woodcut initials, diagrams, printer's device to final leaf. Early vellum-backed paper wrappers. Wrappers somewhat frayed and stained, later press-mark in pencil to upper cover, title soiled and slightly thinned, consequently laid-down, following leaf ('Al benigni lettori') reinforced at inner margin, occasional spotting, one leaf with paper-flaw to lower margin, partially repaired. Early inscription to title, in Italian, with surname cancelled: 'Questo libro e' di Salvatore Bosi[?]'. A very good copy in an attractive early binding.

SECOND (REVISED) EDITION, printed in the same year as the first edition, also by Giunti. The *Discorso* is principally a consideration of the behaviour of bodies in water, and used Archimedes as a starting point for a sustained attack on Aristotelian ideas in this field. However, it has also achieved celebrity for its early notice of the observation of sun-spots, which would prove so crucial for Galileo's conception of the structure of the universe. In the present edition the revisions made to the text of the first edition (for reasons explained in the address to the reader) are given in roman type, while the original text remains in italic throughout, as it had done in the first edition.

Cinti 35; Riccardi I, 509.

97.

GALILEI, Galileo. Istoria e Dimostrazioni Intorno Alle Macchie Solari e Loro Accidenti Comprese in Tre Lettere Scritte all'Illustrissimo Signor Marco Velseri Linceo ... Si aggiungono in fine le Lettere, e Disquisizioni del finto Apelle. Rome: Giacomo Mascardi, 1613. £18,500

Small 4to (215 × 156 mm), in two parts, pp. 4, 164; 55, [1]. Full-page engraved portrait of Galileo, the first part with 43 full-page engravings (38 of sunspots, 5 of Jovian satellites), one engraved and 8 woodcut and typographic diagrams in the text, the second part with one full-sheet and one full-page engraving, 3 engraved and 7 woodcut and typographic diagrams to text; woodcut lynx vignette to title, numerous woodcut initials throughout, two colophons, one to each part. Contemporary Italian limp vellum, spine lettered in early manuscript. Occasional spotting, some browning towards the end of each part, small, careful repairs to upper corner of last four leaves with no loss, a pencilled number and a couple of stains to covers. A very good copy.

FIRST EDITION of Galileo's first public endorsement of the Copernican cosmology. The *Macchie Solari* (or 'Letters on Sunspots') is one of the greatest books in the history of science. The notion that the sun is the centre of the universe — the heliocentric system expounded by Copernicus — was the most controversial scientific theory of the early modern era, and had consequences for many domains of human life, from theology to physics. It was Galileo's observations of the sun and of the other planets which were largely responsible for changing the way in which modern man saw himself in the cosmos. This work is notable also for the first publication of the theory of the conservation of angular motion and inertia.

Two issues of the first edition are known. The first is without the notice 'Si aggiungono ... finto Apelle' on the title-page, and the permission to print does not

include the three lines announcing the addition of Scheiner's (Apelles) letters. This copy is of the more complete second issue. The *Macchie Solari* also contains the first printed portrait of Galileo, which is frequently found to be missing.

Bib. Mech. pp. 125–126; Carli & Favaro 60; Cinti 44.

98. *The finest and rarest of his stunning anatomies*

GAUTIER D'AGOTY, Jacques Fabian. Exposition anatomique de la structure du corps humain, en vingt planches imprimees avec leur couleur naturelle, pour servir de supplement a celles qu'on a deja données au public. Marseille, Paris, Amsterdam: Vial, Le Roy & Marc-Michel Rey, 1759. £75,000

Elephant folio (724 × 515 mm.), pp. 38; 20 varnished four-colour mezzotint plates. Title with early inscription 'Huhn'; one early bookplate; and a small inkstamp (of Dr Ed. v. Weil) to blank margins. Extreme margins slightly thumbed, a few minor waterstains, occasional spotting to text and plate margins, but the plate surfaces themselves exceptionally clean and fresh. Contemporary paste-paper covered boards, corners worn and sides rubbed, a few of the plates loose within the binding. A superb, complete copy.

FIRST EDITION OF THE FINEST AND RAREST OF GAUTIER D'AGOTY'S ANATOMICAL BOOKS. This rare series of plates is perhaps the most astonishing of any Gautier made. The maturity of his art and colouring, strangely surrealist, showing his capacity for grandeur and gentleness equally. Eighteen of the twenty plates make up nine almost full-length figures, men and women, skeletal, back, front, pregnant. The final plate of a skeletal man is an extraordinary composition in itself: the bones of his legs are set against the darkest green, his feet resting upon inches of red base as a pedestal. The two remaining plates make up the final pairing. One shows dissection of a newborn child, with placenta and umbilical cord and the womb above; the other plate, which is designed to be placed above the other, has a typical Gautier notion of a nude with normal body and healthy though contemplative face, squatting with legs apart and knees pulled up to show a dissected womb with fess in place.

No complete copy of the *Exposition anatomique* has appeared at auction in the past 30 years according to *ABPC*. The *RLIN* database lists three complete copies only in US institutions (Harvard, Yale, and Duke), together with the incomplete National Library of Medicine copy (with only 18 of the 20 plates).

Not in *Heirs of Hippocrates*, Garrison–Morton, or Wellcome.

99.

GILCHRIST, Ebenezer, *M.D.* The Use of Sea Voyages in Medicine ... The Second Edition with a supplement, confirming the said Use, with further Instances of its Success. London: A. Millar, D. Wilson, and T. Durham, 1757. £380

8vo (197 × 122 mm.), pp. [2], xi, [3], 186. Contemporary blue grey paper boards, upper joint cracked but holding, backstrip worn exposing gatherings at head and foot, boards slightly stained, a few contemporary pen-trials on lower board, internally crisp and clean, some light sporadic spotting. Ownership inscription in contemporary hand on front free endpaper and head of title. A very good unsophisticated copy in original condition.

SECOND EDITION. Gilchrist was born at Dumfries in 1707, studied medicine at Edinburgh, London, and Paris, and graduated at Rheims. He made his reputation by reviving ancient treatments such as the use of wine and warm baths. *The Use of Sea Voyages in Medicine* was his best known work, first published the previous year, running to three English editions and a French translation in 1770. Amongst his other papers are a defence of inoculation for smallpox and an account of the epidemic catarrh (influenza) of 1762.

NLM/Blake p. 175; Osler 2731; Wellcome III, p. 115.

100.

GORDONIO, Bernardus de. [Fleur de Lys en medecine.] [Lyons: 31 Aug. 1495.] £25,000

Median 4to (246 × 158 mm.), ff. [246] (of 248: lacking first leaf with 2 lines of text, and final blank). Bâtarde type, 41 lines, text in double columns. Initials supplied in red, headings underlined, paragraph marks and capitals touched in red. Repaired small tear to lower corner of a_{2-3} and inner margin of b_{3-8} entering text but without loss. Contemporary blindstamped calf, sides with triple frame enclosing a large rectangular pattern of lozenges, each containing a blind-stamped image of either a paschal lamb, a pelican, or a fleur-de-lys, brass clasp and catch. Slight loss in upper cover around clasp fitting. Preserved in a red morocco box. Early sixteenth-century ownership inscriptions on what was the final pastedown (now lifted): Nicolle Annu of Tournai and Jehan Bryton, barber-surgeon, small erased stamp on a_2. A very good copy in an exceptionally attractive contemporary binding.

FIRST EDITION IN FRENCH of Bernard Gordon's *opus magnum*. The most comprehensive and popular of Gordon's works, *Practica, seu Lilium medicinae* was composed between 1303 and 1305 at Montpellier, where the author held a prestigious post as lecturer for more than 20 years. The work enjoyed instantaneous and widespread popularity. Its original Latin version circulated in a large number of manuscripts (of which more than fifty are known today) and appeared in six early printed editions, while a wealth of translations into French, German, Hebrew, and probably Provençal were immediately produced, followed by versions in Spanish and Irish in the fifteenth century. Although the author of this French translation is unknown, the colophon locates his activity in Rome and dates this translation to 1377. Composed expressly for the use of inexperienced physicians, the *Lilium* was soon recognized as an original and highly desirable reference book, the best concise and rationally arranged handbook at the time. It was intended to give a set of general directions in all the most common medical matters, while the advanced reader with more sophisticated questions was referred to the author's several specific works. For years the *Lilium* was credited by historians with the first mention of eyeglasses in a medical work, a claim that has more recently been challenged (Rosen).

BMC VIII 340; Goff B-452; Klebs 179.1; HC 7801; Stillwell 312; E. Rosen, 'The Invention of eyeglasses', *Journal of the History of Medicine and Allied Sciences* 11 (1956) 201–202.

101. *The first air pump, electricity generator, and man-made vacuum*

GUERICKE, Otto de. Experimenta Nova (ut vocantur) Magdeburgica de Vacuo Spatio primum a R. P. Gaspare Schotto, e Societate Jesu & Herbopolitanae Academiae Matheseos Professore: Nunc vero ab ipso Auctore Perfectius edita variisque aliia Experimentis aucta. Amsterdam: Johannes Jansson, 1672. £15,000

Folio (315 × 202 mm.), pp. [xvi] includes engraved title, 244, [6]. Engraved frontispiece portrait of author, engraved title, 2 double-page folding engraved plates, woodcut vignette on printed title, 20 engravings in text, 7 of which are full-page (folding plate, pp. 198–199, remargined). Internally crisp and clean. Contemporary half calf, gilt ruled raised bands on spine, morocco label, speckled paper sides, red edges. Chipped edges and some light wear to binding, but contents in excellent condition. A very attractive copy of a sought-after book.

FIRST EDITION of Guericke's classic work, which includes the invention of the air pump, the first electric generating machine, and the famous Magdeburg Spheres. One of the two folding plates (between pp. 194–195) depicts the epic scene in which two eight-horse teams were unable to pull apart two copper hemispheres from which the air had been extracted. After several false starts Guericke managed to construct a hollow apparatus from which he evacuated the air with the aid of suction pump, thus disproving Descartes's denial of the possibility of a vacuum. Guericke's attempts to prove the magnetism of the earth and other celestial bodies by experimenting with rubbing a sphere of sulphur led him to generate audible and visible sparks via electricity, and, despite his inability to fully identify the phenomena he produced, this was the earliest recorded experiment involving the generation of electricity.

Guericke's scientific activity is of particular interest because of the way that his practical discoveries and inventions emanated from his struggle with some of the most difficult concerns of the scientific philosophy of his day, from the debates of Kepler, Roberts, and Kircher surrounding universal magnetism, to his Copernican beliefs regarding the definition of space, and his disagreements with Descartes over the equivalence of space and matter.

Dibner 55; Honeyman 1565; Grolier/Horblit 44; Norman 952; Sparrow 90; *Wheeler Gift* 170.

102.

HALES, Stephen. La Statique des Vegetaux, et l'Analyse de l'Air. Experiences Nouvelles Lûes à la Societé Royale de Londres ... Ouvrage traduit de l'Anglois, par M. de Buffon. Paris: Debure, 1735;

[*bound after:*] — Haemastatique, ou la Statique des Animaux: Experiences Hydrauliques faites sur des Animaux vivans. Avec un Recueil de quelques Experiences sur les Pierres que l'on trouve dans les reins & dans la vessie; & des recherches sur la nature de ces Concrétions irréguliéres ... Ouvrage très utile aux Medecins: Traduit de l'Anglois, & augmenté de plusieurs Remarques & de deux Dissertations de Medecine, sur la Theorie de l'Inflammation, et sur la cause de la Fievre; Par Mr. De Sauvages ... Geneva: Hiers of Cramer & Philibert, 1744. £1100

2 works bound together in one vol., 4to (267 × 210 mm.), pp. xviii, [vii], 408, [2]; 20 engraved plates on 10 folding leaves: pp. xxii, 352, 347–348 catalogue; folding engraved plate. Title to *La Statique des Vegetaux* lightly browned. Entirely uncut in contemporary pink vellum-backed marbled boards, plain vellum tips, extremities a little bumped, spine lettered in gilt. An excellent set.

FIRST EDITION IN FRENCH of both parts of Hales's most important work, first published in English in 1727 and 1733. *Vegetable Staticks* is the 'first complete account of the physiology of plants, including the reaction with air and movement of the sap' (Horblit). 'Stephen Hales, a modest country parson at Teddington ... measured the amount of water lost by plants through evaporation and related this to the amount of water present in a given area of soil in which plants were growing. He estimated rain and dewfall in this connexion, measured the rate of growth of shoot and leaves, and investigated the influence of light on plants. He experimented on gases and found that they were obtainable from plants by dry distillation. He was the first to realize that carbon dioxide was supplied to plants by the air and formed a vital part of the plant's food supply. These experiments led the way to those of Ingenhousz and de Saussure, while his ideas on combustion and respiration facilitated the discoveries of Black, Lavoisier, and Priestley. The second volume contains the studies on blood pressure which make Hales one of the founders of modern experimental physiology ... Hales's work marked the greatest advance in the physiology of the circulation between Harvey and the introduction of the mercury manometer and other instruments for the measurement of blood pressure by J. L. M. Poiseuille in 1828' (*PMM*).

The impact which Hales's work made at the time of its publication can be evidenced by the calibre of the French scientists who translated it. The *Vegetable Staticks* was translated by the great natural historian Buffon, who included Hales's appendix of 1733, as well as the famous 'Préface du traducteur' in which he praised Hales's experimental method. The *Haemastaticks* was translated by the noted botanist and physician François Boissier de Sauvages.

NLM/Blake p. 194; Wellcome III p. 194. First edition: Dibner 26; Grolier/Horblit 45; *PMM* 189; Sparrow 91.

103.

HALLEY, Edmond. Astronomical Tables with Precepts both in English and Latin for computing the Places of the Sun, Moon, Planets, and Comets. London: for William Innys, 1752. £2000

4to (276 × 223 mm.), ff. [i] dedication, [viii], [52], [6], [23]; tables. Signature Pp smaller and presumably from another copy. Engraved frontispiece portrait. Some light browning or soiling, dampstain at inner and upper margins of some leaves of tables. Annotations in ink and pencil. Modern half morocco with new endpapers, spine lettered in gilt. A good copy.

FIRST EDITION IN ENGLISH, an improved version of the 1749 Latin edition, containing an explanation of the tables in English and Latin and also including a brief synopsis of

Halley's important work on comets. Both editions of the *Tables* were published posthumously and edited by John Bevis, Halley's successor as Astronomer Royal. They were intended to be used by mariners in order to ascertain longitude for navigational purposes. Halley's method of using lunar observations 'gave an error of no more than sixty-nine miles at the equator ... [and] established the viability of the "method of the lunars"' (*DSB*), something no one else had been able to do.

104. *The purity of crystals*

HAÜY, René-Just. Tableau Comparitif des résultats de la cristallographie et de l'analyse chimique relativement á la classification des minéraux. Paris: Courcier, 1809. £1100

8vo (192 × 122 mm.), pp. lvi, [2] errata, 312. 4 folding plates with 69 figures of crystalline forms of increasing complexity. Contemporary quarter speckled calf, marbled boards, vellum tips, double morocco labels, blue speckled edges, spine a little rubbed and worn at head. Ex libris the Royal Geological Society of Cornwall. A very good copy.

FIRST EDITION. In his *Essai d'une theorie sur la structure des crystaux*, published in 1784, Haüy gave the world the mathematical theory of crystal structure. Haüy elucidated and developed his theory in several subsequent books. Here, he concerns himself chiefly with impurities in crystals. Haüy 'emphasized the invariability of the form and the composition of the constituent molecule of a species but was forced to admit that the definite proportions were often blurred by heterogenous materials accidentally mixed with the compound: "Only for geometry are all crystals pure"' (*DSB*).

Ward & Carozzi, 1025; Wellcome 3.224; Freilich 234.

105. *Fundamental to the development of computer science*

HERBRAND, Jacques. Thèses présentées à la Faculté des Sciences de Paris pour obtenir le grade de Docteur ès Sciences Mathématiques ... 1re thèse Recherches sur la théorie de la démonstration. 2me thèse Propositions données par la faculté. Soutenues le 1930 devant la commission d'examen. [Warsaw: Dziewulski, 1930.] £4000

8vo, pp. [ii], 128, [2]; without the errata leaf, which was probably printed later. Original printed buff wrappers, two small pinholes in upper cover; an excellent copy. Black cloth folding case.

FIRST EDITION of Herbrand's doctoral thesis, *Recherches sur la théorie de la démonstration*, a seminal work in mathematical logic, whose results were fundamental to the development of computer science. Jacques Herbrand (1908–1931) was a mathematical prodigy. After publication of his thesis, he studied at Berlin with von Neumann, at Hamburg with Artin, and at Göttingen with Emmy Noether. He died in a mountaineering accident in the Alps at the age of 23.

'Herbrand's main contribution to logic was what is now called the Herbrand theorem, published in his doctoral dissertation: it is the most fundamental result in quantification theory ... The Herbrand theorem establishes an unexpected bridge between quantification theory and sentential logic. Testing a formula for sentential validity is a purely mechanical operation ... Besides yielding a very convenient proof procedure, the Herbrand theorem has many applications (a field explored by Herbrand himself) to decision and reduction problems and to proofs of consistency. Almost all methods for proving theorems by machine rest upon the Herbrand theorem' (*DSB*).

Risse II, p. 213; Van Heijenoort, *From Frege to Godel*, pp. 525–81.

106. *Herschel's own annotated copies*

HERSCHEL, John Frederick William. A Collection of Examples of the Applications of the Calculus of Finite Differences. Cambridge: J. Smith, 1820;

[*bound with:*] BABBAGE, Charles. Examples of the Solutions of Functional Equations. Cambridge: J. Smith, 1820.

[*offered with:*] PEACOCK, George. A Collection of Examples of the Applications of the Differential and Integral Calculus. Cambridge: J. Smith, and for Longman & Co., London, 1820. £5000

3 works bound in 2 vols., 8vo. Herschel & Babbage: pp. iv, [i], [i] bl., 171; [iii], 42; engraved plate at end of second work; gutter margins of first title and next leaf strengthened. Peacock: pp. viii, 506; 6 folding engraved plates. Some spotting or browning throughout all three works. Uncut in original paper backed blue boards, corners bumped, backstrip damaged, remains of paper label. Herschel's own copies, with his ownership inscription at head of front free endpapers and with his Collingwood library stamp at head of titles and first pages of text; with his pencilled marginalia throughout.

FIRST EDITIONS, SIR JOHN HERSCHEL'S OWN ANNOTATED COPIES. Herschel, Babbage, and their friend and colleague George Peacock constituted the Analytic Society, formed with the aim of 'replacing the fluxional notation and the geometric methods, which had been entrenched in Cambridge since the time of Newton, with the more fruitful analysis and Leibnizian notation' (*DSB*). Together the three friends translated and edited Lacroix's *Elementary Treatise on the Differential and Integral Calculus* (Cambridge 1816), and the present three works were intended to carry on from Lacroix in introducing modern methods to Cambridge. To judge from the fact that they are found here together in original boards, Herschel's and Babbage's two separate works were also issued together.

107. *Annotated presentation copy*

HERSCHEL, *Sir* John [Frederick William]. Results of Astronomical Observations made during the years 1834, 5, 6, 7, 8 at the Cape of Good Hope; being the completion of a Telescopic Survey of the Whole Surface of the Visible Heavens, commenced in 1825. London: Smith Elder and Co., 1847. £6000

Large 4to (316 × 245 mm.), pp. 452, [4] errata, adverts. Frontispiece, 17 stipple-engraved plates at rear, most by Basire after Herschel, of which 4 are folding. Numerous pencil and ink corrections in Herschel's hand throughout, plates a little dampstained towards margins. Later green cloth, red label on spine, gilt, top edge gilt. An excellent copy.

FIRST EDITION, PRESENTATION COPY from Sir John Herschel to his brother in law: 'to Dr. Stewart, with the affectionate regards of his attached brother, the author'. There are numerous pencil and ink notes and corrections in Herschel's hand throughout the text, on the rear free endpaper, and on three manuscript notes loosely tipped in.

On 15 January 1834 Herschel, accompanied by his family, arrived in Cape Town. Having found a suitable location at Feldhausen, six miles from Cape Town, he set up the twenty-foot reflecting telescope with which he began the landmark observations that are the subject of this work. Over the next five years, Herschel completed the first in-depth survey of the heavens as seen in the Southern Hemisphere.

108. *The 'Vulgate' of Hippocrates*

HIPPOCRATES. Ιπποκρατους Κωου ... βιβλια απαντα. Hippocratis ... libri omnes, ad vetustos Codices summo studio collati & restaurati. [Edited by J. Cornarius.] Basel: [Hieronymus Froben and Nicolaus Episcopius,] 1538 £1850

Folio (302 × 195 mm.), pp. [viii], 562, [ii]. Woodcut Froben device to title and to verso of final leaf. Greek text. Lower margin of title-page and of last page repaired, even light soiling to title, some light marginal waterstains in last quires. Late eighteenth-century red morocco gilt, triple fillet to sides, panelled spine with five raised bands, compartments richly gilt with floral motives and small tools, brown morocco labels, gilt inner dentelles, marbled endpapers. Corners repaired, some light soiling or abrasions. Ownership inscription to front blank, later inscription in Greek on title, some early pen and several pencil annotations in Greek to text. A very good copy.

SECOND EDITION IN GREEK, THE 'VULGATE' OF HIPPOCRATES. Incorrect manuscripts, not containing several of the known parts of the corpus, had been used for the first edition in Greek, produced by the Aldine press in 1526. Hieronymus Froben entrusted his edition to the care of the highly esteemed humanist and doctor Janus Cornarius,

whom he also provided with a better choice of manuscript sources. Erasmus, who met Cornarius in Basel and saw the work *in fieri*, was greatly impressed by its quality and encouraged the curator to continue his undertaking (Ep 2204). This edition remained the unchallenged text until the end of the century, and constituted the basis for the subsequent great Latin Basel edition of 1546 and the first bilingual edition of 1595 made by the Metz physician Anuce Foes.

This copy bears the ownership inscription of F. C. H. L. Pouqueville, author of the first French nineteenth-century books on travels in Greece and Ottoman Empire. Pouqueville, who found himself in Greece for the first time after misadventures at sea involving pirates, later became French consul at Jannina during the period 1806–16.

Adams H-564; Brunet III, 170; NLM/Durling 2317.

109. *Uncut in the original wrappers*

[HOLBACH, *Baron* Paul Henry Dietrich von.] Systême de la Nature. Ou des Loix du Monde Physique & du Monde Moral. Par M. Mirabaud. London [but Amsterdam: M. M. Rey], 1770. £6750

2 vols., 8vo (217 × 134 mm.), pp. [xii], 370 [2]; [ii], 412, with half-title, without final errata leaf. Vignette on title and at end. Vol. 2 with some light dampstaining to top blank margins in second half of the book. Entirely uncut in the original grey-brown wrappers, slightly soiled, extremities somewhat frayed. Preserved together in a dark brown half morocco box, spine ruled and lettered in gilt.

FIRST EDITION, FIRST ISSUE (without the errata leaf, as often), of Holbach's most famous work, 'the bible of materialism'. Holbach, a man of vast humanistic and philosophical knowledge, was also familiar with various branches of science and technology. One of the most relevant contributors to Diderot's *Encyclopédie*, he wrote no less than 1100 articles for the 'enlightened project', mostly anonymously, covering metallurgy and mineralogy, chemistry and geology. Published under a pseudonym, this book immediately attracted the most violent hostility from the establishment, and was banned by the French parliament shortly after publication. Such vehement opposition of course ensured its broad fame and its various reprints. Voltaire himself was ill at ease with Holbach's daring materialism and atheism, so much so that he decided to write a reply in defence of religion. This 'philippique against God', as he calls it, was going far beyond the questioning of the Church's worldly power. No room for any supernatural contribution was left in what soon became known as the most organic statement of atheism. The work was perceived by its early readers as a 'thundering engine of revolt and destruction', to the point that Frederick the Great resented its confident 'freethinking' as a dangerous threat to the foundations of the kingdom and felt the need to write his own confutation.

Kress 6737; *PMM* 215; Quérard, IV, 119; Tchemerzine VI, 243; Vercruysse 1770.A6.

110. *'Probably the most influential book in the entire history of microscopy'*

HOOKE, Robert. Micrographia: or some Physiological Descriptions of Minute Bodies made by Magnifying Glasses. London: John Martin and James Allestry for the Royal Society, 1665. £48,000

Folio (299 × 193 mm.), pp. [xxxvi], 246, [10]. 38 engraved plates (including 20 folding). A very few minor tears to plates, without loss, most expertly repaired, plate xxxvi very slightly shaved. Expertly rebound to style in full sprinkled calf, gilt panelled sides, red morocco label, old marbled edges. An excellent copy.

FIRST EDITION, FIRST ISSUE, of this 'early landmark in microscopy, containing the first illustration of cells [plate xi]' (Horblit). Published under the aegis of the Royal Society, Hooke's observations were the first to be carried out with an improved compound microscope, and the first to describe the microscopic structure of tissue with the term 'cell'. The book reproduces the almost frantic series of observations made by Hooke in 1663 and 1664 as the young scientist (he was still in his twenties) peered through the lenses of his new microscope at anything he could find. His text ranges widely, finding space for discussion of microscopic fungi, the life cycle of the mosquito, the origin of lunar craters, as well as the origin of fossils (Hooke's proposal is the first

sensible one in print). There is also the discussion of light and colour which led to his bitter dispute with Newton.

The extent of Hooke's investigation and the precision of his account entirely devoted to microscopical examination made Hooke's work 'probably the most influential book in the entire history of microscopy' (Norman). But it is the justly famous series of plates, engraved mostly from Hooke's drawings with some probably by the architect and scientist Sir Christopher Wren, which ultimately distinguishes the book, made it a contemporary best-seller, and kept Pepys up all night staring at it in amazement. Here are the tiny, unregarded components of everyday life — a stinging nettle, for example, a louse, or the famous flea — blown up with a startling degree of detail and exactness not to be equalled until the age of the electron microscope.

This discovery of a new world-within-a-world had a profound influence on contemporary perceptions of the everyday world. The disorientating effect of the new perspective is memorably captured in Swift's descriptions of Lilliput and Brobdingnag in *Gullivers Travels*.

PMM 147; Dibner 18; Garrison–Morton 262; *Heirs of Hippocrates* 599; Grolier/Horblit 50; Keynes *Hooke* 6; NLM/Krivatsky 5958; Wellcome III, p. 269; Wing H2620; Norman 1092.

111. *The Cutlerian lectures*

HOOKE, Robert. Lectiones Cutlerianae, or A Collection of Lectures: Physical, Mechanical, Geographical, & Astronomical. Made before the Royal Society on several occasions at Gresham Colledge. To which are added divers Miscellaneous Discourses. London : printed for John Martyn printer to the Royal Society, 1679. £40,000

4to (215 × 166 mm.), pp. [xii], 28, [6], 78, [2], 32, [2], 54, [8], 112, [2], 56. 13 folding engraved plates. General title within double rules, elaborate woodcut headpiece to dedicatory letter and titles of first and third essays. Occasional minor foxing. Contemporary English calf, expertly rebacked to style, sides with gilt double fillet, inner dentelles gilt, edges stained red. Some slight wear to sides. Later paper label of William Wesley and Son, London, to front pastedown. Preserved in brown morocco box. A very good copy of an extremely scarce book.

FIRST EDITION of Hooke's fundamental collection of essays, all published separately between 1674 and 1678. In the preface to the first lecture the author explains that the following essays would all be published in the same format in order for them to be put out as a collective volume. Dedicated to Sir John Cutler, who had founded a lectureship in mechanics for Hooke in 1664, this book gathers Hooke's major discoveries into an arrangement that takes the reader from the observation of natural mechanisms to the invention and application of artificial instruments. The law of elasticity that still bears Hooke's name is here stated, together with his greatly innovative approach to circular motion based on the principle of rectilinear inertia rather than centrifugal force. 'It was his discovery that set Newton on the correct path to understanding orbital dynamics' (Norman). The book is rare: although twelve copies of this work are held institutionally, this is an exceptionally low count for a work of this importance; and it is very seldom found in commerce.

Norman 1093–99; Keynes *Hooke* 16, 18–22; Wing H2617.

112. *The provision of public hospitals in France*

(HOSPITALS.) [COQUÉAU, Claude Philibert.] Essai sur l'Établissement des Hôpitaux dans les Grandes Villes. Par l'Auteur du Mémoire sur la nécessité de transférer & reconstruire l'Hôtel-Dieu de Paris. Paris: Ph.-D. Pier'res, 1787;

[*bound with:*] DULAURENS, Joseph Michel. Essai sur les établissemens nécessaires et les moins dispendieux pour rendre le service des malades dans les Hôpitaux vraiment utile à l'humanité. Paris: Royez, 1787;

[*and with:*] IBERTI, —. Observations Générales sur les Hopitaux, suivies d'un Projet d'Hopital ... Avec des Plans détaillés, rédigés & deffinés par M. Delannoy, Architecte, & ancien Pensionnaire du Roi, à Rome. London: 1788;

[*and with:*] [DUPONT DE DEMOURS, Pierre Samuel.] Idées sur les Secours a donner aur Pauvres Malades dans une Grande Ville. Philadelphia: Moutard, 1786;

[*and with:*] Projet d'un Hôtel-Dieux et de Trois Canaux. [No place, no date.]
Together: £2500

5 works together in one vol., 8vo. Coquéau: pp. [iv], 153, [3]; engraved vignette head-piece. Dulaurens: pp. [xvi], 158, [1]; 2 large folding letterpress charts, woodcut tailpiece vignettes. Iberti: pp. [ii], 73; 3 very large folding engraved plates; a few small tears, pp. 287–88 holed with loss of one or two letters. Dupont de Demours: pp. 64; woodcut vignette on title, woodcut head- and tailpieces. Projet: pp. 30; engraved scenic headpiece. Contemporary half calf, spine gilt, red morocco label, head and tail of spine chipped, upper joint cracked. From the library of H. Baudet with bookplate on front free endpaper.

FIRST EDITIONS. An interesting collection of contemporary contributions to the subject of public hospitals. At the time these works were written public hospitals were few and far between in France. By 1830 there were thirty such hospitals in Paris alone, of which the Hôtel-Dieu became the largest with 1000 beds. Interestingly Dupont de Demours writes his contribution from Philadelphia where the Pennsylvania Hospital, the first public hospital in the United States, had been established in 1751.

Coquéau: NLM/Blake p. 99; *NUC* records two locations (University of Wisconsin and Eleutherian Mills Historical Library, Greenville, Delaware). Dulaurens: NLM/Blake p. 128; Wellcome II p. 496; no other location recorded in *NUC*. Iberti: NLM/Blake p. 228; Wellcome III p. 325; *NUC* records two other locations (New York Academy of Medicine and John Crerar Libary, Chicago). Dupont de Demours: Wellcome II p. 502; *NUC* records seven locations. Projet: not in *NUC*.

113.

HUES, Robert. Tractatus de globis, coelesti et terrestri eorumque usu. Primum conscriptus & editus ... semelque atque iterum à Iudoco Hondio excuses, & nunc elegantibus iconibus & figuris locupletauts: ac de novo recognitus multisque observationibus oportunè illustratus ac passim auctus operâ ac studio Iohannis Isaacii Pontani ... Amsterdam: H. Hondius, 1624. £1750

Small 4to (196 × 159 mm.), pp. [xxiv], 130. Large engraved celestial globe on title, 3 full-page woodcuts showing a terrestrial and a spherical globe and the horizon line, numerous woodcut illustrations and figures in text. Some light waterstaining to upper inner portion. Contemporary vellum, small gilt label to spine, label lower corner torn away. A good copy in a contemporary binding.

Early edition (first 1617) of Pontanus's commented version of Hues's famous treatise on globes. First published in 1597, this work quickly became the standard reference for the discipline and use of globes, and its authority endured throughout the seventeenth century. Robert Hues, an English mathematician and geographer, had travelled extensively across the Atlantic and had also joined Cavendish's crew in his last voyage around the world. The Southern Hemisphere, Australia, and New Guinea were the objects of his most original observations and contributions. Hues's bent being eminently practical, his work gives an account of the most refined globes of his time, constructed by Emery Molyneux, and focuses in particular on the detail of their use in a maritime context. For the first time it became possible for the navigator to calculate the position of the sun, the latitude, distances, and time, simply by inspecting a globe on board. Johannes Isaac Pontanus, the celebrated cosmographer who had been a pupil of Tycho Brahe, acknowledged the instrumental quality of this treatise and contributed an introduction and commentary, an endorsement that guaranteed fame and a wealth of editions. An English edition was printed at Oxford in 1633.

De Haan p. 133a.

114. *One of the finest anatomical atlases ever produced*

HUNTER, William. Anatomia Uteri Humani Tabulis Illustrata ... The Anatomy of the human Gravid Uterus exhibited in Figures ... Birmingham: John Baskerville, 1774. £16,000

Atlas folio (650 × 455 mm.), pp. [viii], 34 engraved plates by various engravers after J. van Rymsdyk, E. Edwards, A. Cozens, and Blakey (plate 8 is folding), explanatory facing text in Latin and English in two columns. Few plates lightly browned and slightly oxidized. Late nineteenth-century red half morocco, raised bands, title in second compartment, place and date at foot, mottled black-on-red paper sides, all edges gilt, minor rubbing. A superb copy in excellent condition.

FIRST EDITION, FIRST ISSUE, OF ONE OF THE GREATEST ENGLISH MEDICAL BOOKS. Hunter's *Gravid Uterus* is regarded as one of the finest anatomical atlases ever produced; 'anatomically exact and artistically perfect' (Choulant), and a land mark in the history of obstetrics. Most of the existing drawings of the subject were inaccurately drawn, at a time when, for the sake of propriety, Hunter himself was obliged to deliver his patients under a sheet. Hunter showed himself aware of the importance of *Gravid Uterus* when he says in the dedicatory preface that this work 'illustrates one part of science imperfectly understood, and as it contains the foundation of another part of science, on which the lives and happiness of millions depend.'

Hunter began work in 1750, with his brother John assisting in the dissections. The atlas involved the examination of twelve bodies over a period of twenty four years. In 1765 thirty plates and the manuscript were turned over to Baskerville. The other plates were added later. In describing a plate Hunter said, 'Every part is represented just as it is found; not so much as finger has been moved'. *ESTC* notes that 'The text meant to accompany this was never completed by William Hunter; it was after Hunter's death added to and edited by Matthew Baillie and published in 1794 as *An anatomical description of the human gravid uterus*'. Hunter's eminent position in the medical profession and his wide circle of friends enabled him to engage the best artists available, and have their works engraved by the best engravers, including Strange. Hunter made the wise and fortunate decision to have the book printed by the master printer of the eighteenth century, John Baskerville, whose beautiful typography at least matches the quality of the plates. Baskerville only produced one other medical work, a little work on the bite of a mad dog (Gaskell 29). Gaskell notes the existence of at least one copy (presumably a later issue) of Hunter's *Gravid Uterus* with the first plate dated 1815. Our copy is dated 1774 throughout.

Choulant–Frank, pp. 296–297; Cushing H522; Garrison–Morton 6157; Hagelin, p. 129; Russell 452; Gaskell, *John Baskerville* 56; NLM/Blake p. 226; Waller 5004; Wellcome III, p. 319.

115. *Huygens on extra-terrestrial life*

HUYGENS, Christian. Χοσμοτηεροσ [Cosmotheros], sive de Terris Coelestribus, earumque ornatu, conjecturae. The Hague: Adrian Moetjens, 1698. £5000

Small 4to (200 × 137 mm.), pp. [ii], 144. 5 folding engraved plates, printer's device on title. Contemporary vellum over pasteboards, blind double fillet and central lozenge to sides, panelled spine with four raised bands, red speckled edges. Occasional very light spotting. An extremely good copy, clean and crisp.

FIRST EDITION of this posthumous publication in which Huygens discusses the likelihood of life on planets other than earth. Huygens's conclusion, that there is indeed other life in the universe, was based on his belief in the wisdom and providence of God. If God had not placed the earth in a privileged position in the universe — as the Copernican theory now stated — there is no reason to believe that he should not have given life to other planets too. 'There must be life on the other planets and living beings endowed with reason who can contemplate the richness of the creation, since in their absence this creation would be senseless and the earth, again, would have an unreasonably privileged position. In further discussions of the different functions of living organisms and rational beings, Huygens came to the conclusion that, in all probability, the plant and animal worlds of other planets are very like those of the earth. He also surmised that the inhabitants of other planets would have a culture similar to man's and would cultivate the sciences. In the second part of *Cosmotheros*, Huygens discussed the different movements of the heavenly bodies and how they must appear to the inhabitants of the planets. He took the occasion to mention new advances in astronomy. In contrast to most other

Huygensian writings, *Cosmotheros* has had wide appeal and a broad readership, and has been translated into several languages' (*DSB*).

Lalande p. 334; Weidler p. 502.

116.

JÖRG, Johann Christian Gottfried. Diätetische Belehrungen für Schwangere, Gebärende und Wöchnerinnen. Leipzig: C. Cnobloch, 1812. £350

8vo (183 × 110 mm.), pp. x, 232. Engraved plate with 3 illustrations. Original wrappers, rather worn, especially at spine. Old library paper label. Only slightly browned inside, with some wearing to edges. A good copy.

SECOND, SIGNIFICANTLY ENLARGED EDITION of a classic of German midwifery, first published in 1809. Professor Jörg was the director of the Delivery School attached to Leipzig University, a renowned paediatrician and in charge of organizing the *Ordinarius für Geburtshilfe*, the guide for assisting birth in use at the hospital. His modernizing view of gynaecology and paediatrics led him to the publication of this second, enlarged edition of his work, which contains a substantial new appendix and extends the scope of the original book to include issues of child care and upbringing in the first years.

Fasbender 229.

117. *The most learned Dutchman since Erasmus*

JUNIUS, Hadrianus. Animadversorum libri sex omnigenae lectionis thesaurus nunc primum & nati, & in lucem aediti. Ejusdem De coma commentarium ... Basel: Michael Isengrin, 1556. £6000

8vo (157 × 98 mm.), pp. [xxxii], 432, [24]. Woodcut printer's device on title. Contemporary blindtooled calf, sides decorated in a panel design with four floral corner-pieces enclosing a frame of lozenges, and a floral motif at the centre, panelled spine with four raised bands, ruled and tooled in blind, all edges red. Clasps and catches lost, some rubbing and wearing to edges, joints cracked but firmly holding. From the library of Mauritius Seydell, with his manuscript ex libris on title recording the book as a gift of the author; ownership inscriptions on title of Johannes Boschius dated 1675 (the Dutch scholar of that name was editor of a three-volume edition of Petronius published at Amsterdam in 1677), and of Friedrich Benedict Carpzov dated 1683 recording the book as from the library of the humanist Nicolaus Heinsius (1620–1681); library stamp on title recording the book as gift of Don Idelfonso Rodriguez. A very good, crisp copy.

FIRST EDITION, PRESENTATION COPY, of Junius's medical 'thesaurus'. Junius, or Adriaan de Jonge (1511–1575), one of the brightest Dutch physicians of his time, was a versatile polymath whose extraordinary breadth of accomplishments prompted Lipsius's persuasion that he was the most learned Dutchman since Erasmus. Medical and botanical treatises of a varied nature were the scientific core of his production, which included emblem books (perhaps his most popular), works of history, a Greek–Latin dictionary, and poems in Latin. Junius had studied in Bologna and in Paris under Fernel's supervision, then had served as physician to the Duke of Norfolk and to the royal house of Denmark. This work, a collection of considerations on the medicine of the ancients with a wealth of references, corrections, and amplifications, also includes the first appearance of Junius's comprehensive treatise on human hair, with a section on the beard. In this copy, the humanistic appeal of the content is uniquely enhanced by the prestigious sequence of ownership.

Adams J-441; NLM/Durling 2643.

118. *A Keplerian* Sammelband*, with early works on the telescope*

KEPLER, Johannes. Dioptrice seu Demonstratio eorum quae visui & visibilibus propter Conspicilla non ita pridem inventa accidunt. Praemissae Epistolae Galilaei de iis, quae post editionem Nuncii siderii ope Perspicilli, nova & admiranda in coelo deprehensa sunt. Item Examen praefationis

Joannis peae Galli in Optica Euclidis, de usu Optices in philosophia. Augsburg: David Franci, 1611;

[*bound with:*] — Chilias Logarithmorum ad Totidem Numeros Rotundos, praemissae Demonstratione Legitima Ortus Logarithmorum eirumque, usus Quibus Nova Traditur Arithmetica, seu Compendium, quo post numerorum notitiam nullum nec admirabilius, nec utilius solvendi pleraque; Problemata Calculatoria, praefertim in Doctrina Triangulorum, citra Multiplicationis, Divisionis, Radicumque; extractionis, in Numeris prolixis, labores molestissimos ... Marburg: Caspar Chemlin, 1624;

[*and*:] — Supplementum Chiliadis Logarithmorum, Continens Praecepta de eorum usu ... Marburg: Caspar Chemlin, 1625;

[*and:*] [DOMINIS, Marc' Antonio de.] De Radiis Visus et Lucis in Vitris Perspectivis et iride Tractatus per Joannem Bartolum in lucem editus. In quo inter alia ostenditur ratio Instrumenti cuiusdam ad clarè vivendum, quae sunt valde remota excogitati. Venice: Tomasso Baglione, 1611;

[*and:*] SIRTORI, Girolamo. Telescopium: Sive Ars Perficiendi Novum illud Galilaei Visorum Instrumentum ad Sydera In Tres Partes Divisa. Quarum prima exactissimam perspicillorum artem tradit, Secunda Telescopii Galilaei absolutam constructionem, & artem aperte docet. Tertia alterius Telescopii facilorem usum: & admirandi sui Adinventi arcanum patefacit ... Frankfurt: Paul Jacob for Luca Jennis, 1618. £90,000

5 works bound together, 4to (200 × 155 mm.). Kepler *Dioptrice*: pp. [viii], 28, 1–26, [2], 27–80. Kepler *Chilias*: pp. [2], 55, [52]; folding table, 5 marginal figures to text, numerous tables of logarithms. Kepler *Supplementum*: pp. [ii], 113–116, [2], 121–216; various typographical and woodcut ornaments to text, tables. Dominis: pp. [ii], 78, [2] including errata, but without three-leaf Dedication; title with upper portion contemporaneously laid over a cancelled text, woodcut device, various optical diagrams in text. Sirtori: pp. 81 [i.e. 79], [1]: one (of 2) folding plates. The two tabular works by Kepler and the Sirtori browned throughout, sometimes heavily as often with German books of this period, but the Sirtori and the *Dioptrice* exceptionally fresh (the latter with just a few light marginal spots to title, light waterstain to lower margin of gathering C). Early Italian vellum over stiff boards, spine lettered in gilt, a small scatter of worming to pastedowns and free endpapers. An exceptionally attractive astronomical volume.

A SUPERB *SAMMELBAND* CONTAINING FIRST EDITIONS OF THREE KEY WORKS BY KEPLER AND TWO RARE AND IMPORTANT EARLY TREATISES ON THE GALILEAN TELESCOPE. Kepler's *Dioptrice* not only changed the course of the study of optics but was also of fundamental importance to the early development of the telescope. '"Optical tubes" had been discussed in Giambattista della Porta's *Magia Naturalis* (1589); but Kepler confessed that "I disparaged them most vigorously, and no wonder, for he obviously mixes up the incredible with the probable." Thus Kepler, who himself used spectacles, discussed lenses only in passing in his *Astronomia pars optica*. Nevertheless, he had set forth the essential background by which the formation of images and lenses could be explained, and so he was able to complete his *Dioptrice* within six months after he had received Galileo's *Siderius nuncius* (1610). With great thoroughness Kepler described the optics of lenses, including a new kind of astronomical telescope with two convex lenses' (*DSB*).

Dominis's *De Radiis Visus et Lucis*, published in the same year, represents another important contemporary response to the invention of the telescope and deals in detail with the properties of lenses in that instrument, as well as providing the best early enquiry into the formation of the rainbow through refraction and reflection in raindrops. It was published by Baglione, who had been responsible for the publication of the *Siderius nuncius* the previous year. Dominis's preface to this work is also notable as the origin of the incorrect notion that it was Galileo who had invented the telescope.

The slightly later *Telescopium* by Sirtori also found here is an especially scarce text, and has the distinction of being the first work to describe the manufacture of telescopes, and also the first to give a detailed account of Galileo's telescope. It is especially interesting bound in this context with other fundamental works in the

early development of the telescope. Only a single copy of this work has appeared at auction since 1977: the inscribed Honeyman copy (Sotheby's, 19–20 May 1981, lot 2854), which, like the present copy, was lacking one of the folding plates.

The collection is completed by Kepler's two preliminary treatises on logarithms, the use of which proved instrumental in the success of the *Tabulae Rudolphinae*. Kepler famously realised the value of logarithms when he obtained a copy of Napier's *Mirifici logarithmorum canonis descriptio* (1614) in 1617 and applied Napier's tool to Tycho Brahe's data, the first time that logarithms had been put to astronomical use. *Chilias Logarithmorum* and its supplement precede the appearance of the monumental *Tabulae Rudolphinae* by over two years. Both are exceptionally scarce in commerce, neither having appeared in British or American auctions since 1977.

Kepler, *Dioptrice*: Caspar 40; Honeyman 1788; Zinner, *Literatur*, 4320. *Chilias Logarithmorum* & supplement: Caspar 74–75. Dominis: Riccardi I, 447–448; Lalande, p. 156. Sirtori: Riccardi I (2), 461.

119. *Foetal anatomy and foetal bones*

KERCKRING, Theodor. Spicelegium Anatomicum, continens Observationum, Anatomicarum Rariorum Centuriam Unam: nec non osteogeniam foetuum. Amsterdam: Andreas Frisius, 1670;

[*bound with:*] — Anthropogeniae Ichnographia. Sive Conformatio foetus ab ovo, usque ad ossificationis principia, in supplementum Osteogeniae foetuum. Amsterdam: Andreas Frisius, 1671. £5500

2 works bound together, 4to (230 × 180 mm.), pp. [xxiv], 280; in two parts, engraved additional title, engraved vignette on printed title and title to the second part, 9 folding engraved plates, 30 engravings within the text (13 full-page); pp. [v], 14, [ii] bl.; engraved vignette on title, full-page engraving. Light browning, principally marginal, and occasional soiling. Contemporary vellum, rebacked. From the libraries of Gabriel Gustav Valentin with his unobtrusive stamp on title, and Haskell Norman with his bookplate on front pastedown. Good copies.

FIRST EDITIONS of both Kerckring's works on foetal anatomy and foetal bones. 'Kerckring made important investigations on the development of the foetal bones. He was the first to describe the large ossicle sometimes present at the lambdoidal suture; his name is remembered in the valvulae conniventes of the small intestine, previously described by Fallopius' (Garrison–Morton). He also 'stated correctly that only a little of the skeleton can be found during the second month, and that the skeleton develops through a transformation of membrane into cartilage into bone' (Norman 1209). Kerckring 'believed the younger fetal skeleton to be merely a miniature of that of the older fetus, backing his claim with reported "observations" of unprecedentedly early specimens, but it is clear from his illustrations that he was mistaken about their age and structure. He was correct, however, in stating that the ovaries of both oviparous and viviparous animals contain ova' (Norman 1210).

Meyer, pp. 296–99; Garrison–Morton 383 (*Spicelegium* only); Grulee Collection 532–3; *Heirs of Hippocrates* 632–3 (second edition of *Anthropogeniae*); NLM/Krivatsy 6345–6; Norman 1209–10; Waller 5270, 5268; Wellcome III pp. 386–7.

120.

KIRCHER, Athanasius. Magnes sive De arte magnetica opus tripartitum quo uniuersa magnetis natura, eiusque in omnibus scientiis & artibus usus, nova methodo explicatur: ac praeterea e viribus & prodigiosis effectibus magneticarum, aliarumque abditarum naturae motionum in elementis, lapidibus, plantis, animalibus, elucescentium, multa hucusque incognita naturae arcana, per physica, medica, chymica, & mathematica omnis generis experimenta recluduntur. Editio tertia. Ab ipso authore recognita, emendataque, ac multis nouorum experimentorum problematis aucta. Rome: Vitale Mascardi for Biagio Diversini and Zanobio Masotti, 1654. £4500

Folio (328 × 222 mm.), pp. [xxxii], 618, [28]: without typographic title. Engraved portrait, engraved frontispiece by Valentini, 35 large copper engravings, 215 woodcut illustrations, some

musical notation, numerous woodcut initials, head- and tailpieces throughout. Lower corner of p. 23 repaired, a couple of worm-holes towards the end, occasional light browning, but very clean. Contemporary vellum, ties wanting, title inked on spine, all edges green. A very good copy.

THIRD EDITION, ENLARGED AND IMPROVED, of Kircher's *Magnes* (first printed 1641), his most comprehensive work on magnetism, although Kircher's notion of that term extends far beyond the modern understanding of it. Kircher assumes that all forces and motions in nature can be described in term of attraction and repulsion, thus allowing 'magnetism' to embrace all natural phenomena as their fundamental cause and mechanism. The work discuss 'magnetic' qualities of plants, rocks, air and water, as well as dealing with electricity and electrical experiments (in the section entitled 'Elektromagnetismos'), and discusses some practical applications of magnetism in medicine. In the last part, Kircher also discusses the magnetic attraction of music and love, before moving to metaphysics with an Aristotelian definition of God as 'the central magnet of the Universe'.

One of the most important books by the great polymath, the work's illustrative scheme, complex and costly to produce, is a showpiece of baroque engraving and woodcutting, and includes a number of illustrations of scientific instruments and toys. Kircher's mastery of the use of illustration in his scientific works has been described as 'both a measure and a cause of his success' (D. Stolzenberg, 'Inside the Baroque Encyclopaedia', in *The Great Art of Knowing*, Stanford 2001).

Wellcome II, 394; Caillet 5780; *Wheeler Gift* 116 a; Brunet III, 667; Merrill, *A. Kircher*, p. 7.

121.

KITCHINER, William. The Art of Invigorating and Prolonging Life, by Food, Clothes, Air, Wine, Sleep, &c. and Peptic Precepts ... to which is added, the Pleasure of Making a Will. London: Printed for Hurst, Robinson & Co., 1822. £150

8vo (180 × 105 mm.), pp. viii, [2], 298, [2] advert; complete with half-title. Later brown half cloth, marbled sides, spine with title typewritten on label. Library stamp to front blank and small slip inserted after title-page. Very light, occasional faint browning. A good copy.

THIRD, ENLARGED EDITION of a bestseller of the 1820s. Doctor Kitchiner (?1775–1827) started his career as an optician and became an inventor of telescopes, but it was his exceptional ability as a cook that earned him extraordinary fame both in Britain and in America. His other publishing success, *The Cooks' Oracle*, reached the height of its popularity in 1822–23, thus fostering the production of many new editions of the *Art of Invigorating and Prolonging Life*, first published in 1821. The prestigious host of glamorous dinner parties, whose guests included the Prince Regent (later George IV) and many of the most influential characters of the time, Kitchiner was nicknamed the 'Royal Cook'. Ironically, although renowned for following the regime he recommended in his books, he did not manage to prolong his own life beyond the age of about 50.

122.

KRAMER, John B., & John F. Hall Edwards. Radiations from Slow Radium ... With a note on their therapeutic value. London: Bailliere, Tindall and Cox, 1921. £4500

8vo, pp. [iv], 105, [1]. Diagrams, photographs. Some ink corrections and notes. Publisher's red cloth, gilt lettering on spine and front cover. Inscribed by the author on front free endpaper. Excellent condition.

PRESENTATION COPY of an early work on the medical use of radioactivity. The first part, by John B. Kramer is intended 'to offer the Medical Profession a concise handbook in the introductory study of the modern Electron Theory, including the principal characteristics and the physical constants of Radium Radiations, simply expressed and amply illustrated' (preface, p. iv). The second part by John Hall Edwards is concerned with the therapeutic use of slow radium.

123. *Author's pre-publication proofs for the second edition*

LACROIX, Sylvestre. Traité Du Calcul Différentiel Et Du Calcul Intégral ... Seconde édition, revue et augmentée. Paris: Courcier, 1810–19. £22,500

3 vols., large 8vo (250 × 203 mm.). With half-titles. 10 engraved folding plates. Upper corner of p. xxvii torn away with minor loss of 3 letters, some ink spots confined to margins. Contemporary quarter calf, marbled blue-black paper sides, spine filleted and lettered in gilt, marbled pastedowns. Trivial wear to extremities. Extensive notes and corrections in the author's hand throughout. A unique copy.

AUTHOR'S PRE-PUBLICATION PROOF FOR THE SECOND EDITION, the unique witness of a crucial step in the making of this classic of mathematics. Lacroix's enormously influential and popular introduction to calculus, first published in 1797–1800, was the first comprehensive treatise on the subject, 'a clear picture of mathematical analysis, documented and completely up to date. While Lacroix followed Euler on many points, he incorporated the various advances made since the middle of the eighteenth century. The *Treatise* is a very successful synthesis of the works of Euler, Lagrange, Laplace, Monge, Legendre, Poisson, Gauss and Cauchy' (*DSB*).

The preface to this second edition emphasizes the crucial role that the work played in the formation of generations of mathematicians: Lacroix's own approach is didactically presented within the history of mathematical thought, in an inspiring overview that became a classic introduction to the matter. In England, Charles Babbage had realized on entering university that European standards in mathematics were far in advance of the text-books used at Cambridge. When he was able to buy Lacroix's work only after a long search and at the high price of seven guineas, he and his friends in the Analytical Society, Peacock and Herschel, decided to translate Lacroix themselves. Their translation was among the first publications of the Analytical Society. Lacroix's influence on the Cambridge school extended his popularity, thus prompting the success of this second edition, which became a text-book for decades.

Lacroix's notes and additions are evident in this proof copy, which along with typographical corrections contains a considerable amount of newly inserted lines, formulas, interventions on the plates, and extensive notes penned either in the margins or on separate inserted leaves.

Honeyman 1876.

124.

LANDEN, John. Mathematical Lucubrations: containing New Improvements in various Branches of the Mathematics. London: J. Nourse, 1755;

[*bound with:*] — Discourse concerning the Residual Analysis: a New Branch of the Algebraic Art, of very extensive Use, both in Pure Mathematics and Natural Philosophy. London: J. Nourse, 1758;

[*and with:*] — The Residual Analysis; A New Branch of the Algebraic Art, of very extensive Use, both in Pure Mathematics, and Natural Philosophy. Book I [all published]. London: for the Author, 1764. £2000

3 works together in one vol., 4to, pp. [viii], 156; 5 folding engraved plates: pp. 43, [1]: pp. viii, 218; 5 folding engraved plates. The last title browned, some other light marginal browning. Bound together in contemporary half calf, marbled sides, extremities a little rubbed. Very good copies in a well-preserved attractively plain contemporary binding.

FIRST EDITIONS. The *Mathematical Lucubrations* is Landen's first major work. He spent most of the rest of his life developing its themes, in doing so making 'valuable investigations on points connected with fluxionary calculus' (*DNB*). His *Discourse concerning the Residual Analysis* introduced his attempt 'to settle the arguments about the validity of limit process used as a basis for the calculus by substituting a purely algebraic foundation' (*DSB*) which he expounded in full detail in *The Residual Analysis*. He had meant to publish this work in two books, but was put off his endeavours by the vitriolic reaction of Lagrange. Landen is also remembered for

solving 'the problem of the spinning of a top, and [for] explain[ing] Newton's error in calculating the effects of precession' (*DNB*).

125.

LANDMANN, Isaac. A Course of the Five Orders of Civil Architecture; with a plan and some Geometrical Elevations of Town Gates of Fortified Places ... London: by James Dixwell, sold by T. and J. Egerton, 1785. £1700

Folio (350 × 280 mm.), pp. [ii], 25. 14 aquatint plates. Some offsetting, last four plates a little darkened and stained towards margins. Later rebound in maroon-brown cloth, red morocco label, edges uncut. An excellent copy.

FIRST EDITION of a scarce book. In November 1777 Landmann was invited by George III to take up an appointment as professor of fortification and artillery at the Royal Military Academy, Woolwich. *A Course of the Five Orders* was the earliest of several text-books that he produced for his students there. It outlines the classical orders of architecture (Ionian, Doric, Corinthian, Tuscan, and Composite), and is greatly abbreviated from Chambers's *Treatise on Civil Architecture* (1759) and illustrated with aquatint copies of Chambers's plates. The last four plates show Landmann's own neo-classical designs for fortified town gates. Harris locates copies at Avery, the British Library, and Soane Museum; an 1806 reprint is found at the V & A only. *ESTC* lists only the British Library and Getty copies.

Harris 406; Millard Collection, *English Books*, 36.

126. *A complete set, almost entirely uncut and unopened in original wrappers*

LAPLACE, P[ierre]. S[imon]. Traité de Mécanique Céleste ... Paris: vols. I–III: Crapelet, An VII [1798]–1802. IV: Courcier, 1805. V. Huzard–Courcier, 1825–1827. £25,000

5 vols. in 6, 4to (approx. 270 × 212 mm. uncut; vol. V, 252 × 193 mm.). First state titles in vol. I and II, supplement to vol. III without title-leaf, as usual. The first 4 vols. (bound in 5) entirely uncut and almost entirely unopened in original pink wrappers, some slight fraying at edges, original printed paper labels on spines of vols. I–IV; vol. V in contemporary pink wrappers, new label to style, from the library of the University of Chicago with embossed stamp on title and release stamp on verso. An excellent set, complete with vol. V and with all four Supplements.

FIRST EDITION, WITH ALL THE SUPPLEMENTS, IN EXCEPTIONAL STATE, of what has been called 'the eighteenth-century *Almagest*' and 'a sequel to Newton's *Principia*', the most importance advance in our understanding of the workings of the universe after Newton. Laplace's achievement was to show that all the irregularities of planetary movement which had so puzzled Newton and Euler were self-correcting, so that the whole solar system appeared to be mechanically stable. He also offered a brilliant explanation of the secular inequalities of the mean motion of the moon about the earth — a problem which had defeated Euler and Lagrange. He proved that these irregularities are connected with certain solar systems and changes in the orbit of the earth. He also investigated the theory of the tides and calculated from them the mass of the moon. As the title of his work implies, Laplace postulated a purely mechanical universe in which the solar system could continue on its existing plan indefinitely. (He did not consider the possibility of interference by outside forces or that the sun might not always remain in its present physical state.) The theological implications of his work were, of course, deeply troubling to conventional thought. When asked by Napoleon, to whom Laplace presented a copy of the first part, why in this survey of creation he had never mentioned its creator, Laplace replied: 'I have no need of such a hypothesis.'

The long-delayed episodic publication of the work means that complete copies of any kind are scarce in commerce, and copies such as the present, largely uncut in original wrappers, are especially so.

Dibner 14; *En français dans le texte* 201; Honeyman 1920; Grolier/Horblit 63; Norman 1277; *PMM* 252; Sparrow 125.

127. *The earliest state of the first 16 maps for the first geological atlas*

LAVOISIER, Antoine Laurent, & Jean Etienne Guettard. Atlas Mineralogique de la France executé sous les ordres de Monseigneur Bertin Ministre at Secretaire d'Etat ... [Paris:] Dupain Triel, 1770. £22,000

One half sheet and 16 broadsheets (349 × 467 mm.). Manuscript title page within black border, 16 hand-coloured double-page maps by Dupain-Triel after Lavoisier and Guettard, variously dated between 1766–70, mounted on guards, each map with explanatory legend of mineralogical symbols, most with stratigraphical cross-sections in right hand margin, uncoloured views in right hand margin of plates 11 (Lorraine) and 14 (Vosges). Right margin left blank in maps 6, 8–10, and 15–16. Small inkstain on margin of map 5 not affecting image, marginal browning to fore-edges of map 16, fore-edges of platemarks cropped throughout. Contemporary mottled calf, spine with five raised bands, gilt decorated compartments, morocco label, sides ruled with triple gilt fillets, gilt floral corner pieces, gilt armorial supralibros effaced at centre, marbled endpapers, all edges gilt. Joints rubbed, splitting at bottom, wear to corners. The Norman–Freilich copy, with their bookplates on front pastedown. Brown morocco folding box. Internally fine, in a very good contemporary binding.

RARE COLLECTION OF THE EARLIEST STATE OF THE FIRST 16 OF LAVOISIER AND GUETTARD'S MAPS FOR THE FIRST GEOLOGICAL ATLAS. Lavoisier and his mentor, the geologist Guettard, were commissioned by the Minister of State responsible for mining, Henri Bertin, to draw up a complete geological survey of France. During the 1760s they made several field trips throughout the country, including the four-month journey through eastern France and Switzerland that yielded the material upon which these sixteen maps are based. The maps cover the provinces of central and eastern France, including Île de France, Vexin, Brie, Valois, Champagne, Franche Comté, Lorraine, Alsace, and neighbouring parts of Switzerland. The maps are not numbered, but they are dated and signed by Dupain-Triel. Lavoisier later stated that the first six maps, dated 1766 and 1767, were prepared with his assistance. The complete survey was intended to include 230 maps, but due to political and financial difficulties this total was never reached. By 1770 sixteen maps had been completed by Dupain-Triel under Lavoisier's supervision. Guettard presented a report of their progress to the Academy of Sciences on 25 April 1770. It is very likely that this copy was that used by Guettard in his report. This surmise is based on the fact that Duveen and Klickstein record only three copies, two of which are in institutions, in Philadelphia and Paris; the third is described as having a manuscript title, and having been owned by a Dr. Lemay. Our copy also had Bertin's arms tooled in gilt on the covers: they were later eradicated, probably during the French Revolution.

The maps are of cartographical importance because of their innovative use of legends, which 'feature the chemical symbols used by Guettard ... in addition Lavoisier used the margin of each quadrangle for a vertical section designed to show the stratigraphical composition of the earth's crust ... Although employing chemical symbols on geological maps was popular for a time, the maps of the *Atlas* had no close imitators; contemporaries and later geologists found these maps to be models of observational accuracy, but the cartographic techniques of Guettard and Lavoisier were superseded by those developed in subsequent decades' (*DSB*).

Norman 1287; Duveen & Klickstein, 218.

128. *Joseph Recamier's copy of a physiological classic*

LEGALLOIS, Julien Jean César. Expériences sur le Principe de la Vie, notamment sur celui des mouvemens du coeur et sur le siége de ce principe; Suivies du Rapport fait à la première classe de l'Institut sur celles relatives aux mouvemens du coeur. Paris: D' Hautel, 1812. £3000

8vo (215 × 138 mm), pp. [vi], xxiv, 364, [2] errata, 16 adverts. Folding engraved plate. Entirely uncut in publisher's blue paper wrappers, original printed label to spine. Occasional light browning and spotting, principally to uncut edges. An exceptionally good copy, in unsophisticated original state, from the library of J. C. A. Recamier, with his printed library label to verso of half-title.

RARE FIRST EDITION of this seminal work in the history of physiology. Legallois (1770–1814) was one of the first modern physiologists to base his conclusions on experiments with live animals. He pursued an experimental method based on the progressive removal or destruction of portions of the central nervous system, and

carried out numerous experiments on mammals involving their decapitation in which circulation was restarted by administering an artificial respiration. His major achievement was to demonstrate that a dead organism was capable of resuscitation through the agency of oxygenated blood administered artificially.

This copy is from the library of the great French surgeon and physiologist Joseph Recamier (1774–1852), a pioneer in the understanding of cancer.

Garrison–Morton 928.

129.

LEGENDRE, Adrien-Marie. Essai sur la Théorie des Nombres. Paris: Duprat, An VI [1798]. £2750

Large 4to (251 × 185 mm.), pp. xxiv, 472, [56]. Half-title. Contemporary mottled calf, sides with double gilt fillet, flat spine gilt in compartments, brown morocco label, all edges red. Some rubbing to extremities, internally very fresh. Cancelled ownership inscription on title. A very good, crisp copy.

FIRST EDITION. It 'contains an improved exposition of his law of the reciprocity of quadratic residues, his principal contribution to number theory, which he first demonstrated imperfectly in his *Recherches d'analyse indéterminée*' (Norman). This work, which also includes studies on Fermat's last theorem, prompted the critical observations of Gauss and inspired his research on the theory of numbers, which Legendre took into account when publishing an improved second edition in 1808. 'In both the theory of elliptic function and number theory [Legendre] raised questions that were fruitful subjects on investigation for mathematicians of the nineteenth century' (*DSB*)

Norman 1325; *En français dans le texte* 200.

130.

LELOIR, Henri. Traité practique et theorique de la Lèpre ... Accompagné d' un Atlas de XXII planches originales en chromolithographie et en héliogravure, renfermant en outre 43 figures originales intercalées dans le texte et 7 tableaux statistiques. Paris: Progrès Médical; A. Delahaye et Lecrosnier, 1886. £450

4to (312 × 236 mm.), pp. [iv], 359, [1] bl. 22 chromolithographic plates, often with multiple figures, 2 folding, including an atlas of the world-wide diffusion of leprosy, tissue-guards preserved. Half-title. Small tear to p. 5 without loss, last leaf slightly creased, first folding plate slightly torn at margin without loss. Contemporary half calf, marbled sides, panelled spine with four half-raised bands filleted in gilt, title stamped in gilt on spine. Some wearing to extremities. A very good copy.

FIRST EDITION of Leloir's strikingly illustrated work on leprosy. Henri Leloir (1855–1896), an intelligent French dermatologist, director of Lille hospital, had established himself as one of the most advanced scientists in general dermatology with his *Recherches Cliniques et Anatomo-Pathologiques sur les Affections Cutanées d'Origine Nerveuse*, published in 1882. His atlas illustrates with unprecedented photographic accuracy the effects produced on the skin and flesh by leprosy, a disease that had been identified from a pathogenic perspective only ten years earlier.

131.

LEMNIUS, Levinus. Occulta Naturae Miracula, ac varia rerum documenta, probabili ratione atque artifici coniectura explicata. Antwerp: G. Simones, 1564. £1850

Small 8vo (166 × 105 mm.), ff. viii, 374, [21]. Woodcut portrait to verso of title. Contemporary blindtooled pigskin over boards, upper cover with multiple fillet, border enclosing medallions with portraits of philosophers and floral motives, large centerpiece showing the biblical scene of Abraham's sacrifice and the inscription 'Abraham credidit Deo' with date 1564, panelled spine painted brown at an early date, old paper label. Some very slight browning, early ownership inscriptions erased from title. A very good copy.

FIRST EDITION IN FOUR BOOKS (the first two books of the four found here had been published under the same title in 1559) of *The Secret Miracles of Nature*. Lemnius (1505–1568), a key figure in the history of early modern medical science, acquired the most up-to-date medical notions in Louvain, knew Vesalius and Gessner, and became one of the most quoted physicians of his age. An encyclopaedia of remedies, herbal lore, prodigies, and the occult, this work is one of the most widely spread and imitated contributions to the popular genre of books of secrets. Many similar contemporary works were intended chiefly to entertain and amuse. Lemnius's concern, on the other hand, is mainly to defend, demonstrate, and celebrate the presence and action of God in nature against the naturalizing approach that 'modern philosophers' were beginning to adopt in their accounts of unusual phenomena. Lemnius's extraordinary collection of *mirabilia* is also deployed to support moral and political truths: in his view, to defy the natural divine laws of, for instance, climacteric numbers, or indeed of the reasonable and good government of wise rulers, is to commit impious deeds which inevitably (and quite literally) generate monsters.

Ferguson I, 24; Caillet II 6489 and Duveen p. 349–350 (other editions); this edition not in Adams.

132. *The Boers handle these things better, you know*

(LEPROSY.) Report of the select committee on the Spread of Leprosy. Cape Town: Richards and Sons, 1889. £100

4to (234 × 144 mm.), pp. xvi, 50, xxxiv. Contemporary blind-tooled black morocco, blind fillet to boards, gilt spine with pink label lettered in gilt. Library stamp to lower margin of title. A good copy.

FIRST EDITION of the report on leprosy in the South African colony which was produced by a committee appointed by the Legislative Council in July 1889. The report, ostensibly a collection of medical reports on the contagiousness and social impact of leprosy, has a political undertone. Current 'lax' regulation of the isolation of lepers under the British administration is contrasted with stringent rules enforced in the past under Dutch law. Once acknowledged that leprosy is a highly contagious disease, the committee states, the existence of good regulation needs to be complemented with a degree of effectiveness and practical rigour which the British government have not accomplished.

133.

LESLIE, John. The Philosophy of Arithmetic; Exhibiting a Progressive View of the Theory and Practice of Calculation, with an enlarged table of the products of numbers under one hundred. Edinburgh: Longman, Hurst, Rees, Orme, & Brown, 1817. £800

8vo (221 × 132 mm.), pp. iv, 240. Large folding letterpress table, engraved illustrations and diagrams in text. Spotting to some central leaves. Entirely uncut and partially unopened in original paper-backed blue-grey boards, slightly soiled, corners bumped, head of backstrip a little frayed, original paper label on spine (slightly frayed at edges). With neat ownership inscription at head of title. A very good copy,

FIRST EDITION of this important history of calculation, significant in the literature of computing. The work contains 'an elaborate discussion of fundamental principles and much interesting information on the subject' (*DNB*); it is 'his most important book' (*DSB*). John Leslie (1766–1832) studied at St Andrews and Edinburgh, then became tutor to the Wedgwood family. He was appointed as professor of mathematics at Edinburgh in 1805 only after a bitter dispute, since he was not ordained by the Church. He became professor in Natural Philosophy in 1819, was elected a Corresponding Member of the French Academy of Sciences in 1820, and was knighted in 1832.

134.

LEOPOLDUS, *Duke of Austria*. Compilatio Leupoldi ducatus de astrorum scientia. Decem continens tractatus. [Augsburg: Erhard Ratdolt, 1489.]
£11,500

Chancery 4to (209 × 151 mm.), ff. 109 (of 110, without final blank). 40 lines, printed in gothic letter. 140 woodcut illustrations and diagrams, including 2 diagrams printed in black and red and a full-page woodcut of the 'sphaera mundi' to a_2^r, decorative woodcut initials. Expert restoration to blank portion of first leaf and to upper corner of last two leaves, tear to text of f_3 neatly restored, some other neat interventions and small worm-hole running inoffensively through the lower margin of same quire, some light soiling in last quire. Old vellum over stiff boards, recent title pencilled on spine. A few early annotations penned in the outer margin, early foliation running from 208 to 316. A very good, large copy.

FIRST EDITION of Leopoldus's *Compilatio*, 'incunable de toute rarité' (Caillet), composed around 1270 and beautifully printed by Erhard Ratdolt. In his Venetian years Ratdolt, even more widely renowned as a polymath and astronomer than as a printer, had printed the astronomical works of Albumasar and Hyginus. His woodcuts for those projects are among the earliest known printed figures of constellations, and the same blocks were employed for this Leopoldus in Ratdolt's Augsburg workshop. Two of the astronomical diagrams are printed in red and black, a technique introduced by Ratdolt. Leopoldus was an Austrian astronomer whose circumstances are still rather obscure. He is known to have been active in the middle or second half of the thirteenth century. The *Compilatio* is divided into ten treatises, of which the sixth, on metereology, is perhaps the most interesting, and owes much of its content and structure to the Arabic astronomic tradition, in particular the works of Messahalla and Albumasar.

BMC II 382 (IA 6679); Goff L-185; HC *10042; Klebs 601.1; Polain 2485; Schreiber 4493; Stillwell 71; Caillet 6636; Honeyman V 1989

135. *The most comprehensive of all the early bridge books*

LEUPOLD, Jacob. Theatrum Pontificiale, oder Schau-Platz der Brücken und Brücken-Baues ... Leipzig: Christoph Zunkel, for the Author & J. F. Gledisch and Sons, 1726. £3000

Folio (363 × 235 mm.), pp. [xvi], 153, [5], title in red and black. 60 folding engraved plates mounted on guards (numbered I–LVIII, IIA, XVIA, XLA), two (XXI, XLVIII) with clean tears, one (XII) heavily browned, single woodcut illustration within the text, woodcut decorations. Some spotting and light browning. Contemporary half vellum and marbled boards, extremities a little rubbed. A very nice copy.

FIRST EDITION of Leupold's treatise on bridge building, the first on the subject to be printed in Germany and the most comprehensive of all the early bridge books. It covers masonry, pontoon, floating and military bridges. It is an especially good source for the building of long-span timber bridges, as many bridges in Germany were built by this method. Leupold uses several recently constructed German bridges in order to illustrate the behaviour of beams and trusses as well as the properties of timber. The first four plates show various methods of working on, and in, the water and therefore include images of diving-bells, diving-suits, weights, lead shoes, stilts, canoes, and other ingenious devices.

136.

LILLY, William. Supernatural Sights and Apparitions, seen in London, June 30. 1644. Interpreted. With a mathematical Discourse of the now imminent Conjunction of Jupiter and Mars, 26 July, 1644. The Effects which either here or in some neere Countries from thence may be expected ... Imprimateur John Booker. London: T. V. & I. S., 1644. £450

Small 4to (175 × 125 mm.), pp. 16. Typographical headpieces, engraved initials. Contents a little darkened, shoulder note on p. 9 has been trimmed. Nineteenth-century marbled boards, recently rebacked. Bookplates on front pastedown of Harvard College Library, the gift of Edwin Stanton Mullins (with release stamp), and red morocco armorial label of Edward Hailctone. A good copy.

FIRST AND ONLY EDITION. Lilly issued a stream of prophetic pamphlets in 1644 (others included *The English Merlin, Reviv'd* and *A Prophecy of the White King and Dreadfull Deadman explain'd*) mixing prophetic astrology and thinly-veiled political comment. Thorndyke remarks how 'The careers of English astrologers such as John Booker, William Lilly, George Wharton, John Heydon, and John Gadbury show that public predictions might also be political pamphlets' (vol VIII, p. 331.)

The preface here castigates the Royalists, 'Noble Knights and Burgesses', for abandoning Westminster and setting up the Royalist parliament in Oxford. The opening interpretation, 'of those strange sights or apparitions in the Ayre, seen in London, 30. June last past, 1644', refers to 'a long yellowish apparition somewhat in form and shape almost like to a Serpent' seen in a lightning-wracked London sky, which Lilly adjudges to portend various events, including 'the dissipation and dissolving of some misterious close consultation and mischeivous plot against our State and Commonwealth'. Lilly's predictions often got him into trouble with both Parliamentarians and Royalists (although his sympathies were clearly with the former), and he eventually moved away from public life. He studied to be a doctor, and in his later life, combined the practise of medicine with astrology. Lilly's almanacs, first published in 1644, were published annually until his death in 1681.

Wing L2249.

137. *Precautions against the plague*

LONITZER, Adam. Ordnung Für die Pestilentz. I. Praeservativa. Wie sich ein jeder in zeit Regeirender Pestilentz halten, und sich darfür bewaren soll. II. Curativa. Von Cur der Pestilentz, unnd von mancherley zufällen, so sich darbey zutragen. III. Antidotarium. Beschreibung der Artzneyen und fürnemen Compositionem, &c. Alles uffo kürtzest und fleissigest gestellt, und von neuwen jetzo widerumb ersehen und gebessert. Frankfurt: Christian Egenolph, 1576. £1250

Small 8vo (154 × 94 mm.), pp. [viii], [103]. Woodcut illustration in text, title in red and black. Title browned and slightly rubbed, inner upper margin of first few leaves lightly damp-stained and in some cases strengthened (without any loss), light browning throughout. Later wrappers, de-accessioned from the University of Vratislava Library with two stamps on verso of title. A very good copy.

SECOND EDITION of this practical monograph on the plague, first published in 1572. The first part contains advice on keeping generally healthy, as well as more specific directions for keeping the plague at bay, with directions for protecting one's servants and for venturing out in public in safety. The second section covers ways of dealing with the plague from initial contraction through to its end, recommending different measures for different stages of the infection. It also gives hints on recognising whether or not it is likely to prove fatal in a particular case. This part ends with an extensive list of potential side-effects: eighteen different problems in all, from constipation to nose-bleed, with alleviatory suggestions given for all. The illustration (which is found in the second and largest part) is of a 'plague-man', albeit a rather plump and healthy-looking one. The third section contains recipes for potions and pills.

NLM/Durling 2852: *NUC* records just one other location for this edition, at Yale Medical School, and only one for the first, at the Countway Library, Harvard.

138. *Fundamental treatise on relativity, including his famous contraction hypothesis*

LORENTZ, Hendrik Antoon. Versuch Einer Theorie der Electrischen und Optischen Erscheinungenleiden in Bewegten Körpern. Leiden: E. J. Brill, 1895. £4750

8vo (227 × 140 mm.), pp. [iv], 138, [2]. Some very occasional pencil marginal annotations and a few very faint underlinings in blue crayon. Contemporary marbled boards, cloth backstrip, paper spine-label neatly lettered in ink. Bookplate of Alex Brill on front pastedown. A very good copy.

FIRST EDITION of Lorentz's fundamental treatise. 'In applying James Clark Maxwell's electromagnetic theories to moving bodies, Lorenz made the fundamentally new assumption that the behavior of light and matter could be understood in terms of charged particles. The present work is the second of Lorentz's two major expositions on his electron theory of matter, following *La theorie electromagnetique de Maxwell et son application aux corps mouvements* (1892); it contains his equation for the "Lorentz force" connecting the continuous electric field with discrete electricity, and investigates the problem of the effects of the earth's motion through the stationary, immaterial luminiferous ether postulated in classical physics. If the earth is presumed to have an absolute velocity with relation to this ether, then it would seem to follow that this velocity can be detected through optical or electromagnetic effects of the accompanying "ether wind"; for example, it could be assumed that a beam of light shining from the direction towards which the earth is moving would reach the earth faster than one shone from the opposite direction. However, the Michelson–Morley interferometer experiment of 1887 had failed to produce evidence of any ether wind effects, a problem to which Lorentz responded with his famous contraction hypothesis, stating that all electrical particles become shortened in the direction of the earth's motion through the ether. The exact form of this hypothesis appears in the present work' (Norman)

Hendrik Lorentz (1853–1928) is one of the most prominent figures in the history of physics and the specific area of relativity. He was one of the early physicists who laid the groundwork for the area of relativity. In fact, his early research helped to lead Einstein to the creation of his Theories of General and Special Relativity. Lorentz was winner of the Nobel Prize for physics for 1902, shared with his pupil and disciple Pieter Zeeman.

Bakken, p. 429 (second edition); Norman 1388; *PMM* 378b.

139. *The next great advance after Harvey in the physiology of blood circulation*

LOWER, Richard. Tractus de Corde. Item De Motu & Colore Sanguinis et Chyli in eum Transitu. London: Jo. Redmayne for Jacob Allestry, 1669.

£15,000

8vo (169 × 103 mm.), pp. [xiv], 220, [20] index. 7 folding engraved plates. Light dampstain at head throughout, some lower outer corners with visible dampstain, small neat repair visible on last leaf of prelims not touching any letters. Contemporary mottled calf, spine elaborately gilt in compartments, corners bumped, head and tail of spine very slightly damaged. A good copy.

FIRST EDITION, second issue: 'Both issues of the work are rare' (Norman). 'Lower made the next great advance after Harvey in the physiology of blood circulation when he determined experimentally, with the assistance of Robert Hooke, that venous blood is changed to arterial blood in the lungs by virtue of its contact with air. The experiments leading to this discovery are reported in the third chapter of Lower's *De corde*, a work that also contains a number of other important observations, such as the scroll-like structure of the cardiac muscle (confirmed 250 years later by Mall), the heart's contractive and expulsive movements, the tamponade effect of pericardial effusion and the limiting effect of pericardial adhesions on the heart. The fourth chapter contains a brief review of the history of blood transfusion and an account of transfusion from dog to dog, "the first demonstration of the potential safety of a method which three centuries later was to revolutionize surgery" (Fishman & Richards, p. 37)' (Norman).

This issue has the cancel A6 with the catchword "quic-" (the first state has the catchword "Im-"). According to Fulton, the text was changed to 'modify (very slightly) a scurrilous remark that [Lower] had originally made concerning the Irishman O'Meara' (Fulton, p. 17). Both issues of the work are rare.

Fulton, *Two Oxford physiologists*, 4; Garrison–Morton 761; NLM/Krivatsky 7157; Norman 1397 (first issue); Wing L3310.

140. *Lyell and Faraday propose chemistry lessons for miners*

LYELL, Charles, & Michael Faraday. Report ... to the Right Hon. Sir James Graham, Bart, Secretary of State for the Home Department on the Subject of

the Explosion at the Haswell Collieries and on the Means of Preventing Similar Accidents. London:W. Clowes, 1844. £2500

8vo (209 × 130 mm.), pp. 20. Bound with 18 other similar pamphlets (see below) in contemporary black half calf, marbled sides, spine lettered and ruled in gilt, red speckled edges. Worn, lower joint cracked, some loss of calf to spine: binding poor, but contents good.

Lyell and Faraday's report is the most important of a group of nineteen mid-Victorian pamphlets bound together for the Royal Geological Society of Cornwall. The explosion at Haswell Colliery near Durham on 28 September 1844 had resulted in 95 deaths. Two years previously Lyell had spent a month examining coalfields and strata in Nova Scotia, while Faraday (a pupil of Sir Humphry Davy, inventor of the Davy lamp and himself a leading light of the RGSC) was nearing the end of five years recovery from a nervous breakdown, during which he devoted himself to affairs of the Royal Institution. Both men were at the top of their profession and well respected experts. Lyell and Faraday concluded that the explosion was caused by the escape of gas from the 'goaf' a ruined and disused part of the mine. The report recommends improvements in ventilation and a suggestion that better education for miners in chemistry, geology, hydrostatics, and pneumatics would help workers' safety more than legislation.

Also of interest in this pamphlet volume are the geological maps attached to the report on the progress of the geological survey of the United Kingdom, and the first annual report of the American Museum of Natural History, containing the proposals for the building of New York's Natural History Museum on the west side of Central Park. The other pamphlets are:

a) Report of the Committee of the Portsmouth and Southsea Literary and Philosophical Society 1823-24. [Portsmouth: by D. B. Price, 1824.]

b) Report of the Committee of the Portsmouth and Southsea Literary and Philosophical Society 1824-25. [Portsmouth: by D. B. Price, 1825.]

c) Laws and Regulations of the Portsmouth and Southsea Literary and Philosophical Society. Portsea: W. Woodward, 1823.

d) Report of the Proceedings of the second general Meeting of the Subscribers to the Oriental Translation Fund, with the Prospectus, Report of the Committee and Regulations. London: J. L. Cox, 1829.

e) Bristol Institution Proceedings of the Sixth Annual Meeting, held February 12, 1829 ... to which are subjoined the Proceedings of the Philosophical and Literary Society, during its Session in 1828 ... Bristol: J. M. Gutch [1829].

f) Fifth annual Report of the Bath Literary and Scientific Institution for the Year 1829 ... Bath: Mary Meyler, 1830.

g) Ninth annual Report of the Committee of the Royal Horticultural Society of Cornwall ... Truro: E. Heard [1841].

h) KARKEEK. W. F. The Report of the Farming of Cornwall to which the Prize was awarded by the Royal Agricultural Society of England. *Folding geological map of Cornwall at rear with closed tear.* London: W. Clowes & Son, 1846.

i) The Dublin University Museum. [?1847–48.]

j) QUETELET, A. Rapport adressé A. M. le Ministre de l'Intérieur sur l'État et les Travaux de l'Observatoire Royal. Pendant l'Année 1849. Brussels: M. Hayez, 1849.

k) QUETELET, A. Rapport adressé A. M. le Ministre de l'Intérieur sur l'État et les Travaux de l'Observatoire Royal. Pendant l'Année 1856. Brussels: M. Hayez, 1856.

l) COCQUIEL, Chevalier de. Industrial Instruction in England, being a Report made to the Belgian Government ... London, Chapman and Hall, 1853.

m) Annual Report of the Director General of the Geological Survey of the United Kingdom, The Museum of Practical Geology, and the School of Science applied to Mining and the Arts. *3 coloured folding maps at front showing the progress of the Geological Surveys of Ireland, Scotland, and England respectively.* [London: Eyre and Spottiwoode, 1856.]

n) Report of the Sixteenth Annual Meeting of the Cambrian Archaelogical Association held at Truro, August 25th to August 30th, 1862. London: Russell Smith and J. H. Parker, Oxford, 1862.

o) Report of a Public Meeting held at the Victoria Rooms on Friday, 10 January, 1868 to support the Union of the Bristol Philosophical Institution and the Bristol Library; comprising various suggestions by the Speakers for the Promotion of Scientific and Technical Education. Bristol: J. Wright & Co. 1868.

p) The First Annual Report of the American Museum of Natural History. New York: for the Museum, January 1870.

q) The Leeds Naturalists Club and Scientific Association. 1876–77. The Seventh Annual Report and President's Valedictory Address. Leeds: Taylor Bros., 1877.

r) Warwickshire Natural History and Archaeology Society, established March 24th 1836. Forty Second Annual Report of the Council to the Subscribers, read at the Anniversary Meeting, April 26th 1878.

141.

MALGAIGNE, Joseph. Traité des Fractures et des Luxations. Paris: Baillière, 1847–55. £2000

2 vols., text 8vo (211 × 115 mm.) and atlas folio (435 × 300 mm.); pp. vii, [i] bl., 842; [iii], [i] bl., 1108; 28. 30 lithographed plates, some foxing to plates and text (almost entirely marginal). A good set, uniformly bound in green morocco backed green marbled boards, extremities a little rubbed, spines gilt in compartments.

FIRST EDITION of this splendid work on the subject, with fine lithographed plates. 'This was Malgaigne's greatest work. His description of bilateral vertical fracture of the pelvis ('Malgaigne's fracture') is in vol. 1, p. 650–56' (Garrison–Morton). Malgaigne has the distinction of being the first person to devise and apply a practical method of external fixation. He also promoted traction treatment for luxations and proved the existence of incomplete and longitudinal fractures.

Garrison–Morton 4417; *Heirs of Hippocrates* 1688; Waller 6187; Wellcome IV p. 36.

142. *The Delphin Manilius bound with Roberval's works*

MANILIUS, Marcus. Astronomicon interpretatione et notis ac figuris illustravit Michael Fayus ... Accesserunt Petri Danielis Huetii animadversiones ad Manilium & Scaligeri notas. Paris: Frederic Leonard, 1679;

[*bound with:*] ROBERVAL, Gilles Personnier. Ouvrages de Mathematique. Amsterdam: Pierre Mortier, 1736. £2200

2 works in one vol., 4to (237 × 184 mm.), pp. [xxvi], 448, [68], 88; [iv], 399, [1] bl. Manilius: fine engraved allegorical frontispiece by Edelinck, numerous engraved illustrations in text, numerous engraved and woodcut initials, head- and tailpieces throughout. Roberval: 26 folding engraved plates, half-titles to each essay, general title-page printed in red and black, finely engraved allegorical vignette to first page by Duflos after Pautre. Bound together in eighteenth-century blind-tooled pigskin, double set of fillets and multiple border to sides, with palmettes and floral motifs enclosing a square panel with floral centre- and corner-pieces, tooled panelled spine with four raised bands all enclosed between fillets and small tools, vellum label, marbled edges. Some very light browning inside, a few instances of minor dampstaining to lower margin in first work, p. 201 of second work somewhat spotted. Very good copies in a delightful binding.

EDITIO AD USUM DELPHINI of Manilius' *Astronomica*, the earliest extant treatise on astrology. Marcus Manilius was active under Augustus and Tiberius. He wrote his *Astronomica*, a didascalic poem in hexameters, in five books, to explain the outlook and movement of constellations, and the role played by the stars on the shaping of human destiny. His philosophical orientation, mainly Stoic, meant that he opposed the Epicurean approach championed by Lucretius in maintaining that the universe is ultimately regulated by divine order. This providential belief was perhaps the reason for the popularity of Manilius from the earliest years of printing: the first three editions were published in quick succession between 1472 and 1489. The present edition was part of the monumental project undertaken by Pierre Daniel Huet when given the post of assistant-tutor for Louis XIV's dauphin, the preparation of the famous edition of the ancient classics *ad usum Delphini*. Huet himself wrote the *animadversiones* contained in this book, informed by his own considerable

understanding of astronomy and natural science, whilst also reproducing the celebrated commentary of Scaligerus.

Gilles Personnier de Roberval (1602–1675), French mathematician, contemporary of Torricelli and Fermat, contributed substantially to the development of the logical basis of the infinitesimal calculus. He also invented a geometrical method for finding the tangent to many curves, including the cycloid. His major treatises in French and Latin are collected in the second work here, accompanied by 26 engraved geometrical plates.

143. *The first illustration of vaccination*

MARCHELLI, Luigi. Memoria sull'Inoculazione della Vaccina. Genoa: Stamperia della Gazzetta Nazionale, 1801. £4000

8vo (220 × 140 mm.), pp. 46, [1] errata. 4 engraved plates, of which 3 are folding, illustrating the act, instrument, and dermatological consequences of vaccination. Later marbled wrappers, preserved in a cloth and red morocco box. Bookplate of Derrick Baxby, detached. A crisp untrimmed copy.

FIRST AND ONLY EDITION, WITH THE FIRST ILLUSTRATION OF THE ACT AND INSTRUMENT OF VACCINATION. Luigi Marchelli's monograph came out shortly after the Latin (1799) and Italian (1800) editions of Edward Jenner's epochal *Inquiry* of 1798. Unrecorded in all the principal bibliographies concerning vaccination, and only briefly mentioned in Crookshank's *History and Pathology of Vaccination*, 1889, this pioneering work is scarce. The first engraving forms the earliest depiction of the act of vaccine inoculation, while the second provides a detailed illustration of the instrument that Marchelli devised specifically for the performance of vaccination, the first to have been designed for that purpose. A spring-loaded lancet blade, shown in the engraving in its entirety and individual parts, was to be inserted beneath the skin, followed then by the needle. The spring-loaded mechanism prevented the needle from penetrating deeper than the blade, thus reducing trauma to a minimum.

From the library of Derrick Baxby, senior lecturer, Dept. of Medical Microbiology, University of Liverpool, author of *Jenner's Smallpox Vaccine* (1981) and currently one of the world's leading experts on smallpox vaccination.

144.

MARKHAM, Gervase. Markham's Master-piece revived: containing all Knowledge belonging to the Smith, Farrier, or Horse Leach, touching all Diseases in Horses. Drawn With great pains from approved experience and the Publick Practice of the best Horse Marshals in Christendom. Divided into two Books. The I. Containing Cures Physical; the II. All cures chirurgical; together with the Nature, Use and Quality of every Simple mentioned through the whole Work. Now the fourteenth time printed, corrected and augmented with above thirty new chapters and forty new Medicines heretofore never publish'd ... and now in this Impression is The Compleat Jockey, containing Methods for the Training of Horses for Racing ... London: John Richardson, for T. Passinger, M. Wotton, and George Coniers, 1688. £750

Small 4to (192 × 148 mm.), pp. xvi, 394, 26, 49, [3]. Engraved title, woodcuts. Part titles to the appendix and 'The Compleat Jockey'. Worm-hole on lower margin of first 60 leaves and last 70 leaves, some browning and staining. Contemporary sheep, spine with raised bands, slightly later red label, title in gilt, date in gilt added at foot of spine, speckled edges, worn but holding, a good copy.

FOURTEENTH EDITION, THE FIRST TO INCLUDE 'THE COMPLEAT JOCKEY'. Gervaise Markham was a prolific writer on different subjects — agriculture, money-making schemes, and housewifery among them — and was also a minor poet and dramatist. Although disparagingly referred to as the 'first English hackney writer', he was passionate about horses, and was reputed to have imported the first Arab horse to England. *Markham's Masterpiece* is his best-known work, which ran to fifteen editions before 1700,

accumulating new chapters along the way. This copy contains the engraved title, lacking from many copies.

Wing M665; Poynter 20; Wellcome IV, p. 57.

145. *Collected edition of Girard's redactions of Marolois's geometry and perspective*

MAROLOIS, Samuel. Opera mathematica, ou Oeuvres Mathematiques traictans de Geometrie, Perspective, Architecture, et Fortification ... De nouveau Reveüe, Augmentée, et Corrigée par Albert Girard Mathematicien. Amsterdam: Jan Janssen, 1662. £7500

Folio (294 × 191 mm.), in 5 parts, pp. [ii], 51, [1]; [2], 50, [2]; [2], 15, [1]; [2], 19–24; [2], [14]; [2], 40, [40]. 5 title-pages: *Geometria*, 1647; *Opticae, sive Perspectivae*, 1647; *Perspectiva* by Jan Vredemann, 1647; *Architectura*, 1647; *Artis muniendi, sive Fortificationis*, 1644. 5 engraved additional part-titles in French (all dated 1662 except that for the *Perspectiva*, dated 1651); 270 double-page engraved plates and 47 double-page plates. Recently rebound to style in blind-stamped speckled calf, sides with central panel and four floral corner-pieces, gilt panelled spine with five half-raised bands, richly decorated in gilt, red morocco label lettered in gilt. Tear to one blank leaf repaired, very light trace of dampstaining in the upper margin of portions of the first and second parts, only occasionally and very lightly touching plates. Later library inscriptions to versos of some titles. A very good copy of a scarce book.

Marolois's great collection of geometrical and perspective plates was first published by Hondius at The Hague in 1614. It already included material that dated back to the beginning of the century: many of the 'scenographic' plates made for the *Perspective* of Jan Vredeman de Vries had been produced as early as 1604, and since then re-employed by Vredeman himself to illustrate new researches and studies on architecture. The comprehensive collection of essays and plates that Marolois (*c.* 1572–1627) put together soon became the greatest and most complete work on the principles and practice of architecture, which summarized all the recent, turn-of-the-century developments in design, complemented by a fresh and thorough textual explanation of the basic geometrical and mathematical principles involved. In the 1620s the French mathematician Albert Girard (1595–1632) undertook the ambitious editorial project of re-publishing Marolois's essays, with complementary integrations and corrections on which he had been working in his studies on trigonometry and engineering.

One of the most popular plates included in Marolois's work represents the well-known 'dog within a stretching grid'. It famously illustrates the 'false anamorphic' method whereby an image is framed by a grid, which then is stretched thus maintaining equal spacing and giving the illusion of anamorphical perspective. Marolois's book is rare, seldom mentioned in auction records or catalogues, and mostly to be found incomplete.

This edition not in *NUC*, which lists only editions of 1638 and 1644–7; cf. Graesse IV, p. 409 (on 1628 edition of *Perspectiva*); Cockle 821 (on the 1628 edition of *Fortificationis*).

146. *The only scientific work on thermometers before the nineteenth century*

MARTINE, George, *the younger*. Essays and Observations on the Construction and Graduation of Thermometers, and on the Heating and Cooling of Bodies ... The Third Edition. Edinburgh: Alexander Donaldson, 1780. £225

12mo (174 × 98 mm.), pp. vi, 177, [1]. Folding table (worm-hole to blank margin). A little darkened. Contemporary calf, spine with raised bands, red morocco label. Inscription in contemporary hand on front free endpaper, 'Creech, Edinbg. £,15. 1781, J E Smith.' An excellent copy.

Although called a third edition on the title page, the publication history of this book is a little more complicated. The first edition was titled *Essays Medical and Philosophical* in 1740, a work comprising six essays. The second edition of 1772, the title now changed to *Essays and Observations* (Norman 1447) consisted of only the third and sixth of those *Essays*, while this third edition is expanded by the reinstatement of the fourth and fifth essays, 'The comparison of different thermometers' and 'The heating and cooling of bodies'. The folding table is a comparison of 15 thermometric scales. This work by George Martine the younger

(1702-41), the Scottish physician who died of bilious fever in America as physician to the expedition against Carthagena under Admiral Vernon, is 'the first and only scientific treatise on the subject before the nineteenth century' (Norman), and was reprinted many times. The 1792 edition was published as a set-text to accompany Joseph Black's lectures.

Osler 3338 (1792 edition).

147. *A landmark in medical illustration*

MASCAGNI, Paulo. Vasorum Lymphaticorum Corporis Humani Historia et Ichnographia. Siena: Pazzini Carli, 1787. £4500

Large folio (558 × 418 mm.), pp. [ii], 138. 27 plates, 14 in outline, on thick paper, engraved dedication before title, engraved title vignette. Front free endpaper creased, engraved dedication and title spotted, some very minor spotting to margins of a few plates, but plates and text generally crisp, clean and fresh. Contemporary half calf, spine with raised bands, brown morocco label, gilt rules to compartments, marbled sides, paper chipped away at corners and upper left. Inscription in contemporary hand repeated on dedication, title, and above 'Prolegomena', p. 1, 'Ex-libris societatis regia medica edinensis'; ex-libris stamp of Edinburgh Medical Society on rear of each plate; librarian's notes *c.* 1830–40 on front pastedown. A very good copy, the plates exceptionally clean and fresh.

FIRST EDITION. Mascagni was appointed professor of anatomy at Siena at the age of 22, and presented his first work, *Prodrome*, to the French Academy of Sciences in Paris in 1784, which he followed with this present work. Four of the plates here (I, IV, VII, and XXII) had been published before in *Prodrome*. Mascagni was responsible for the discovery of half of the now known lymphatic vessels, *Vasorum Lymphaticorum* containing the results of his discoveries. This work brought Mascagni lasting fame and opened the way for developments in anatomy, physiology, and clinical medicine.

The atlas was drawn and engraved by Ciro Santi, after Mascagni persuaded him to move to Siena from Bologna. The engraved vignette on the title is also by Santi. Fourteen of these immaculately detailed plates are duplicated in outline, to allow more precise classification of individual vessels. This beautiful atlas succeeds both as a groundbreaking scientific work and also as a magnificent piece of anatomical art.

Garrison–Morton 1104; Waller 6295; Norman 1450; Choulant–Frank 315–16; Eales (Cole) I; 2037; NLM/Blake 291; *Heirs to Hippocrates* 1099.

148. *Human and animal tissues compared*

MASCAGNI, Paolo. Prodromo della Grande Anatomia. Opera Postuma ... Riveduta ed Illustrata da Tommaso Farnese. Milan: Batelli & Fanfani, 1821. £6500

3 vols. 8vo (221 × 142 mm.)& 4to atlas (220 × 167 mm.), 4 vols. in all. Engraved portrait frontispiece to volume I of text, 48 double-page engraved plates and double-page letterpress table mounted on guards in atlas volume. Occasional light spotting. Matching contemporary polished maroon calf-backed marbled boards, a little rubbed, spines slightly faded. A very good copy indeed.

SECOND EDITION, GREATLY IMPROVED AND ENLARGED from the first of 1819. The *Prodromo* is somewhat oddly named as it is not an introduction to Mascagni's *Anatomia* but a collection of his histological work collated and published after his death to benefit his family. The work deals with 'the textures of the different parts of the human body as compared with the texture of the organs of animals, and plants. It contains a great number of different figures, most of which were intended to illustrate Mascagni's view as to the vascular nature of the texture of the organs' (Choulant–Frank). The first edition, which was accompanied by only twenty plates, was edited by Francesco Antommarchi. 'In this second edition ... the arrangement of the text and the illustrations are more instructive and more appropriate. The representations are in quarto and are very accurately copied from the original plates ... Five of them were engraved by Antonio Rivelanti, thirty-four by Antonio Bernieri, one by Frei, while eight are without signature. The figures on the plates are arranged according to the anatomic subjects they represent. The first thirty-six plates pertain to the anatomy of

the human body, the following nine to that of animals, and the last three to the anatomy of plants. For practical purposes, this edition is to be preferred to that prepared by Antommarchi, on account of the better arrangement and the more convenient size' (*ibid.*).

Choulant–Frank pp. 316–318; *Heirs of Hippocrates* 1100; Wellcome IV p. 73.

149. *The Great Flattener*

MAUPERTUIS, [Pierre Louis Moreau] de. [The] Figure of the Earth, determined from Observations made by Order of the French King, at the Polar Circle: By Messrs. De Maupertuis, Camus, Clairault, Le Monnier, Members of the Royal Academy of Sciences; the Abbé Outhier, Correspondent of the Academy; and Mr Celsius, Professor of Astronomy at Upsal. Translated from the French ... London: for T. Cox, C. Davis, J. and P. Knapton, & A. Millar, 1738. £800

8vo (200 × 117 mm.), pp. vii, [i] errata, 232. Folding engraved map, 9 folding engraved plates, attractive engraved vignette headpiece, other sharp woodcut head- and tailpieces. Portion excised at head of title (with loss of the word 'The'), repair at fore-edge of title, head of p. [iii] stained. Contemporary English polished calf, corners bumped, joints cracked, head and tail of spine slightly damaged. Internally very clean and crisp.

FIRST ENGLISH EDITION, published the same year as the French *editio princeps*. Maupertuis was elected to the Royal Academy of Sciences in 1731 and was chosen to lead an expedition to Lapland to measure the degree of the meridian. The account of the expedition and the measurement of the arc (which took 16 months) is found here. These gave the first confirmation of Newton's prediction that the earth is flattened at the poles, a fatal blow to the Cassinian hypothesis. Maupertuis was a keen adherent to Newton's philosophy and one of his chief advocates in France. Although Voltaire had originally supported Maupertuis, they later fell out and Voltaire referred to him sarcastically as the '*grand aplatisseur*' (the great flattener).

Babson 95; Norman 1458; Sabin 46946.

150.

MAXWELL, James Clerk. A Treatise on Electricity and Magnetism. Oxford: Clarendon, 1873. £3750

2 vols., medium 8vo, pp. xxxii, errata slip, 425, [3] bl.; xxiv, 442, [2] bl., 15 adverts: no errata slip in vol. 2, unlike the Norman copy. Half titles, 21 lithograph plates. A couple of leaves in each volume springing. Uncut and unopened (except for contents of vol. 2) in publisher's maroon pebble grained cloth, blind ruled borders to sides, gilt lettering on spine, blind stamped 'Clarendon Press Series' emblem at centre of sides. Spines slightly faded. Turner Collection bookplates. A very good copy.

FIRST EDITION of Maxwell's theoretical thesis which prepared the ground for many of the major advances in twentieth-century physics. Maxwell was 'the greatest theoretical physicist of the nineteenth century ... Einstein equate[d] Faraday with Galileo and Maxwell with Newton' (*PMM*). Maxwell remarked that this *Treatise* was a way of organizing his thoughts to see how his thinking had progressed, which accounts for the loose historical and experimental arrangement of its contents, nevertheless proving a very fertile demonstration of the importance of electricity to physics. He began the investigation of moving frames of reference, later to inspire Einstein's revolution in physics; proved the existence of electromagnetic waves, paving the way for Hertz's discovery of radio waves; and drew connections between the electrical and optical qualities of bodies that would later lead to solid state physics.

This copy is of the second issue of the first edition, without the words 'just published' in the advertisement for this work on p. 10 of the publisher's catalogue.

Grolier/Horblit 72; Wheeler 1872; Norman 1467; *PMM* 355.

151. *The first publication of Mendeleev's Periodic Table of the Elements*

MENDELEEV, Dmitry Ivanovitch. Osnovy Khimii [Principles of Chemistry]. St. Petersburg: 1869–71. £30,000

8vo (175 × 113 mm.), pp. viii, 816; [ii], 951, [1]. Half-titles, wood engraved illustrations, folding letterpress table in vol. II. Dampstaining in both volumes, heavier in vol. I. Some scorings and marginalia in pencil, blue and red crayon throughout. Occasional inkstains, heavy stain on 26 1[v] of vol I. Final leaf of vol I torn and somewhat clumsily repaired obscuring a few lines of text. Title vol. II ink-stamped, small tear to folding table, first leaf of text in vol II torn with some loss to lower corner. Contemporary Russian brown quarter leather, gilt lettering, ruled in gilt and blind, cloth boards, a little rubbed. Signed on front free endpaper, Vladimir Antushev, 27 February 1877; later signature, 1903, on title of vol II. A good copy of a rare book.

FIRST EDITION of Mendeleev's principal work. After he was appointed to the chair of Chemistry at the University of St. Petersburg in October 1867, he found there was no suitable text-book to recommend to his students, so he set out to write his own, taking Gerhardt's theory of types as his starting point. Gerhardt grouped elements by valence in relation to oxygen. However, in his early chapters on alkali metals and specific heat, Mendeleev organized the halogens and alkali metals according to their atomic weight in order to show that, in spite of their valency, they had a contrary chemical relationship. He then had the crucial idea of arranging the several groups of elements in the order of atomic weights of all the elements and he was led on remarkably quickly to the formulation of the periodic law. His preface, dated March 1869, contains the first ever chart of the periodic table on the last page, though it was only on the first of March, as he was making ready to leave St. Petersburg for a trip to Kalinin, that Mendeleev had first realised how to group the elements according to the principle of atomicity. The table also appeared in the same year in a paper by Mendeleev in the Journal of the Russian Chemical Society.

Norman 1493 (German edition): cf. Dibner 48; Grolier/Horblit 74.

152.

MIZAULD, Antoine. Planetae, sive Planetarum Collegium. Paris: C. Guillard, 1553;

[*bound with:*] — De mundi sphaera seu cosmographia. Paris, 1553;

[*and with:*] — Phaenomena. Sive Aeriae Ephemerides. Paris: Regnault and Claude Chaudiere, 1546;

[*and with:*] — Explicatio, et usus Coelestis Ephemeridis. Paris: Jacob Kerver [1554]. £2000

4 works bound together, 8vo (160 × 106 mm.), pp. [48]; [xvi], 95, [1] bl.; [i], 73, [14], [1] bl.; [78]. Each work with woodcut printer's device, second work with numerous woodcut astronomical diagrams and figures in text. Uniform light browning. Contemporary limp vellum, ink title to spine and penned on bottom lower edge, ties lost. Small library label to front pastedown. An attractive collection in contemporary state.

FIRST EDITIONS of Mizauld's astrological and astronomical corpus. Antoine Mizauld (1510–78; variously latinized Mizaldus or Misauldus), the French astronomer and physician best known for his books on remedies and herbal secrets, established himself as one of the foremost authorities in Renaissance France. He was astrologer and physician to Marguerite de Valois, and a close friend of Oronce Finé. This collective volume contains all his works related to astronomy and astrology published between 1546 and the early 1550s. Astronomical details of the relationships between planets are illustrated in a rich figurative apparatus in *De Mundi Sphaera*, while hundreds of hexameters in the poem *Planetae* introduce astronomical matter in the style of the classical and post-classical erudite poem.

Graesse IV, 553; Brunet III, 1779. *Phaenomena*: Norman 1527.

153.

MIZAULD, Antoine. Ephemerides Aeris Perpetuae: Seu Popularis et Rustica Tempestatum Astrologia, ubique Terrarum et Vera, et Certa. Paris: Jacob Kerver, 1554. £800

8vo (mm.), pp. [i], 175. With woodcut initials and headpieces. Contemporary vellum, somewhat browned, some early repairs. Some early ink notes to endpapers, one dated 1622. A very attractive, unsophisticated copy.

FIRST SEPARATE EDITION of a classic Renaissance compendium of knowledge. Mizauld wrote one of the most popular French series of works in the genre of the books of secrets, which included treatises on medicine, herbs, horticulture, comets, and weather, as well as general astrology. The nature, dynamics, and effects of winds, storms, and earthquakes are at the centre of this treatise, which instructs the reader on how to recognize and interpret the signals of nature, and how to act to turn them into instruments for prosperity.

Adams M-1498; Brunet III, 1779; Gardner 805; Thorndike V, 299–301; not in Durling, unknown to Caillet.

154. *The dedication copy of the first bibliography of medical portraiture*

MOEHSEN, Johann Carl Wilhelm. Verzeichnis einer Samlung von Bildnissen, gröstentheils berühmter Aertze ... die so wohl zur Geschichte der Arzeneygelahrtheit, als vornehmlich zur Geschichte der Künste gehören ... Mit Vignetten. Berlin: Friedrich Wilhelm Birnstiel, 1771. £2500

4to (281 × 220 mm.), pp, [xii], [3]–243, [2], 240. 9 large engraved vignette headpieces by J. W. Meil after C. B. Rode. Bound for the dedicatee Johann Jobst, Baron von Buddenbrock, in contemporary red morocco, covers panelled in gilt and with central ovals containing the dedicatee's arms in gilt, spine richly gilt in compartments, spine and joints expertly repaired, gilt inner dentelles, highly coloured bunt-papier endpapers, all edges gilt. An excellent copy on large and thick paper.

FIRST AND ONLY EDITION, THE DEDICATION COPY ON LARGE AND THICK PAPER, OF THE EARLIEST BIBLIOGRAPHY OF MEDICAL PORTRAITURE. The work is a descriptive catalogue of portraits of physicians. It 'contains very valuable reports on artistic anatomy and the history of anatomic illustration ... Very accurate and conscientious research work is characteristic of this book, as of all Moehsen's works' (Choulant–Frank, p. 351). Moehsen was one of a handful of eighteenth-century medical historians whose works have found a lasting place in the literature of the genre.

Garrison–Morton 6604.90.

155.

MONRO, Alexander, *secundus*. A Description of the Bursae Mucosae of the Human Body; their Structure explained, and compared with that of the Capsular Ligaments of the Joints, and of those Sacs which line the Cavities of the Thorax and Abdomen; with remarks on the Accidents and Diseases which affect those several Sacs, and on the Operations necessary for their cure. Illustrated with Tables. Edinburgh: For C. Elliott, T. Kay and Charles Elliott, 1788. £3300

Folio (482 × 285 mm.), pp. 62. 10 finely engraved plates (5 folded, 4 made up from more than one sheet), a few small clean marginal tears, outer edge of top section of plate V strengthened. Clean tears at inner margins of title and following leaf neatly repaired, some light spotting. Rebound in modern calf-backed marbled boards, spine with red leather label. A good copy.

FIRST EDITION. 'The first serious study of this subject and the most original anatomical work by the greatest of the Monro dynasty' (Garrison–Morton). 'This classic work contains the first full anatomical description of the sacs between the tendons and bones which Albinus had named the bursae mucosae. They are illustrated on ten plates which for explicit clarity and accuracy have not been improved upon' (*Heirs of Hippocrates*). Of these plates, four are particularly remarkable for having life-sized

representations of the arm and leg bones — from finger and toe-tip to shoulder and hip bone. Each of these is constructed from two sheets and as a result, some copies of the work are found with the plates in two parts, and others incomplete.

Garrison–Morton 399.2; *Heirs of Hippocrates* 1011; NLM/Blake p. 309; Russell 613; Wellcome IV p. 156.

156.

MOREWOOD, Samuel. A Philosophical and Statistical History of the Inventions and Customs of Ancient and Modern Nations in the Manufacture and Use of Inebriating Liquors ... together with an extensive illustration of the Consumption and Effects of Opium, and other stimulants used in the East. Dublin: William Curry Junior and Company, and William Carson, 1838. £450

Demy 8vo, pp. [ii], xii, 745, [3]. Engraved frontispiece by Caroline Clayton after E. L. Percy. Contemporary brown cloth, spine stamped and lettered in gilt. Upper joint cracked but holding, corners bumped, some light spotting. A good copy.

SECOND, MUCH ENLARGED EDITION of a hugely successful book on wines, spirits, and other alcoholic drinks first published in 1824. Morewood's unprecedentedly comprehensive history of the production and use of all 'Inebriating Liquors' extended the usual scope of such studies from Europe to the Far East, and became the authoratitive reference book on the subject. Morewood also includes information on the general use of opium and other exhilarating substances. Morewood states that opium's 'Muslim origins' may date from the mandate of the Prophet forbidding wine. A good portion is dedicated to the liquors used by the British and Irish populations in pre-Roman times (a curmi made from barley), and to the production of ale or beer among the ancient Britons and other Celtic nations: 'The grain was steeped in water and made to germinate, by which its spirits were excited and set at liberty; and it was then dried and ground; after which it was infused in a certain quantity of water, and being fermented, it became a pleasant, warming, strengthening and intoxicating beverage' (p. 530).

157. *Presentation to William Cullen of the first American book on medical education*

MORGAN, John. A Discourse upon the Institution of Medical Schools in America; Delivered at a Publick Anniversary Commencement, held in the College of Philadelphia, May 30 and 31, 1765. With a Preface Containing, amongst other things, the Author's Apology for attempting to introduce the regular mode of practising Physic in Philadelphia ... Philadelphia: William Bradford, 1765. £10,000

8vo (183 × 118 mm.), pp. vii, [i], xxvi, [2] index, 63. Typographical head pieces and initials. Contemporary calf, later rebacked to style, gilt rules and lettering on spine. Corners and edges worn with some loss, Inscribed on front pastedown 'for Dr. Cullen Professor of Chymistry at Edinburgh from the author'. Armorial bookplate of William Pepper on rear pastedown. A good copy.

FIRST EDITION, PRESENTATION COPY, OF THE FIRST BOOK PUBLISHED IN AMERICA ON MEDICAL EDUCATION. The book was written in Paris, while Morgan was studying in Europe before his return to the States in 1765. He received his M.D. in Edinburgh, and was elected a fellow of the Royal Society. It was while in Edinburgh that he would have met the famous Dr Cullen to whom the book is inscribed. Dr William Cullen (1710–1790) was professor of chemistry at Edinburgh and a leading teacher of, and writer on, medicine (Hunter being one of his pupils).

Upon his return to the States, Morgan proposed the establishment of a medical school in Philadelphia. The proposal was agreed and he was appointed the first professor of the theory and practice of medicine in the United States. The present treatise was delivered as the inaugural address to the college in May 1765.

NLM/Blake p. 132; Norman 1549; Garrison–Morton 1766.500; Osler 3454; Waller 6682 (1937 reprint); *Heirs of Hippocrates* 1019; Sabin 50650.

158.

MORLEY, William H. Description of a Planispheric Astrolabe constructed for Shah Sultan Husain Safawi, King of Persia, and now preserved in the British Museum; comprising an Account of the Astrolabe generally, with Notes Illustrative and Explanatory: to which are added, concise notices of twelve other Astrolabes, Eastern and European, hitherto undescribed. London: Williams and Norgate, 1856. £6800

Elephant folio (665 × 505 mm.), pp. vi, 49, [1] addenda. 21 plates. Expert repairs to title page, fore-edges of pp. ii–28, and to lower corner from p. 45 onwards, plates xvii–xxi have further repairs at head and fore-edge, small waterstain on top edge from plate viii onwards, all these repairs and faults being marginal, not affecting image. Recent black half cloth with light green paper sides, original printed paper wrapper laid down on upper side, printed in black, with author and title repeated from title page, two black cloth fore-edge ties. A well kept, expertly repaired copy.

SCARCE FIRST EDITION of an erudite work on an eighteenth-century astrolabe made for the King of Persia. Only 100 copies were printed. The instrument in question was probably smuggled from Isfahan by the Jesuit Krusinski on his return to England and is described by the author as 'perhaps the most beautiful specimen of the astrolabe ever constructed'. The astrolabe is a two-dimensional map of the three-dimensional heavens; it is also an analogue computer enabling the user to calculate the position of stars at any given time. Although use of it in the west died out in the seventeenth century, it continued to be used in Islamic countries until recently.

The book is also of interest on account of its method of production. The magnificent plates were printed by Joseph Appel of Soho, inventor of the Anastatic Method, which was able to render very faithfully the incredibly precise detail of the astrolabe, even down to showing scratches on its surface. The Prefatory Note describes the Anastatic process, the success of which was due to the use of very thin paper, and the limpid nature of the ink used as opposed to the viscous ink used in lithography.

159.

MÜLLER, Johannes Peter, *ed.* Archiv für Anatomie, Physiologie und Wissenschaftliche Medicin, in Verbindung mit Meheren Gelehrten. Berlin: Veit, 1858. £300

8vo (223 × 138 mm.), pp. iv, 649, 1 corrigenda, [2] bl. 24 folding lithographic plates by Wagenschieber after Claparde. Some light foxing to plates and light waterstaining to text. Uncut in later grey wrappers. Norman's bookplate to verso of front cover. A very good copy.

After the death of J. F. Meckel in 1833, the prestigious Berlin scientific journal *Archiv für Anatomie und Physiologie* was edited by one of the most illustrious natural philosophers of the nineteenth century. Müller, the son of a shoemaker, became the most celebrated physiologist and comparative anatomist of his day when he published his groundbreaking *Handbuch der Physiologie des Menschen* between 1834 and 1840. A pioneer of the experimental method in medicine, Müller explored many issues in physiology, evolution, and comparative anatomy, maintaining an uncommonly high level of output over more than twenty years. This issue of the *Archiv* was the last produced under his supervision (he died in the same year). It contains contributions on comparative and human anatomy and physiology, embryology, and on the sensory and nervous system. One of the articles here, 'Geschichtliche und kritische Bemerkungen ber Zoophyten und Strahltiere', is the last contribution in the physiology and anatomy of animals produced by Müller.

160.

NAPIER, John. Logarithmorum Canonis Descriptio seu Arithmeticarum Supputationum Mirabilis Abbreviatio. Eiusque usus inutraque Trigonometria, ut etiam in omni Logistica Mathematica, amplissimi, facillimi & expeditissimi explicatio ... Sequitur Tabula Canonis Logarithmorum seu Arithmeticarum Supputationum. S'ensuit l'Indice du

Canon des Logarithmes ... Mirifici Logarithmorum Canonis Constructio; et eorum ad naturales ipsorum numeros habitudines. Lyons: Bartholomeus Vincentius, 1620. £3750

Small 4to (195 × 127 mm.), in three parts, pp. [8], 56; [92]; 62, [2] bl. First title printed in red and black, with printers device, all within double-ruled borders, woodcut head- and tailpieces, initials, diagrams, logarithmic tables. Early limp vellum, spine sometime re-tinted with a grey wash with subsequent neat manuscript title and shelfmark. Spine slightly soiled, head of spine a little chipped, occasional light browning and spotting, early inscription to first title ('Colegij Soc[ietat]is Jesu Monachij. 1624') and small blind-stamp of Gilberto Govi. A very good copy.

SECOND EDITION OF THE *CONSTRUCTIO* AND *DESCRIPTIO* TOGETHER, THE FIRST CONTINENTAL EDITION OF ALL THREE PARTS, based on the Edinburgh edition of 1619. The *Descriptio* contains an account of the invention of the logarithms, while the *Constructio* explains the method of their calculation. The three parts of this Lyons edition are not always found together. This copy originally belonged to a Jesuit college, and subsequently formed part of the celebrated collection of Gilberto Govi (1826–1889), Professor of Physics at the University of Naples, whose library was sold largely by Henry Sotheran & Co. This copy was item 667 in their catalogue 66 issued in 1919.

Brunet IV, 39; Honeyman 2292.

161. *Contemporary red morocco, perhaps for presentation*

[NEWTON, Isaac.] Opticks: or, a Treatise of the Reflexions, Refractions, Inflexions and Colours of Light. Also Two Treatises of the Species and Magnitude of Curvilinear Figures. London: for Sam. Smith, and Benj. Walford, 1704. £68,000

4to (241 × 185 mm.), pp. [4], 144; 211, [1]; in two parts. 19 folding engraved plates (5 plates trimmed, just touching image), title-page printed in red and black. Contemporary English full red morocco, sides double panelled with corner fleurons, spine gilt with cornerpieces and central fleuron in each panel, head of upper joint skilfully restored. Contemporary engraved bookplate with lion and dolphin crests, later ticket of Macmillan & Bowes, Cambridge. Preserved in a modern morocco-backed box. A superb copy of a work exceptionally rare in contemporary morocco.

FIRST EDITION, AN EXCEPTIONAL COPY IN A CONTEMPORARY RED MOROCCO BINDING. As in the case of the *Principia*, unrestored copies of the *Opticks* are almost always found only in straightforward English calf or sheep (or vellum in the case of the continental issue of the *Principia*), reflecting their largely academic readership. The existence of this (and perhaps one or two others) in contemporary morocco suggests that Newton may have had a very few copies bound by the publisher for presentation, just as he appears to have done for the *Principia*. While it has not yet been possible to identify the owner of the lion and dolphin crests which appear on the early engraved bookplate, these may provide the identity of a recipient.

Just as the *Principia* had placed the study of gravity on a scientific basis, so the *Opticks* provided the scientific framework for the study of optics, collecting together all of his important researches for the first time, as well as enunciating his corpuscular theory of light and examining the phenomenon of the rainbow. Unusually for one of Newton's works, *Opticks* was first published in English, the Latin version following in 1706. Newton clearly envisaged a wider readership for this work than he had intended for the fiercely complex *Principia.* Newton had written most of the work as early as 1676 but Robert Hooke's criticisms of it induced him to delay publication until after Hooke's death in 1703. The book was originally issued anonymously, with only the initials 'I. N.' at the end of the advertisements to indicate its author; a later edition published the same year has his name on the title, but omits the two treatises on curvilinear figures in Latin, written to establish his priority over Leibniz in the invention of the calculus, and which were printed in the *Opticks* for the first time.

Babson 132; Gray 174; Wallis 174; Dibner 148; Grolier/Horblit 79b; *PMM* 172; Norman 1588.

162.

NEWTON, *Sir* Isaac. Philosophiae Naturalis Principia Mathematica ... Editio tertia aucta & emendata. London: G. & J. Innys, 1726. £8000

4to (242 × 190 mm.), pp. [xxxiv] including the Royal privilege leaf and integral blank, 530, [6] index, [2] adverts, title in red and black. Engraved frontispiece portrait, engraved illustration on p. 506, woodcut diagrams within the text. Some upper margins dust-soiled, light soiling on a few pages. Contemporary calf, rebacked, rubbed, corners bumped. Ownership inscription (dated 1788) of John Bull (of Inworth) on recto of half-title, title, and dedication leaf, and with his armorial bookplate on front pastedown. A good copy.

DEFINITIVE THIRD EDITION OF WHAT IS PROBABLY THE MOST FAMOUS BOOK IN THE HISTORY OF SCIENCE, containing the final text, edited by Henry Pemberton and by Newton himself, in the form that Newton himself approved. It contains a new preface by Newton, together with extensive alterations (the most notable being to the *scholium* on fluxions) and additions such as a new section on the motion of the moon's nodes. This edition is the first to contain the excellent engraved portrait of Newton by Vertue after Vanderbank. This copy is relatively unusual in having both the Royal privilege leaf and the leaf of advertisements for Innys's books; few copies have both. The Royal privilege leaf and its integral blank are bound after the half-title and before the portrait, the advertisement leaf at the end.

Babson 13; Wallis II.9.

163.

NEWTON, *Sir* Isaac. Two treatises of the quadrature of curves, and analysis by equations of an infinite number of terms, explained: containing the treatises themselves, translated into English, with a large commentary ... by John Stewart. London: J. Bettenham at the expence of the Society for the Encouragement of Learning; sold by J. Nourse and J. Whiston, 1745. £5800

4to (262 × 198 mm.), pp. xxxii, 479, [5]. Numerous woodcut diagrams, engraved tailpieces by Vertue after William Kent, inserted nineteenth-century engraved portrait of the author facing title. Modern crimson morocco by Marc Olliver, gilt triple fillets with floral cornerpieces to sides, gilt panelled spine with five half-raised bands, green morocco label lettered in gilt, inner dentelles filleted, inner dentelles decorated in gilt. From the Cardinal Hayes Library, Manhattan College, New York, with library stamps in blind, and from the collection of Arnaud de Vitry with his printed ex-libris leaf inserted.

FIRST EDITION THUS. One of the most popular of Newton's mathematical texts, here in its second English translation, dedicated to the Duke of Leeds and printed in 350 copies. Newton's treatises had first appeared as a discretely-paginated supplement to the *Opticks* in 1704 which was retained in the Latin edition of 1706 and then dropped from all further editions. A first English translation was produced by John Harris, who included it in the second volume of his *Lexicon technicum*. The manuscript of 1691–92 with the first draft of the treatises contains the first use of Newton's dotted fluxional notation, and the Latin version of 1704 contains the first published statement of the binomial theorem.

Babson 210; Gray 303; Wallis 303.

164. *The only extensive eight-figure table of trigonometrical logarithms ever published*

NEWTON, John. Trigonometria Britanica [*sic*]; or The Doctrines of Triangles, In Two Books. The first of which sheweth the construction of the Naturall and Artificiall Sines, Tangents and Secants, and Table of Logarithms: with their use in ordinary Questions of Arithemetick, Extraction of Roots, in finding the Increase and Rebate of Money and Annuities, at any Rate or Time propounded. The Other, the use or application of the Canon of Artificiall Sines, Tangents and Logarithms ... The one Composed, the other Translated, from the latine Copie written by Henry Gellibrand ... A Table of Logarithms to 100,000 thereto annexed, With the Artificial Sines and Tangents, to the

hundred part of every Degree; and the three first Degrees to a thousand parts. London: Printed by R. & W. Leybourn, 1658. £4500

Folio (303 × 209 mm.), pp. [8], 96, [308]. Woodcut head- and tailpieces, initials, diagrams, numerous tables. Contemporary calf, sides with blind-tooled double-fillet borders, sometime rebacked. Binding rubbed, a few early annotations, some underlining to title, early inscription of Jo[hn] Crewe, later bookplate of C. W. Turner and the University of Keele. A good copy.

FIRST EDITION. The *Trigonometria Britanica* of John Newton (1622–1678) is based on the similarly-titled work by Henry Briggs published in 1633 (item 39 below). The first part of Newton's work is original; the second part is an English translation of Gellibrand's additions to Briggs's work. Newton's book contains the only extensive eight-figure table of trigonometrical logarithms that has ever been published. It is also remarkable on account of the logarithms of the differences, instead of the differences, being given.

Wing N1072.

165. *The clearest and most succinct explanation of common logarithms to date*

NORWOOD, Richard. Trigonometrie. Or, The Doctrine of Triangles: Divided into two Bookes: The first shewing the mensuration of Right lined Triangles: the second of Sphericall: With the grounds and demonstrations thereof Both performed by that late and excellent invention of Logarithmes, after a more easie and compendious manner, than hath beene formerly taught. Whereunto is annexed (chiefly for the use of Seamen,) A Treatise of the application thereof in the three principall kindes of sailing. With certain necessary Tables used in Navigation. London: by William Jones, 1631. £7500

Small 4to (183 × 140 mm.), pp. [7], [1] blank, 39, [1] bl., 129, [17], [2] blank; [76] 'Chilias' with fly-title and final errata leaf, [89] 'Triangular Canon'. Numerous woodcut diagrams in text, 3 sets of tables. Title a little dusty and just frayed at fore-edge margin, marginal paperflaws in sig. B8 not affecting text. Rebound to style in plain calf, double blind rules, spine lettered in gilt. A good copy.

FIRST EDITION of this important mariner's guide, which, in the opinion of Waters, contains 'the clearest and most succinct explanation of the nature and manifold uses of common logarithms published to date' (p. 480). Richard Norwood, described in the title as 'Reader of the Mathematicks in London', gives the first accurate guide to sailing in the middle latitudes, employing the England–Bermuda route to illustrate his methods (Norwood made the first survey of the Bermudas in voyages of 1616–1622 and eventually retired there.) The *Trigonometrie* is a comprehensive account of how to apply logarithms to plane and spherical trigonometry and problems of navigation, with the latter including original and successful solutions to difficulties using plane and Mercator charts. As Waters has noted, the first chart of the Atlantic engraved on a Mercator's projection had only recently appeared in print.

There are two states of the first edition. According to the preface, there was both a delay in publication and unauthorized access to Norwood's galleys at the printer, and some of his pioneering logarithmic work may have appeared earlier in Wingate's *Arithmetique*. Norwood's response to this alleged plagiarism, and probably also the general uncertainty involved in the ownership of ideas publicly expressed, prompted him to change a portion of his text while the *Trigonometrie* was midway through the press, expanding his explanatory 'Advertisement to the Reader'. The errata were originally printed on the verso of leaf [&4], but in this corrected state sheets R–&^{4} were reset to allow the expanded 'Advertisement', with the errata now appearing on [*]1^v. Sig. [*]$_2$ is a blank.

STC 18692; Taylor, *Mathematical Practitioners of Tudor and Stuart England*, 149; Waters, *Art of Navigation*, pp. 480–82.

166. *Presentation to John Stuart Mill*

OWEN, *Sir* F. Richard. On the extent and aims of a National Museum of Natural History. London: Saunders, Otley and Co., 1862. £500

8vo (222 × 140 mm.), pp. [iv], 126. 2 folding engraved plates. Contemporary purple cloth. Spine rather worn and lower corners bumped, some abrasions to cover, but clean inside. Inscription by the author to John S. Mill on verso of front fly-leaf; Haskell F. Norman bookplate on front pastedown. A good copy.

FIRST EDITION, PRESENTATION COPY TO JOHN STUART MILL, of Owen's essay in furtherance of his campaign to transform the Natural History departments of the British Museum into a wholly separate and independent museum. Owen's career had started in 1826 with his appointment as assistant curator to the Hunterian Collection of 13,000 human and animal anatomical specimens which had been passed by the Crown to the Royal College, with the stipulation that it be made available to the public by the founding of a museum. By 1830 Owen had labelled and identified every specimen and was publishing a catalogue, finding fame as a prominent scholar of comparative anatomy. In 1837 Owen held the first series of his popular Hunterian Lectures, attended by royalty and all the most active contemporary intellectuals and scientists, including Charles Darwin. Some of the specimens of fossils that Darwin had brought to England were then described and classified by Owen.

The cause espoused in this work culminated in the construction, beginning in 1873, of a new building in South Kensington designed to house the new museum. Owen had submitted an initial report to the trustees of the British museum in 1859, which was subsequently printed among the parliamentary papers of that year. The plan was initially opposed, and Owen embarked on a persuasive campaign in its favour, giving lectures and issuing pamphlets. He famously enlisted the sympathies of Gladstone, and his inscription of the present work to J. S. Mill was a further attempt to secure favour among the influential thinkers of the day. The museum finally opened in 1881, and in 1963 was made fully independent from the British Museum and renamed the Natural History Museum.

Norman 1626.

167.

PARÉ, Ambroise. Opera Chirurgica ... a Docto Viro, Plerisque Locis Recognita: & latinate donata. Iacobi Guillemaeu ... Omnia nunc Demum Magno Studio Elimata: et novis iconibus elegantissimis illustrata. Frankfurt: Johann Feyrabend, for Peter Fischer, 1594;

[*bound with:*] MONTE, Giovanni Battista da. Consultationes Medicae ... Olim quidem Joannis Cratonis ... opera atque studio correctae, ampliataeque: nunc vero post secundae editionis appendicem & additiones, insigni novorum consiliorum auctario ex Ludovici Demoulini Rochefortii ... codicibus exomatae ... [?Basel:] 1583. £6750

2 works bound in one vol., folio (333 × 204 mm.), pp. [xii], 851, [1] bl., [24] index, [1] imprint, [3] bl.; [xii], 1120 coll., [30] index, [2] blank, 138 coll. (wrongly numbered 137), [6] index, [1] bl. Paré: large printer's device on title and colophon, 3 woodcut portraits, 315 woodcut illustrations in the text. Monte: woodcut portrait in medallion to title, several woodcut initial and head-pieces. Foot of second leaf torn away with loss of portion of last two lines either side. Contemporary pigskin over wooden boards, elaborately blind-stamped in Renaissance-style panels featuring series of interlocking rings and palmettes, small medallions with portraits of humanists, the initials 'M M A S' and date '1595' in undecorated panels, spine with raised bands and lettering in ink within top compartment. Ownership inscription of Carol Andreas Voissing(?) dated 1702 at foot of front free endpaper, several sixteenth-century pen annotations in ink within text.

THIRD, NEWLY ILLUSTRATED LATIN EDITION of Paré's works. Edited by Paré's famous pupil Jacques Guillemeau, this edition contained new illustrations that had not appeared in the first Latin of 1682. Paré, considered to have been the father of modern surgery, started what became a glorious career as a military surgeon, at the time a humble profession assimilated to that of barbers, requiring no knowledge of Latin. His successes on the battlefields turned him into a legend in his own time. 'Probably his best known innovations were his discarding the use of boiling oil in gunshot wounds and the reintroduction of simple ligature instead of red hot cautery after amputation. He invented many surgical and dental instruments and was especially adept at devising ingenious artificial limbs' (*Heirs of Hippocrates* 271). His works became so

popular among military surgeons all over Europe that they were immediately translated in many languages. Henri II of France created him member of the learned 'St. Cosma' circle of doctors, thus endorsing a new perception of surgery as a fully dignified branch of medicine. Many of Paré's celebrated inventions are beautifully depicted in this Frankfurt edition.

Giovanni Battista da Monte's text is one of the several re-issues of the 1565 Basel edition, which in 1572 was increased with an appendix: new material was added to the *Consilia*, and the index was compiled in greater detail. Da Monte, called 'the second Galen' for his key role as a doctor and a humanist in the revival of Greek medical classics, was a fellow student of Vesalius at Padua. 'His practical instructions to students mark the beginning of clinical instruction in which he instituted bedside teaching, one of his most notable achievements' (*Heirs of Hippocrates* p. 81). Many of the consultations are on the eye, and on catarrh and pulmonary diseases.

The red and black notes penned in the margins through the volumes are written in Latin, with occasional names and titles in Greek. Frequent learned references to other passages or other medical books are made, together with comments and a short list of notable topics.

Paré: Doe 48 (p. 161); Bird 1816; *Heirs of Hippocrates* 272; NLM/Durling 3532; Waller 7176. Monte: *Heirs of Hippocrates* p. 81

168.

PARÉ, Ambroise. Les Oeuvres ... corrigées et augmentées par luy-mesme peu au paravant son decés. Divisées en vingt-neuf livres. Avec les figures & portraicts, tant de l'anatomie que des instruments de chirurgie & de plusieurs monstres. Septiesme Edition. Paris: Nicolas Buon, 1614. £2500

Folio (349 × 222 mm.), pp. [xvii], 1228, [2] blank, [114] index. Woodcut illustrations to text, woodcut decorative initials. Without portrait, often missing. Some unobtrusive dampstaining to lower margin of first few quires, and to outer and lower margins of quires containing index. Contemporary calf, rebacked, sides ruled in blind, corners bumped and repaired. Ownership inscription to first blank leaf, 'Fran. St. John'. Small library stamp to front pastedown of Kimbolton Castle.

One of the last grand Parisian editions of a classic of medicine.

Doe 35; NLM/Krivatsky 8592.

169. *First edition in English*

PARÉ, Ambroise. Workes of that famous Chirurgion Ambrose Parey. Translated out of Lattine and compared with the French, by Tho. Johnson. London: Thomas Cotes and R. Young, 1634. £14,000

Folio (327 × 203 mm.), pp. [xiv], 1099 (misnumbered 1173), [22] index. Ff. C_{1-2} (the dedication, often missing) supplied from another copy. Engraved title-page incorporating portrait of the author by Thomas Cecill, 323 woodcut illustrations to text, many decorative and historiated headpieces, tailpieces, and initials. Fore and lower margin of title reinforced with old paper, small portions of fore-edge margin missing, lower corner of $4S_2$ and $5H_5$ torn away without loss of text, short tear to F_2 and Cc_2 repaired without loss, woodcut on p. 65 slightly shaved, minor dampstaining or light spotting. Contemporary calf, rebacked, sides ruled in blind, three corners restored, wanting clasp and catch. Bookplate of the Gloddaeth Library to front pastedown. A very good copy.

FIRST EDITION IN ENGLISH of Paré's collected works. The most comprehensive and influential work on surgical topics published in England up to the time, Paré's English edition was mostly based on the first Latin of 1582, apart from the *Apologie and treatise*, which was translated directly from the French. The 29 books deal diffusely with all sorts of medical issues. General parts on anatomy and surgery give way to specialistic chapters on tumours, contusions, gangrene, and other maladies affecting various parts of the body, like 'gout, smallpox, measels, wormes, leprosie, poisoning, and plague'. Several chapters are devoted to 'the arts to repaire those things which are defective, either by nature or accident', for which Paré, 'especially adept at devising ingenious artificial limbs' (*Heir of Hippocrates*), became famous. The translator Thomas Johnson has been identified with the editor of Gerard's *Herbal* of 1633 (Osler).

More recent studies tend to confirm Johnson's contribution in the sections on monsters, toxicology, medicaments, and post mortem reports, while attributing the surgical parts to George Baker, surgeon to Queen Elizabeth (Doe). This copy contains two leaves from the presumed earliest state of the dedication, to Sir Edward Herbert and 'To the Reader'.

Doe 51; Norman 1640; Russell 646; Osler 662; NLM/Krivatsy 8603; Wellcome 4825; *STC* 19189.

170. *The most comprehensive single source for contemporary English gardening*

PARKINSON, John. Paradisi In Sole Paradisus Terrestris. Or a Garden of all sorts of pleasant flowers which our English ayre will permitt to be noursed: with A Kitchen garden of all manner of herbs, rootes, & fruites, for meate or sause used ... and An Orchard of all sorte of fruitbearing Trees and Shrubbes fit for our Land together with the right orderinge planting & preserving of them and their uses & vertues. London: Humfrey Lownes and Robert Young, 1629. £9500

Folio (330 × 209 mm.), pp. [x], 612, [14]. 109 full-page woodcuts, each with numerous figures of plants and garden designs, by Switzer mostly after Clusius and Lobel, woodcut title with scene of Adam and Eve in the Garden of Eden featuring the legendary Vegetable Lamb growing on a stalk, all within a large medallion framed by figures of flowers and personifications of winds, signed 'A. Switzer', woodcut portrait of the author on $**6^{v}$, 3 small woodcuts to text, woodcut head- and tailpieces and initials. Ink markings affecting woodcut in V_3^{r}, neatly repaired tear to $3E_1$, blank corner of $2Z_2$ torn away, a few other small marginal tears. Contemporary English calf, sides with blind-ruled double border, board edges ruled in gilt, panelled spine with six raised bands and gilt compartments with crowned fleuron tool, morocco label, lettered and filleted in gilt. Expert repair to joints, head and foot of spine restored, corners a little bumped, joints and extremities somewhat worn. Bookplates of William Charles de Meuron, Earl Fitzwilliam, and Mittie Arnold. An exceptionally good, crisp copy.

FIRST EDITION of the earliest important English work on horticulture, the first to devote separate sections to descriptions of flower gardens, vegetable gardens and orchards. Parkinson (the Latin form of his name gives rise to the pun in the title), apothecary and botanist to James I, was also renowned for his extraordinary garden in Long Acre, which featured a wealth of rare vegetable species and formed the principal source for this comprehensive work. The book was intended as a pragmatic garden manual offering detailed information about horticulture, husbandry, and garden design to the contemporary reader. With its detailed descriptions of nearly a thousand plants and its rich collection of beautiful illustrations, it earned Parkinson wide fame and a solemn appointment as 'Botanicus Regius Primarius' to Charles I in 1629. The frequent learned references to contemporary gardeners and botanists, with whom Parkinson had often developed close friendship, make of this book the most comprehensive single source of information on seventeenth-century English gardening.

Hunt 215; Nissen BBI 1489; Pritzel 6933; *STC* 19300.

171. *The first computer manual?*

PASCAL, Blaise. Oeuvres ... The Hague: Detune Libraire, 1779. £2000

5 vols., 8vo (202 × 125 mm.). Engraved portrait of the author by L. N. Quesnel, 14 folding engraved plates, titles printed in red and black, woodcut title vignettes. Small tear to margin of plate 1 not affecting image, plate 8 shaved along head affecting heading, plate 12 creased; internally crisp and clean. Contemporary olive half roan, mottled paper sides, spine ruled and lettered in gilt. A little rubbed in places. Armorial bookplate of Bibliotheque du Chateau de Louppy with their inkstamp on each title. A very good attractive set.

FIRST COLLECTED EDITION. Edited by Charles Bossut, this edition includes Pascal's very rare tract describing his calculating machine, a device generally considered to be the starting point of computer technology: the protocomputer. The *Lettre Dédicatoire a Monseigneur le Chancelier, Sur le sujet de la Machine nouvellement* was first published in 1645. Bossut brought this letter together for the first time with Pascal's letter describing the machine to Queen Christina of Sweden, and also Diderot's description for the *Encyclopédie*, along with two engraved plates of the machine (plates 2 and 3,

volume IV). It has been argued that by collecting together these disparate pieces Bossut created the first computer manual.

The diligent scholarship of the editor ensured that this edition was not superseded until the twentieth century. Bossut re-ordered into the correct sequence Pascal's pseudonymous *Lettres de A. Dettonville*; returning it to its rightful place aided comprehension of Pascal's theories of indivisibles. Volume IV contains more previously unpublished material including *Response au P. Nöel*, 1647; *Lettre a M. le Pailleur*, 1648; *Replique a M. de Ribeyre*, 1651; and *Celeberrimae Matheseos Academiae Parisiensi*, 1666.

Poggendorff II, 370; Tchemerzine IX, 78.

172.

PATERSON, James. The Scots Arithmetician or Arithmetick, in all its Parts, Arithmetick, Vulgar or Decimal, Algebraic or Analytical, Sexagenary or Circular, Logarithmic or Artificial, Instrumental or Mechanical. Edinburgh: Joshua van Solingen & John Colmar, for James Brown & Andrew Man, 1685.
£1850

8vo (142 × 87 mm.), pp. [xvi], 144. Engraved headpieces, tables throughout. Contemporary sheep, rather worn with some simple repairs, endpapers sometime renewed. A little light duststaining and browning, shoulder notes just trimmed in one or two places, but a happy survival and a good unsophisticated copy of this very scarce Scottish work.

FIRST AND ONLY EDITION of this rare popular primer in arithmetic, which combines detailed instruction with lists of definitions, axioms, advertisements, and testimonials for doctors, and an acrostic based on the author's name in the preface. James Paterson was the author of several Edinburgh almanacks and evidently acted also as a bookseller.

Wing locates four copies only of this work: BL; National Library of Scotland; Clarke Library, UCLA; and the Library Company of Philadelphia. No copy has appeared at auction in the past 25 years according to *ABPC*.

Wing P686; Aldiss 2566.

173.

PEMBERTON, Oliver. Clinical Illustrations of Various Forms of Cancer, and of other Diseases likely to be Mistaken for them, with especial reference to their Surgical Treatment. London: Longmans, Green, Reader, and Dyer, 1867.
£275

Imperial 4to, pp. [ix], 128, [2] blank, [8]. 12 plates (11 lithographed, one chromolithographed and finished by hand), all with small dampstain to extreme lower outer corner of leaf, 27 engraved illustrations within the text. Light marginal browning. Original maroon sand-grain cloth, covers ruled and decorated in blind, lower cover considerably dampstained, upper cover lettered in gilt, corners frayed, spine bumped and a little faded, spine lettered in gilt. A fine clean copy internally, entirely uncut. From the Wheeler–Butcher collection of the Royal College of Surgeons of Ireland, with bookplate on front pastedown.

FIRST EDITION. Pemberton's examples are taken from his practice as surgeon at the Royal Hospital in Birmingham. With the use of his case histories he explains the prognosis and cure (if any there were) of seventeen different cancers. He also explains some other growths and ulcers and gives advice on how to distinguish benign from malignant growths. The illustrations were made under Pemberton's supervision in order to ensure accuracy, and they leave little to the imagination.

174. *The mathematics of illusory symmetry*

PENNETHORNE, John. The Geometry and Optics of Ancient Architecture. Illustrated by Examples from Thebes, Athens and Rome ... assisted in the drawing and colouring of the Plates and in the Arrangement of the Text by John Robinson, architect. London & Edinburgh: Williams and Norgate, 1878.
£2000

Folio (558 × 359 mm.), pp. xx, 249. 55 lithograph plates, 7 coloured or partly coloured, illustrations and figures throughout text. Plates clean and fresh. Expert repair to prelim. Library binding of dark blue cloth, gilt title on spine, red speckled edges. Inscription on prelim, 'Presented to the Free Library, Newcastle on Tyne by Deane S. Pennethorne, H.M.I. June [18]88'; library stamps on title and margins of most plates. An excellent copy.

FIRST EDITION of this authoritative work by John Pennethorne, nephew and pupil of John Nash, containing the author's discoveries of the optical refinements and corrections by which ancient Greek architects were able to maintain the illusion of perfect symmetry in their buildings. Pennethorne discovered the use of these optical refinements, based on the subtle use of curves, during field trips to Greece in 1830–35. He spent time at the Egyptian temple of Medinet Taboo, where he noted similar curved structures, and was the first to draw parallels between Greek and Egyptian architecture. He first published his findings in a 64-page pamphlet, *The Elements and Mathematical Principles of the Greek Architects and Artists*, but it was only after the publication of F. C. Penrose's work on Athenian architecture that he had enough information on which to base this longer work.

The book contains a wealth of the mathematical detail involved in the construction of columns and entablature, and even today is used as a reference by architects interested in classical Greek principles. The plates, printed from drawings by John Robinson, are very fine and accurate, the coloured plates particularly so.

The book was presented to Newcastle upon Tyne Library by Deane S. Pennethorne (presumably some relation) in 1888, the year of Pennethorne's death.

175.

PETTUS, *Sir* John. Fleta Minor. The Laws of Art and Nature, in Knowing, Judging, Assaying, Fining, Refining and Inlarging the Bodies of confin'd Metals. In Two Parts. the First contains Assays of Lazarus Erckern, Chief Prover (or Assay-Master General of the Empire of Germany) in V. Books: originally written by him in the Teutonick Language, and now translated into English. The Second contains Essays on Metallick Words, as a Dictionary to many pleasing Discourses ... Illustrated with 44 Sculptures. London: for and sold by Stephen Bateman, 1686 [with pasted overslip: by Nat. Thompson for the Author, and are to be Sold by the Booksellers of London, 1687]. £2800

Large folio (361 × 223 mm.), pp. [44], 345, [1] bl., [8], 133. Engraved portrait of the author by R. White as frontispiece, cancel title printed in red and black, with slip pasted over imprint, as above, 44 engravings within the text. Contemporary sprinkled calf, red morocco label, sprinkled edges. Engraved bookplate of Sir Thomas Seabright, Bart; small booklabel of the Kenney Collection. Joints sometime skilfully restored, contents clean and fresh with exceptionally large margins, an excellent copy.

FIRST EDITION, LARGE PAPER COPY. The work is in two parts, the first consisting of Pettus's translation, the only one in English, of the *Aula subterranea domina dominantium subdita subditorum* of Lazarus Ercker (*fl.* 1581), originally published in 1574, one of the fundamental early texts in the field of mining and metallurgy. The second part, original to Pettus, is the first metallurgical dictionary in English, consisting of a glossary of the terms used in mineralogy.

Sir John Pettus (1613–1690) was deputy governor of the royal mines for more than thirty-five years, but the title refers to the fact that he was in the Fleet Prison for debt when he wrote it. Pettus's chronic indebtedness probably explains the unusual publishing history of the book: first published in 1683, 'for the author, by Thomas Dawks', a second edition (really second issue) was published in 1685. In 1686 the work was reissued again, with Bateman's cancel title-page printed in red and black, and in this fourth issue a cancel overslip on the imprint dated 1687 reasserts Pettus's share in the publication. Presumably Pettus had sold his rights in the book to Bateman and then bought them back the following year. Neither BLC nor Wing nor *NUC* describe a copy with the 1687 cancel overslip, nor has any such copy appeared in auction records from 1975 to date.

Wing P1907 (1686 title-page).

176. *Humanitarian treatment of the insane*

PINEL, Philippe. Traité médico-philosophique sur l'aliénation mentale, ou la manie. Paris: Richard, Caille & Ravier, an IX [1801]. £3750

8vo (211 × 139 mm.), pp. lvi, 318. 2 engraved plates, folding table. Small tear to lower margin of title-page, very light occasional browning. Original pink wrappers, paper spine-label, wrappers reinforced. Modern inscription on title (H. Williams), some nineteenth-century pen annotations. A very good copy.

FIRST EDITION of 'one of the foremost medical classics' (Garrison–Morton). Founder of the French School of Psychiatry, in the course of a late career dedicated to the care of the insane Pinel (1745–1826) brought about a revolution in the attitude towards and treatment of mental diseases. Chains, damp basements, even prisons and corporal punishment were the commonly proposed 'remedies' for forms of behaviour which were considered pertinent to the social rather than to the medical realm. Pinel introduced a 'moral treatment' of mental diseases — what would now be called a psychological approach. Patients were to be put under the care of specially selected physicians, and their symptoms were the subject of medical attention. Pinel, whose particular method of dealing with the 'intermittently insane' was also praised by Hegel, 'located the origin of mental disease in pathological changes in the brain and gave great impetus to the humanitarian treatment of the insane' (*Heirs of Hippocrates*).

Garrison–Morton 4922; *Heirs of Hippocrates* 1070; Cushing P286.

177.

PINGRÉ, [Alexander Guy.] Cométographie ou Traité historique et théorique des comètes. Paris: De l'Imprimérie Royale, 1783–84. £5750

2 vols., 4to (249 × 192 mm.). 7 engraved plates. Occasional light spotting, a few leaves with traces of removal of library stamps, with slight loss to the one outer margin. Contemporary mottled calf, panelled spines tooled in gilt, red and brown morocco labels, marbled endpapers, red edges. Expertly repaired to corners and ends of spines, minor abrasions to covers. A bright copy.

FIRST EDITION, SCARCE, of Pingré's monumental *Cométographie*, one of the most important books on the subject, still recommended as a source for cometary studies in the 1950s. 'Pingré's most important work' (Honeyman) deals with the phenomenon of comets from a historic, astronomic and mathematical perspective. Divided in four parts, it examines the history of astronomy in the first, beginning with an account of Babylonian and Egyptian science. In the following section a thorough catalogue of all comets observed since antiquity is given, which still constitutes a major source of information. The third part deals with theories on the nature of comets and their potential physical effects on the life on earth, while the final section discusses methods for the computation of cometary orbits. In the past 25 years three copies have appeared at auction, two containing only six plates.

Honeyman 2484.

178. *Weirs and canals, with accounts of the lagoon and canals of Venice*

POLENI, Giovanni. De Motu Aquae Mixto Libri Duo. Padua: J. Comini, 1717. £680

Tall 4to (267 × 193 mm.), in two parts, pp. [viii], 132, [1] bl., [3]. Large engraved title vignette, 3 folding engraved plates, woodcut head and tailpieces; title and first few leaves quite heavily dust-soiled, some other light marginal soiling. Contemporary speckled calf, corners bumped, joints cracked, head and tail of spine slightly chipped, spine gilt in compartments and with black leather label. Armorial bookplates of Calwich Library and Abel John Ram Esq. on front pastedown and front free endpaper.

FIRST EDITION of the earliest of Poleni's two significant works on hydraulics, with 'sections devoted to flow measurement using a weir, to velocity distribution over a weir, and to problems of water supply to canals' (*Bib. Mech.*). 'As an engineer, Poleni was a consultant in matters of water supply and flood control and an arbitrator between neighboring states ... in his *De motu aquae mixtu* of 1717 he treated the discharge from a rectangular opening extending to the free surface as occurring in a

series of horizontal elements, the velocity of each being assumed proportional to the square root of its distance below the original surface level ... Because this same approach was later used in deriving the discharge relationship for sharp-crested weirs, the basic weir equation ... is often named after Poleni' (Rouse & Ince, *History of Hydraulics*, pp. 113–114). The first part of the work covers Poleni's experiments and conclusions, while the second demonstrates the practical application of his findings, using as an example the lagoon and canals of Venice, giving substantial accounts of both.

Bib. Mech., p. 262; Riccardi, II, 291–92.

179.

PORTA, Giovanni Baptista della. Natural Magick ... in Twenty Books ... Wherein are set forth all the Riches and Delights of the Natural Sciences. London: John Wright, 1669. £3200

Folio, pp. [vi], 409, [1] bl., [6] index. 21 woodcut illustrations within the text, woodcut decorations, title in red and black. First page of text dustsoiled, one leaf torn due to paper fault, some light browning. Contemporary polished mottled sheep, rubbed, corners bumped, joints slightly cracked, head and tail of spine slightly chipped. With the bookplate of Eleanor Lowenstein on inside front cover. A good copy, generally clean and crisp.

'Porta deserves notice by reason of the publication of his *Magia Naturalis*. It is a work on popular science including books on many subjects of natural science, cosmology, geology, optics, plant products, medicines, poisons, cooking etc. Included are books on transmutation of the metals, including chemical changes generally; distillation, anificial gems, the magnet and its properties; cosmetics used by women, fires, gunpowders, Greek fires, invisible and clandestine writing. The book on imitation gems is of interest. Also the making of enamels and their colouring for pottery are described in this book. The work must have been of considerable influence in disseminating interesting and useful chemical information' (Stillman, *The Story of Early Chemistry*, pp. 349–350). Porta's section on the lodestone is known to have influenced William Gilbert. The first complete edition was originally published in Latin in 1589, enlarged from an earlier, less wide-ranging work of 1558. This is the second English edition, succeeding the first of 1658.

NLM/Krivatsy 9193; Wing P2982A.

180.

PORTERFIELD, William. A Treatise on the Eye, the Manner and Phaenomena of Vision. In Two Volumes. Edinburgh: for A. Millar in London, and G. Hamilton and J. Balfour in Edinburgh, 1759. £2500

2 vols., 8vo (194 × 115 mm.) in half-sheets, pp. [ii], xxxi, [3] bl., 450, [1] errata; xxxv, [1] bl., 435. 8 folding engraved plates. Occasional light spotting or browning. Contemporary polished calf, extremities rubbed and bumped, rebacked in slightly darker calf with black leather labels on spines. From the library of Dr W. Mackenzie with his engraved bookplate on front pastedowns. A good copy.

FIRST EDITION. 'Porterfield was Professor of the Institutes and Practice of Medicine at Edinburgh from 1724–26. His book included many original observations. It was the first important British work on the anatomy and physiology of the eye' (Garrison–Morton).

Becker 302; Garrison–Morton 1484.2; NLM/Krivatsy p. 360; Wellcome IV p. 421.

181.

(PORTSMOUTH ROYAL NAVY ACADEMY.) Manuscript manual of instruction. Portsmouth: *c.* 1755. £7500

Large 4to (357 × 255 mm.), 277 manuscript leaves. Numerous line diagrams throughout text, 65 ink and wash diagrams, 30 maps in outline colour, many diagrammatic, 25 diagrams of fortifications, most in colour, 33 ink and wash drawings. Some spotting and areas of darkening, particularly at inner margin, some bleeding and offsetting of colour, closed tear to three leaves at

lower inner margin towards rear, internally neat, crisp, and clean. Nineteenth-century full calf, recently rebacked to style, sides ruled with double gilt fillets, blind rolled ornamentation within, panelled with gilt fillet with blind rolled ornament within, speckled edges. A handsome volume in excellent condition.

A superb manuscript manual of instruction for the Royal Naval Academy at Portsmouth, covering a range of subjects, from arithmetic, geometry, trigonometry, surveying, perspective, mechanics, fortification, gunnery, geography, astronomy, dialling, and navigation. The manual is elegantly written and laid out by hand by a professional copyist. There are many illustrations throughout with numerous diagrams and drawings, all by hand, including simple ink line mathematical diagrams, line and wash pictures of gun types, line and colour wash plans of fortifications, simple navigational maps in outline colour, and delicate line and wash sea- and landscapes, some illustrating points in the text, a few as head- and tailpieces. A fascinating slice of naval history, giving valuable insights into the training of, and the knowledge required for, the training of naval officers in the mid eighteenth century.

182. *Famous heads*

POUPIN, Theodore. Caractères phrénologiques et physiognomoniques des contemporains les plus célèbres, selon les systèmes de Gall, Spurzheim, Lavater, etc., avec des remarques bibliographiques, historiques, physiologiques et litteraires, et 37 portraits d'illustrations contemporaines ... Paris: Germer Bailliere, 1837. £475

8vo (220 × 143 mm.), pp. xii, 13–16, 204; 281, 32 publisher's adverts. Lithographic frontispiece, 39 lithographic plates, of which 37 are portraits, each accompanied by phrenology diagram illustrating dominant traits of the individual. First four leaves lightly water-stained, some minor spotting. Original wrappers preserved, bound in late nineteenth-century brown quarter calf, marbled boards, panelled spine with five raised bands, filleted and lettered in gilt. A good copy, with wide margins, and original wrappers bound in.

FIRST EDITION of Poupin's extraordinary work on phrenology, a catalogue of traits and attitudes in which a celebrity is used to illustrate each personality trait. The secrets of the most celebrated scientists, philosophers, and artists of Poupin's age are thus exposed, and we discover the morphologic features and subsequent personality traits of Brillat-Savarin (his 'alimentativité'), Talleyrand ('secretivité'), Sir Walter Scott ('habitativité', or patriotic attitude), Cuvier ('ordre'), Victor Hugo, Ampère, Paganini, and many others.

183. *The telephone two years after Alexander Graham Bell*

PRESCOTT, George B. The Speaking Telephone, Talking Phonograph and other Novelties. New York: D. Appleton & Company, 1878. £1500

Demy 8vo, pp. [vi], vi, 431. Illustrations and diagrams throughout text. Publisher's green cloth, blind ruled borders to sides, gilt rules and lettering to spine, rear inner hinge starting, rear joint slightly rubbed. A very good copy of a scarce book.

FIRST EDITION of this rare and early work on the telephone, phonograph, and other electrical devices including the electric light, telegraphy, and electric musical instruments. The opening chapters include a detailed account of Alexander Graham Bell's telephone only two years after its invention. *The Speaking Telephone* reads as a marvellous mixture of science fact and fiction. The glimpses into the future of sound recording are sometimes uncannily prescient, sometimes a little quaint: 'Friends at a distance will send to each other phonograph letters, which will talk at any time in the friend's voice when put upon the instrument' (p. 305); and there is what is arguably the earliest description of a sampler: 'When popular airs are sung into the phonograph and the notes are then reproduced in reverse order, very curious and beautiful musical effects are often times produced. The instrument may be thus used as a sort of musical kaleidoscope, by means of which an infinite variety of new combinations may be produced from the musical compositions now in existence' (p. 306). The illustrations include many early circuit diagrams, and period steel engravings of earpieces, handsets, telephones, and electrical musical instruments.

184. *Presentation copy*

PULTENEY, Richard, *M.D.* A General View of the Writings of Linnaeus. London: T. Payne, B. White, 1781. £675

8vo (207 × 128 mm.), pp. iv, 425, [1] errata. Contemporary sprinkled calf, morocco label, gilt ornaments in compartments, spine slight worn at head, internally clean and crisp, an excellent copy, inscribed at head of title page 'from the author'.

FIRST EDITION, PRESENTATION COPY. A detailed study of everything that Linnaeus published by one of his early English disciples. Pulteney was a botanist who also wrote on a variety of subjects: shells, fossils, birds, and regional botanies. Sir J. E. Smith, in his memoir of Pulteney in Rees's *Cyclopaedia*, said that this work 'contributed more than any work, except perhaps the Tracts of Stillingfleet, to diffuse a taste for Linnaean knowledge in this country' (*DNB*).

Henrey II, p. 120.

185. *'The engravings are among the best in technological illustration' (Dibner)*

RAMELLI, Agostino. Le Diverse et artificiose machine ... Nellequali si contengono varij et industriosi movimenti, degni digrandissima Speculatione, per cavarne beneficio infinito in ogni forte d'operatione; Composte in lingua Italiana et Francese. Paris: In casa del'autore, 1588. £35,000

Folio (352 × 230 mm), ff. [16], 338. Text in French and Italian in roman and italic types respectively. Engraved title (*1) within architectural border, with engraved portrait of the author on the verso, both signed with the monogram of Léonard Gaultier (1561–1641). 194 text engravings numbered I–CXCV (numbers CXLVIII and CXLIX combined as one double-page illustration), 20 of which are double-page and the remainder full-page, three signed with the monogram 'JG' which some bibliographers have identified as Jean de Gourmont. The remaining plates are unsigned and have been attributed to an unknown atelier, although Gnudi has made an interesting case for attribution to Ramelli's disgruntled associate Ambroise Bachot. 4-line historiated and 2-line floriated woodcut initials, woodcut tail-pieces and corner ornaments. Seventeenth-century French calf, neatly rebacked with original gilt spine laid down, covers decoratively panelled in gilt and blind, holes for ties. Title neatly repaired in the lower margin where early ink signatures have been erased, small repaired hole in the outer margin of architectural border, small repaired burn hole just affecting a few letters of title. Leaf a_5 extended at top margin and strengthened at lower fore-edge margin, leaf b_6 extended at lower margin with small marginal repair just above, leaf e_5 with clean diagonal tear neatly repaired, portion of outer margin of leaves p_6 and u_7 extended, paper flaw in the upper margin of leaf o_4, clean tear repaired on r_5, a few additional small marginal tears and repairs, not affecting text or engravings. Bookplate of Ladislao Reti. Overall, a superb copy, with text and engravings remarkably clean.

FIRST EDITION. 'Ramelli's book on machinery, one of the most elegantly produced of all technological treatises, emphasized and exploited the unlimited possibilities of machines. For example, the dozens of water-powered pumps and mills shown in his treatise clearly demonstrated that non-muscular power could be substituted for horse- or human-power in any mechanical task requiring continuous or repetitive application of force, and the portrayal of more than twenty types of water pump (including his own invention, the rotary pump) destroyed the notion that there were necessary limits to the configuration or arrangement of a machine. Ramelli's mechanical astuteness showed itself both in his inventions and in his innovative combinations of fundamental elements. His machines became part of the common stock of mechanical knowledge, and his mechanical treatise remained a primary influence for at least two centuries.

'The plates in Ramelli's treatise are artistically as well as technologically superb, the bilingual text beautifully printed, and both plates and text surrounded by handsome borders of typographic ornaments. The reasons for this sumptuousness were twofold: First, Ramelli had dedicated the book to his patron Henri III; and second, he had previously had several designs stolen from him by a trusted associate (probably Ambroise Bachot, later engineer to Henri IV), who published them in corrupt and mutilated form and claimed them as his own. As a result of this experience Ramelli planned his treatise as a particularly lavish work that would be difficult to counterfeit, and produced and published it from his own house where he

could maintain absolute control over the project. He succeeded in preventing any pirated editions and made the book so expensive and difficult to produce that it was reprinted only once, in a German edition of 1620, before the twentieth century' (Norman).

Dibner 173; Mortimer *French*, 452; Norman 1777; M. T. Gnudi, 'Agostino Ramelli and Ambroise Bachot', *Technology and Culture* 15 (1974), pp. 614–25.

186. *The first really systematic classification of animals*

RAY, John. Synopsis Methodica Animalium Quadrupedum et Serpentini Generis. Vulgarium Notas Characteristicas, Rariorum Descriptiones integras exhibens: cum Historiis & Observationibus Anatomicis perquam curiosis. Praemittuntur nunnulla De Animalium in genere, Sensu, Generatione, Divisione, &c. London: S. Smith & B. Walford, 1693. £900

8vo (186 × 115 mm.), pp. [xvi], 336, [8] index. Engraved portrait of the author, more usually bound in as frontispiece, here between prelims and text. Browning, occasional spotting. Contemporary vellum, spine lettered in ink. A very good copy.

FIRST EDITION of one of the less common of Ray's books. 'This work contains the first really systematic classification of animals. Much of its general arrangement of animals survives in modern systems of classification' (Garrison–Morton). Although Ray is now best remembered for his works on the classification of plants, he had in fact (together with Francis Willughby) planned a classification of the animal kingdom long before his work on plants was begun. After Willughby's death, Ray completed the project himself. This work is almost entirely Ray's own, 'thus vindicating [his] abilities as an anatomist and zoologist ... Classification was the outstanding part of the introduction. Aristotle's "blooded" and "bloodless" was maintained; the former were divided according to respiratory mechanism, cetaceans being firmly placed with the mammals. For the minor divisions foot types were basic, but reference was also made to internal anatomy and general morphology. Classification of the invertebrates was unsatisfactory, bur at least Ray attempted to avoid large amorphous groups' (*DSB*).

Garrison–Morton 299; Keynes, *Ray*, 91; NLM/Krivatsy 9414; Wellcome IV p. 480; Wing R405.

187.

REDI, Francesco. Esperienze intorno a diverse cose naturali, e particolarmente a quelle, che ci son portate dall'Indie ... scritte in una lettera al Reverendissimo Padre Atanasio Chircher della Compania di Giesu. Florence: 'at the sign of the ship', 1671;

[*bound with:*] — Lettera ... sopra alcune opposizioni fatte alle sue osservazioni intorno alle vipere, Scritta Alli Signori Alessandro Moro e Abate Bourdelot Sig. di Conde e di S. Leger. Florence: Star press, 1670;

[*and with:*] [PLATT, Thomas.] Copia di lettera scritta al Sig. Arrigo Oldenbourg Segrotario della Società Reale di Londra ... del Serenissimo Gran Duca di Toscana &c. [Rome: Nicolò Angelo Tinassi, 1673.] £2250

3 works in one vol., 4to (235 × 170 mm.), pp. [2] bl., [vi], 152; 47, [1]; 11, [1] bl. First title printed in red and black with engraved Medici arms, 6 engraved plates; third work inserted between pp. 8 & 9 of the second. Occasional light browning or spotting. Contemporary vellum, early manuscript notes to upper and lower cover, later paper spine label, hinges cracked. A good copy.

FIRST EDITIONS. The first work here, presented in the form of a letter to Athanasius Kircher, contains Redi's investigations into a number of botanical and zoological specimens, some of which (as the title indicates) had been brought from India. The specimens illustrated include stones from snakes and iguanas, pepper, Chinese star anise, and vanilla pods.

The second work was inspired by Redi's celebrated experimental work on snake venom (which he had published as *Osservazioni intorno alle vipere* in 1664) and is a riposte to the work of the Frenchman Moyse Charas in the same field. Charas's

Nouvelles experiences sur la Vipere had been published in 1669, and contained a number of challenges to Redi's findings. These challenges are dealt with point-for-point here, with excerpts in French from Charas's work. The final work in the collection is a translation of Platt's letter to the Royal Society reporting Redi's work on snake venom. It is bibliographically distinct from Redi's letter on the same subject and is not always present in other copies (see Norman 1814). It is, however, reproduced in collected editions of Redi's works.

I: Nissen ZBI 3321; NLM/Krivatsy 9444; Prandi 16; Sabin 68516; Wellcome IV, p. 488. II: NLM/Krivatsy 9454; Norman 1814; Prandi 13; Wellcome IV, p. 488. III: Wellcome IV, p. 399.

188.

REGIOMONTANUS, Johannes. Epytoma in Almagestum Ptolomei. Venice: Johannes Hamman, 21 Aug. 1496. £35,000

Chancery folio (307 × 207 mm), 108 leaves, with the final blank; without the two-leaf letter of Abiosus printed on a separate sheet and inserted in some copies between a_1 and a_2. 48 lines and head-line. Types: 135G; 103G; 86G; 70(67)G diagrams. Few words of Greek on a_2^r. Woodcut title, full-page allegorical woodcut on a_3^v within black-ground woodcut border, numerous woodcut diagrams in the text, black-ground initials. Old MS. foliation. Woodcut title extended at head and foot, text not affected; final leaf of text supplied from another copy, extended at foot, and with small paper flaw partially affecting one word either side. Skilfully rebound to style in vellum over pasteboards sewn on four thongs, twisted vellum ties. Occasional very slight marginal browning.

FIRST EDITION OF ONE OF THE FIRST AND GREATEST PRINTED ASTRONOMICAL BOOKS. Begun by Peurbach, Regiomontanus's abbreviated Latin translation from the Greek of the monumental compendium of Ptolemy is an epochal work. 'At the end of the fifteenth century, Ptolemy's achievement remained at the pinnacle of astronomical thought; and by providing easier access to Ptolemy's complex masterpiece, the Peurbach–Regiomontanus *Epitome* contributed to current scientific research rather than to improved understanding of the past' (*DSB*). This was the chief work consulted by both Copernicus and Galileo, and at the same time was used by the Jesuits to teach astronomy in China. The first complete edition of the *Almagest* was published in Greek in 1533.

BMC V 427 (IB 23380); Dibner 1; Essling 895; Goff R-111; HC 13806*; Grolier/Horblit 89; IGI 5326; Klebs 841.1; Oates 2048; Polain (B) 2793 *bis*; *PMM* 40; Proctor 5197; Sander 6399; Stillwell 103.

189. *Presentation from the author of 'Gold in Zululand'*

REUNERT, Theodore. Diamonds and Gold in South Africa. London: Edward Stanford, Cape Town: J. C. Juta & Co., 1893. £300

Demy 8vo, pp. xvi, 242. 2 folding maps, 30 other illustrations. Publisher's green diagonal-ribbed cloth, blind ruled borders to sides, gilt title on spine and front cover. Presentation inscription 'with kindest regards, J. T. Carrick, Christmas 1893'. Corners slightly bumped. An excellent copy.

FIRST EDITION, PRESENTATION COPY from one of the contributors, J. T. Carrick, who wrote appendix XVIII on 'Gold in Zululand'. This fascinating period piece gives an early account of the South African gold and diamond mining industry concentrating on its history, geology, engineering, and economics, particularly that of the de Beers company. Profusely illustrated with maps, geological plans, photographs of the gold fields etc., the book concludes with a warning to would-be emigrants of the difficulty of surviving in South Africa.

S. A. Bib., Vol IV, p. 26.

190. *One of the earliest books on obstetrics published in Russia*

RICHTER, Wilhelm Michael. Synopsis Praxis Medico-Obstetriciae. Moscow: the University of Moscow, 1810. £2000

4to (267 × 212 mm., a few sections on smaller sheets), pp. [iv], xviii, 424. Engraved additional title with vignette scene, 9 folding engraved plates, 2 folding letterpress tables. Some lower margins dust-soiled, occasional slight fraying to edges. Uncut in contemporary marbled

wrappers, portion of backstrip worn away at foot. Ornate contemporary ownership stamp on verso of printed title. A very good copy, clean and crisp internally.

FIRST AND ONLY EDITION, RARE, of one of the very earliest books on obstetrics to be published in Russia. Richter was one of the large number of German physicians who staffed the Moscow obstetrical institution founded by the Empress Catherine the Great. This is the first book on the practices of the institution, based on Richter's twenty years' experience there. Richter was born in Moscow, but trained and graduated in Germany. He was also the author of the first history of Russian medicine. In the first chapter here, he outlines the history of obstetrics in Moscow. In the remaining 119 chapters, he details a multitude of different gynaecological or obstetrical complaints, including case reports of difficult or deformed births, the use of the forceps, the pathology of the uterus, etc.

The finely engraved plates are by A. Florow from drawings by C. Koeck. They depict a range of pathological problems, such as polyps of the uterus and uterine mola, as well as a teratological specimen with backward facing pelvis, legs and feet and a huge head and its skeleton (shown from two different angles).

Siebold, *Versuch einer Geschichte der Geburtshilfe*, II, 628, 'particularly valuable practical accounts'; Waller 7969 (apparently lacking the engraved title); Wellcome p. 525. *NUC* records three locations (also lacking the engraved title?): Library of Congress, National Library of Medicine, and University of Pennsylvania.

191. *Samuel Verplanck Hoffman's copy, with an English translation*

RITTER, Franz. Astrolabium, Das ist: Grundliche Be Schreibung und Unterricht, wie solches herrliche und hochnuetzliche Astronomische Intrument, auff allerley Polus Hoeh, so wol auch nach eines jeden selbst gefaelligen Groess auffgerissen, und verfertiget werden soll. Darnach wie dasselbe vielfaeltig zu gebrauchen: Mit Kupferstucken verfertiget. Nuremberg: Christoff Gerhard for Paul Furst [not before 1613; probably *c.* 1645]. £6000

Small 4to (175 × 144 mm.), in two parts, pp. 136; 64. Engraved additional titles (the second slightly foxed), 21 finely engraved illustrations within the text of part I (of which 10 are full-page), 15 large folding engraved plates at end of part II (small tears at folds in the majority, without any loss of image or text). Three quires in part II browned (E, G, H). Old manuscript vellum over boards, joints cracked, spine slightly damaged; preserved in a red morocco backed cloth slipcase. Early engraved armorial bookplate on front pastedown, ex-libris Samuel Verplanck Hoffman with his engraved bookplate on free endpaper. An excellent copy, clean and crisp.

Undated edition, presumably the first combined, of this work on the astrolable, first published in two separate parts at Nuremberg in 1613 by B. Caymox. Ritter claims his work to be the first written in German to describe the composition and the adjustment of the astrolabe and to give instructions on how it should be adjusted and used for all altitudes of the pole 'rather than just to describe the instrument's use. By producing a thorough work in the vernacular he also considers that he is making the full details of construction and use of this highly important instrument available to the general German public ... for the benefit of the common man'. Ritter was a student of J. Praetorius at the University of Altdorf and became a minister in Stöckelsheim. Although both Zinner and NUC date this edition 1613 it seems unlikely that it was printed this early. The active dates of printer, publisher, and frontispiece engraver all suggest a date somewhere between 1635 and 1655 as more realistic.

From the library of Samuel Verplank Hoffman (1866–1942), whose exceptional collection of astrolabes was acquired by the Smithsonian in 1959. Accompanying this copy, handily enough for those of us who struggle with seventeenth-century German, is a typescript English translation (small 4to, bound in brown half morocco), presumably done by or for Hoffman: his bookplate is in both volumes and his initials are printed in gilt at the foot of the spine of the translation. References to the page numbers of the printed work are given in ink or pencil in the margins.

Benzing, *Die Buchdrucker des 16. und 17. Jahrhunderts im Deutschen Sprachgebiet*, p. 367; Gunther, pp. 460, 570, 593; Theime–Becker XII, p. 563 and XXXIII, pp. 431–32; Wolf, *Gesch. der Astronomie*, pp. 165–66; Zinner, *Literatur*, 4439; Zinner, *Instrumente*, p. 492.

192. *Spectacular chromolithographs of the Great Exhibition*

ROBERTS, [David], [Joseph] Nash, & [Louis] Haghe. The Great Exhibition. Dickinsons' Comprehensive Pictures of the Great Exhibition of 1851, from the originals, painted for H.R.H. Prince Albert ... London: Dickinson Brothers, 1854. £15,000

2 vols. in one, folio (570 × 423 mm.), 55 chromolithographic plates, finished by hand and heightened with gum arabic (plate size 487 × 330 mm.), title in red and black with woodcut initials. Occasional light spotting, mainly on margins, some offsetting to title and guards, 4 plates have cropped margins with loss of imprint, one with loss of title (margins very generous). Contemporary green half roan, spine with raised bands, gilt rules and elaborate floral decorations in compartments, dark blue morocco-grain cloth sides, marbled endpapers, all edges gilt. Tear to cloth of upper side causing some loss; extremities rubbed. An excellent copy.

A SPECTACULAR SERIES OF CHROMOLITHOGRAPHS OF THE GREAT EXHIBITION of 1851 after paintings by David Roberts, Joseph Nash, and Louis Haghe. With the exception of five plates depicting general views and the opening and closing ceremonies, each plate shows a particular exhibit and has a leaf of accompanying text facing the guard leaf. The two volumes are of 26 prints each, the first illustrating the displays of foreign countries, and the second those of Britain and her colonies, along with displays of furniture, furs, machinery, minerals, and other classes of products. The prints are hand-finished, beautifully detailed, and the colours vibrant. Gum arabic is used to impart a sheen to particular details. This is one of the finest illustrated records of the Great Exhibition.

Abbey *Scenery*, 251.

193. *Francis Willughby's copy, an annotated source for his own* De historia piscium

RONDELET, Guillaume. Libri De Piscibus Marinis, in quibus verae Piscium effigies expressae sunt. [*With:*] Universa aquatilium Historiae pars altera, cum veris ipsorum Imaginibus. Lyons: Matthias Bonhomme, 1554–55. £8500

Folio (mm.), in two parts, pp. [xvi], 583, [1]; [xii], 242, [10]. Woodcut portrait of the author in each part, printer's device to titles, over 400 woodcut illustrations, woodcut initials and head-pieces. Contemporary blind-filleted calf, joints and corners repaired, panelled spine with six half-raised bands, decorated with gilt fillets, blind-stamped title in second compartment. Light occasional spotting. Signature of Francis Willughby to title.

FIRST EDITION, FRANCIS WILLUGHBY'S COPY, of the most important book on fish and aquatic animals published up to that time. Rondelet's work, largely based on classical authorities and rich with quotations primarily from Aristotle, associates descriptions and illustrations of creatures belonging to the mythical tradition with rigorous passages drawn from direct observation in an attempt to build the most comprehensive ichthyological compendium of his age. Unusually accurate in the graphic representations of fish and animals, Rondelet's book is also innovative in its classificatory pattern: all aquatic animals are defined by their names in classical and modern languages, described in their anatomy and explained in their habits. The descriptions include the first zoological accounts of the manatee and the sperm whale, and the first printed illustration of the torpedo fish. The particularly accurate anatomical and physiological notes, utilising his skills as a professor of medicine, made Rondelet's work very popular among contemporary naturalists. Aldrovandi's scientific interest in natural history was cultivated by his encounter with the French physician, and the popularity that Rondelet enjoyed throughout Europe turned the book into a classic reference encyclopaedia for more than a century, the first step in the maturation of a scientific discipline perfected by Linnaeus.

A superb association copy, from the library of Francis Willughby (1635–1672), one of the foremost naturalists who paved the way to Linnaeus. It carries his signature and his marks, and was used as a reference and starting point for his *Historia Piscium* (item 244 below)

Garrison–Morton 282; Nissen ZBI 3474; Norman 1848; Cole, p. 62.

194.

[ROSS, *Sir* Ronald.] Liverpool School of Tropical Medicine. Memoir I. Instructions for the Prevention of Malarial Fever for the Use of Residents in Malarious Places. Liverpool: University Press, 1900. £50

Demy 8vo, pp. [vi], 14. Publisher's light green cloth, bevelled edges with gilt decorated title at centre of front cover. Red and black ink drawing on prelim of girl in tropical sunset trying to catch a huge mosquito with a net. In excellent condition.

FIFTH EDITION of the first publication of the Liverpool School of Tropical Medicine, the first school of its kind in the world. The school was set up in 1898 by Sir Alfred Lewis Jones, a Liverpool shipowner, and is still in existence today. Sir Ronald Ross was one of its inaugural lecturers. This work is a practical introductory guide to malaria, its causes and treatment, with an attractive art nouveau gilt design around the title on the front cover. In 1902 Ross became the first British recipient of the Nobel Prize for his work on malaria. In addition to his work as an epidemiologist, Ross found time to be a poet, playwright, writer, and painter.

195. *Bound by John Brindley for John Chamberlayne FRS*

(ROYAL SOCIETY.) Philosophical Transactions: giving some Accompt of the Present Undertakings, Studies, and Labours, of the Ingenious in many Considerable Parts of the World ... vol. I. [Continued under varying titles.] London: John Martyn and James Allestry [and other printers; vols. 13–15 printed at Oxford], 1665–1780. £95,000

4to, 82 bound volumes, comprising vols. 1–70 of the *Philosophical Transactions* (lacking vols. 17 and 44 pt II) with many supplements, together with 7 parts of the *Philosophical Collection*. Numerous engraved plates, mostly folding. Bound in the second quarter of the eighteenth century in full mottled calf with onlays and marbled edges by John Brindley (later volumes bound to match by another binder). Some rubbing to bindings, a few numbering-pieces replaced to style, generally very clean and fresh internally. *Philosophical Collection* disbound, protected in modern cloth folding case.

AN EXCELLENT EARLY RUN OF THIS MOST CELEBRATED AND EARLIEST OF SCIENTIFIC JOURNALS, started by Henry Oldenburg (?1615–77), one of the two first secretaries of the Royal Society. Although the *Transactions* are now inextricably associated with the Society and were begun with the Society's express approval, the German-born Oldenburg was the original owner and editor, and he gave the journal scope to act as a truly international forum for scientific research and theory by publishing reports and news from all parts of Europe. After Oldenburg's death the publication was edited by a succession of noted scientists, including Sir Hans Sloane and Edmund Halley, before the Royal Society took official responsibility for the journal in March 1752 and set up a committee to oversee publication, an arrangement which continues to the present day. This set also includes the seven numbers of the *Philosophical Collection* (1679–1682) which were published between vols. 12 and 13 of the *Transactions*, and filled the hiatus caused by the death of Oldenburg. Edited by Robert Hooke, the first number of the *Collection* contains both articles on and illustrations of flying machines.

The formation of this set was largely completed by John Chamberlayne (1666–1723), Fellow of the Royal Society and a supporter of Newton in the latter's dispute with Leibniz over their rival claims to have invented the calculus (see *DNB*, and R. Westfall, *Never at Rest*, 1980, pp. 766–9). There is some contemporary marginalia in vols. 6, 13, 20, and 23, concentrating chiefly on the biological-medical articles. The set was latterly in the library of Harrison D. Horblit, the celebrated collector of science books, who remained convinced that the marginalia were those of Sir Isaac Newton, but there is no evidence to substantiate this claim. Vol. 2 contains two autograph ownership inscriptions of William Griffith, MA Cantab., and a note of purchase dated 1667/8.

PMM 148; Keynes, *Hooke*, 24.

196.

(ROYAL SOCIETY.) The Philosophical Transactions Abridged ... London: for J. Knapton, R. Knaplock, R. Wilkin [and others], 1721–47. £4000

9 vols., 4to (228 × 168 mm.). Numerous engraved plates, many folding. Uniform eighteenth-century sprinkled tan calf, sides with uniform blind-tooled floral borders, panelled spines with five raised bands, tan labels lettered in gilt preserved on all but one volume, each volume additionally numbered direct in gilt. A little expert repair to some joints and spines. Early ownership inscriptions of Edmond Sexton Pery to titles, early manuscript shelf-marks to front pastedowns. Vol. IV with 6 additional early manuscript leaves, including an alphabetical index to the author's names and a dedication from the editor (Henry Jones) to Sir Isaac Newton and the President, Council and Fellows of the Royal Society. A very good set, generally very fresh inside.

This attractive set of the abridged *Phil. Trans.* was collected and uniformly bound for Edmond Sexton Pery (1719–1806), elected speaker of the Irish House of Commons in 1771. The first three volumes comprise John Lowthorp's abridgement to 1700 in the third edition of 1722. It continues (volumes 4 and 5) with Henry Jones's abridgement of the *Transactions* for the years 1700–20 in its first edition; with (volumes 6 and 7) John Eames's and John Martyn's abridgement from 1719 to 1733 in the first edition of 1734; and with (volumes 8 and 9) Martyn's abridgement for 1732 to 1744.

197. *Exceptionally attractive set from the library of Edmund Pollexfen Bastard*

(ROYAL SOCIETY.) The Philosophical Transactions Abridged ... London: [various publishers,] 1734–56. £10,000

11 vols., 4to (235 × 172 mm.). Sprinkling of worm at beginning of vol. 8. Contemporary sprinkled tan calf, spines with five raised bands, red morocco labels, gilt-numbered direct (numbers on vols. 9 and 10 transposed), double gilt rules, red sprinkled edges, a little very light rubbing of spines, slight stripping to some sides. Early ownership inscriptions of W. Wymondesold on front free endpapers, engraved bookplates of Edmund Pollexfen Bastard.

AN EXCEPTIONALLY ATTRACTIVE SET. The first three volumes comprise John Lowthorp's abridgement of the *Phil. Trans.* to 1720 in the fifth edition of 1749, the first to have the Latin papers translated into English. Likewise Henry Jones's continuation of the abridgement from 1700 to 1720 (volumes 4 and 5) is in the third edition of 1749, also with the Latin papers translated for the first time. Volumes 6 and 7 contain John Eames and John Martyn's abridgement for the years 1719 to 1733 in the first edition of 1734. Volumes 8 and 9 have Martyn's abridgement for 1732 to 1744 with the Latin papers translated (1747); and volumes 10 and 11 contain Martyn's abridgement for 1743 to 1750, again with the Latin papers translated (1756).

198. *Baddam's abridgement*

(ROYAL SOCIETY.) Memoirs of the Royal Society; Being a New Abridgment of the Philosophical Transactions ... from the first Institution of that Illustrious Society in the Year 1665, to the Year of our Lord 1735 inclusive. The whole carefully abridg'd from the Originals, and the Order of Time regularly observ'd, with a Translation of the Latin Tracts, and the Theoretical Parts apply'd to Practical Uses; also an Explanation of the Terms of Art as they occur in the Course of the Work; being a Work of general Use to the Publick, and worthy the Perusal of all Mathematicians, Artificers, Tradesmen, &c. for their Improvement, in various Branches of Business. By Mr. [Benjamin] Baddam ... Illustrated with a great Variety of Copper Plates. London: by G[odfrey]. Smith, 1739–41. £2000

10 vols, 8vo (198 × 122 mm.). Engraved frontispiece, 131 engraved plates, many folding. Contemporary quarter calf, red morocco labels, marbled sides, vellum tips. Rubbed, joints tender or weak, spine of vol. 8 with vertical crack, still a good set.

FIRST EDITION, second issue, of Baddam's celebrated abridgment of the *Philosophical Transactions* of the Royal Society, scarce in commerce and seldom found complete. 'Previous abridgements of the *Philosophical Transactions* had been carried out on a piecemeal basis, whereas Baddam's version provided continuity and uniformity for the first time ... Baddam's preface gives an informative "short and succinct Narrative of the Royal Society and their Transactions" and explains his own approach. A rather crudely drawn frontispiece depicts several scientific instruments and some objects

from the society's museum collections. As Baddam indicates, the French were translating the *Philosophical Transactions* simultaneously (de Brémond, and then Demours, for the 1731–40 period). His own competent and useful abridgement served its purpose well for nearly seventy years' (*DNB*). Baddam's abridgement was first published between 1738 and 1741 in ten volumes. In this set, as in one of the British Library copies, the first volume is called a second edition (really a second issue) and is dated 1739; the rest are first editions, vols. 2–4 dated 1739, vols. 5–8 dated 1740, and vols. 9–10 dated 1741. A second edition was printed in 1745 for John Nourse, extending the scope of the abridgement to 1740, although vols. 4–10 were simply reprinted from the original edition, with cancel title-pages. No copy of any issue of Baddam's abridgement is recorded in auction records for the last twenty years: *ESTC* indicates that the majority of copies in institutional holdings are incomplete.

199.

RUSH, Benjamin. An Account of the Bilious remitting Yellow Fever as it appeared in the City of Philadelphia, in the Year 1793 ... Philadelphia: Thomas Dobson, 1794. £1100

8vo (230 × 142 mm.), pp. x, 363. Very light spotting to a few leaves. Uncut in original blue grey paper, rebacked with brown buckram. Bookplate of Haskell F. Norman. An excellent copy.

FIRST EDITION. Benjamin Rush was widely recognized as the leading physician in the United States in his time. This is his classic account of a particularly virulent outbreak of yellow fever he was called upon to deal with in August and September 1793. Rush's meticulous record of the spread of the outbreak, its symptoms, his personal observations of those infected, his treatments (often ineffective and subsequently much criticised — he recommended blood letting), and his account of his own infection and state of mind while working ceaselessly on curing the sick make compulsive reading.

Rush wrote the first treatise to be published on native American medicine, was the first American to publish a book on psychiatry that '... recogniz[ed] the need to see man as a whole, with mind and body "intimately united"' (*DSB*). He was the only physician among the original 56 signatories to the Declaration of Independence, he campaigned for the end of the slave trade, and supported education for women.

Garrison–Morton 5453; NLM/Blake p. 393; Sabin 74198; Norman 1862; Waller, 8325; Wellcome, p. 591; *Heirs of Hippocrates* 1066.

200. *His first philosophical work, probing and testing the foundations of mathematics*

RUSSELL, Bertrand. An Essay on the Foundations of Geometry. Cambridge: University Press, 1897. £600

Demy 8vo, pp. xvi, 201; with half title. Publisher's blue cloth, blind ruled borders to covers, gilt on spine. Spine a little darkened, head of spine frayed, otherwise an excellent copy.

FIRST EDITION of Russell's first philosophical work. Russell's early work 'was almost entirely concerned with probing and testing the foundations of mathematics in order that the superstructure might be firmly established' (*DSB*). *Foundations of Geometry*, a revision of Russell's fellowship thesis, was a key work in establishing his reputation. It was 'an examination of the status assigned to geometry by Kant in his doctrine of synthetic a priori judgements. Analytic propositions are propositions of pure logic, but synthetic propositions, such as "New York is a large city" cannot be obtained by purely logical processes. Thus all propositions that are known through experience are synthetic' (*ibid.*). Although superceded by modern views of geometry, 'what remains of interest in *Foundations* is the surgical skill with which Russell can dissect a corpus of thought and his command of an easy, yet precise English style' (*ibid.*).

201.

RUSSELL, Bertrand. A Critical Exposition of the Philosophy of Leibnitz. Cambridge: University Press, 1900. £900

Demy 8vo, pp. xviii, 311. Tear to inner top edge of title, some loss to margin. Publisher's blue cloth, spine blocked and lettered in gold, sides with borders blocked in blind. Slight discoloration to upper spine. Well protected in a blue calf-backed felt-lined folding box. An excellent copy.

FIRST EDITION. Russell wrote this work on Leibniz in the years between his mathematical masterworks, *Foundations of Geometry* (1897) and *Principles of Mathematics* (1903). After the publication of *Foundations of Geometry,* he was elected to a six year prize fellowship that enabled him to follow his own research unhindered by teaching obligations. As a member of the Apostles he came into contact with the philosopher G. M. Moore, to whom Russell acknowledged his debt in proofing and correcting this work.

202.

RUSSELL, Bertrand, & Alfred North Whitehead. Principia Mathematica ... Volume I. Cambridge: University Press, 1910. £1500

Large 8vo, pp. xiii, [3], 666. Inner margin cracked at pp. 432–433. Publisher's blue cloth, blind ruled sides, gilt on spine. Closed tear at top of spine. Ex libris bookplate of Cheltenham Ladies College. An excellent copy of a rare book.

FIRST EDITION of a book that *DNB* claims is the 'greatest single contribution to logic that has appeared in the two thousand years since Aristotle.' On a trip to Paris, Russell and Whitehead heard an account of the work of Guiseppe Peano of Turin who introduced the use of symbols to represent logical notions. Russell and Whitehead saw the potential this ideography had to settle questions relating to the foundations of mathematics, which Russell had attempted, but not completed in his earlier *Principles of Mathematics*. The *Principia* was the result of their investigations. Russell wrote most of this first volume and most of the explanatory philosophical material in the introduction. There were 750 copies printed of this first volume; volumes II and III were not published until 1913 and in editions of 500 copies each when the potential readership for such abstruse material was more realistically estimated.

'The publication of the *Principia* gave a marked impulse to the study of mathematical logic. The deft handling of complicated but precise symbolism encouraged workers to use this powerful technique and thus avoid the ambiguities lurking in the earlier employment of ordinary language' (*DSB*).

203. *First illustrated edition*

SACROBOSCO, Johannes de. Sphaera mundi. GERARDUS DE SABLONETA. Theorica planetarum. Venice: Franciscus Renner, de Heilbron, 1478. £15,000

Chancery 4to (189 × 140 mm.), 48 unnumbered leaves. 25 lines, shoulder notes, types 5:109bR (text), 6:65G (diagram text), incipit to each part printed in red. 11 diagrams, two of which are hand-coloured in red and ochre, many woodcut white-on-black initials. First leaf lightly damaged and repaired, affecting a few letters, first two bifolia strengthened at hinge, neat tear in a8 repaired, lower section of f10 replaced, affecting a few letters. Recased in early vellum, title inked on spine. A very good copy.

FIRST ILLUSTRATED EDITION of Sacrobosco's celebrated *Sphaera Mundi* and of Gerardus's *Theorica*. Published as a pair together here for the third time, the two works had been previously produced with blank spaces left for the illustrations. Renner introduced the most innovative turn in the editorial history of both works by having a set of woodcuts made, which was designed to accompany the text through an apparatus of astronomical diagrams. Sacrobosco's and Gerardus's influence as *auctoritates* in the shaping of medieval astronomic sciences was profound and wide, as the large number of editions attests, and was increased in breath by the early and long-lasting inclusion of these two treatises in the canon of standard university texts.

HC 14108; BMC V 195; Klebs 874.6; Goff J-402.

204.

SACROBOSCO, Johannes de. Sphaera ... Emendata. Eliae Vineti Santonis scholia in eandem sphaeram, ab ipso auctore restituta. Adiunximus ...

compendium in Sphaeram, per Pierium Valerianum Bellunensem, Et Petri Nonii Salaciensis Demonstrationem ... Paris: Gulielmus Cavellat, 1557. £2500

8vo (170 × 102 mm.), ff. [i], 103, [1] bl. Woodcut printer's device to title, many woodcut illustrations and diagrams to text, 3 diagrams of the 'sphaera' with multiple volvelles, many woodcut historiated initials and head-pieces throughout. Some uniform light browning. Contemporary limp vellum, some soiling, ties wanting, some losses to spine and to portions of edges. Old cancelled inscription and library shelving details penned on title. A very attractive, unsophisticated copy.

Commented Parisian edition of Sacro Bosco's enormously influential treatise on astronomy. *De sphaera*, John of Holywood's masterpiece, first appeared in 1220, and remained the text-book for astronomy at the University of Paris and throughout Europe for the next 450 years. The promotion of classical and Arabic learning in the thirteenth century brought about new conceptions in the medieval representation of the cosmos. Although the familiar image of the circle of Earth surrounded by the concentric circles of water, air, fire, and then of the known planets and the fixed stars remained substantially unchallenged, the Arabic practice of finding the time by measuring the sun's altitude inspired Sacrobosco's method of reading the time from curves engraved on the back of the astrolabe. This Parisian edition, made by perhaps the most prolific and important printer of scientific books at the time in Paris, shows the features of the typical scholarly text-book, with an apparatus of notes, an abridged version of the work, and a further contemporary treatise on climate.

205. *Orthopaedics without surgery*

SAYRE, Lewis. On the mechanical treatment of chronic inflammation of the joints of the lower extremities, with a description of some new apparatus for producing extension at the knee and ankle-joints. Philadelphia: Collins, 1865. £250

4to (145 × 225 mm.), pp. 25, [5] bl. 20 engraved illustrations in text. Contemporary green paper boards. Upper board nearly detached, a couple of small light stains to upper board, minute tear to outer margin throughout. A good copy, internally clean.

FIRST EDITION of Sayre's seminal work on orthopaedic surgery, whose content was to prepare the revolutionary approach of his major monograph published in 1877. This article, published in the *Transactions of the American Medical Association*, of which Sayre became president in 1880, for the first time suggests that the treatment of many diseases affecting the joints can be successfully carried out without resorting to drastic surgery, through the use of suspensions and straightening tools. Sayre's innovative approach met huge success and his method spread rapidly throughout America, chiefly on the strength of Sayre's reputation as eminent surgeon (his professorship at Bellevue Medical College was the first chair in orthopaedic surgery in the United States) and humanitarian campaigner. His name is also associated with a controversial dispute on the utility and benefits of circumcision, to which he dedicated the better part of three decades. An indefatigable organizer, Sayre spent the last years of his career improving the standard of the AMA publications, which he renamed the *Journal of the American Medical Association*

206. *Smallpox vaccination for the liberation of humanity*

SCHÄFFER, D. J. U. G. Beitrag zu einer Theorie der englischen Pockenimpfung. Regensburg: Montag & Weiss, 1802. £250

Small 4to (185 × 116 mm.), pp. 61, [3] bl. Uncut in contemporary green wrappers. Very light occasional browning. A very good copy.

FIRST EDITION of a short, dense account of the practice of smallpox vaccination in England. This work attempts a philosophical as well as case-based approach to the controversial issue of vaccination. Addressing all German doctors at the end in a highly rhetorical style, the author exhorts them to work in unity with the rest of the scientific community in Europe, and to consider the work that had been done on animals as the promising basis for success in their mission for the liberation of humanity.

207. *Rosicrucian ophthalmology*

SCHALLING, Jacob. Ophthalmia sive disquisitio hermetico-galenica de natura oculorum eorumque visibilibus characteribus morbis & remediis. Censura gratiosi ordinis D.D. F.F.rm. Rosatae Crucis oblata & representata. Augentrost, darinn von Natur, sichtbaren Bildnissen, Kranckheiten und Artzeneyen der Augen trewlich und fleissig gehandelt wird. Dem hochlöblichen Orden derer H.H. Brüder des Rosen Creutzes zum Urtheil und Censur untergeben und praesentirt. Erfurt: Johann Bischoff, 1615. £5800

Folio (302 × 188 mm.) in sixes, pp. [x], 169 (i.e. 179). Entirely engraved title-page, the central title panel printed in red and black, by Michael Frommer (slightly shaved at head and tail), 17 small woodcut illustrations within the text representing parts of the eye, woodcut head-, tailpieces and initials throughout. Old vellum with covers ruled and stamped in blind and yapp edges, carefully repaired. Small library stamp on recto of front free endpaper and second leaf, old ownership inscription in centre of title, front free endpaper with manuscript index and final pastedown with annotations. A very good copy.

FIRST EDITION of this rare and early monograph on ophthalmology. The work is a curious mixture of strictly medical information and mysticism. The author, who originated from Winssheim in Franconia and was 27 when he wrote this book, evidently belonged to the Rosicrucian Order. Printed in Latin with a facing German translation, it is divided into three parts. The first part deals with the anatomy and physiology of the eye. The second part deals with visible images and includes chapters on light and colours. The third part deals with eye diseases. It includes a *materia medica* and covers therapeutics and dietetics, ending with a chapter on chemical operations.

Gardner, *Bibliotheca Rosicruciana*, 598; NLM/Krivatsy 10325; Parkinson & Lumb 2191; Waller 8563; Wellcome I 5817; not in Becker.

208.

SCHEELE, Charles-William. The Chemical Essays ... Translated from the Transactions of the Academy of Sciences, Stockholm. London: J. Murray, 1786. £1750

8vo (211 × 126 mm.), pp. xiv, ii, 406. Internally very clean and fresh, with a few spots on endpapers and some leaves. Contemporary calf, gilt ruled compartments to spine, upper joint expertly repaired, spine and edges rubbed. A good copy.

FIRST EDITION. A collection of some of Scheele's most important writings, edited by Thomas Beddoes, including accounts of his discoveries of various acids. Although not now among the best known of chemists, Scheele was nevertheless one of the most important chemists of his day. He discovered nitrogen independently of Daniel Rutherford and showed it to be a constituent of air. His treatise on manganese (1774) was influential in leading to the discovery of that element, as well as to the discovery of barium and chlorine. He also isolated glycerin and many acids, including tartaric, lactic, uric, prussic, citric, and gallic. *DSB* describes Scheele as 'an indefatigable seeker after truth who was driven to test and retest the validity of contemporary answers to the great chemical controversies of the time'.

Bolton I, 802; Duveen, p. 533.

209. *A 'professional' star atlas, dedicated to F. W. Bessel*

SCHWINK, G. Mappa Coelestis sive Tabulae Quinque inerrantium septimumordinem non excedentium et usque ad XXX gradum decl. Austr. Pertinentium quas pro medio seculo XIX stereographice construxit ... Leipzig: K. F. Köhler, 1843. £950

Oblong folio (675 × 596 mm.), title, dedication, preface, 5 plates, disbound, loosely inserted in the remains of original printed paper wrappers, very darkened and torn, the rear wrapper incomplete, with parts detached. The plates generally clean, but darkened towards the margins with some sporadic spotting, chipping, and closed tears. Stamp of the library of the Prussian army college at Lichterfelde (outside Berlin) on title.

'By 1830 the genre of star atlases began to split apart into two subdivisions, the professional star atlas and the popular star atlas' (Catalogue of *The Golden Age of the Celestial Atlas*, Linda Hall Library, Kansas City, 1995). This work is in the former category, accurately plotting both the location and the relative intensity of the different stars. These are foregrounded in black ink, while the constellations, which in the popular atlases were the crowning glory, recede into the background in faint orange outline. With the rapid developments in the astronomical instruments of the early nineteenth century, huge advances were made in both mapping the locations of stars and measuring their relative intensity. From his observatory at the Cape of Good Hope, John Herschel had begun to make accurate measurements of the relative intensity, and the German astronomer, F. W. Bessel (Schwink's adviser and the dedicatee of this work), accurately catalogued over 3,000 stars, his *Fundamenta Astronomiae* becoming the basis for nineteenth century astronomy. In his preface here, Schwink also acknowledges the work of Piazzi, Baily for the star locations, and Harding for the projection.

No copy of this work appears in auction records since 1982. It is not in the *RLIN* database, which notes only another work by Schwink, an atlas of instruction in military fortification published at Paris 1846–47.

Pannekoek, *History of Astronomy*.

210. *The geometry of the ellipse using synthetic methods*

SEYMOUR, Edward Adolphus, *11th Duke of Somerset*. A Treatise in which the Elementary Properties of the Ellipse are deduced from the properties of the Circle, and geometrically demonstrated. London: John Murray, 1843;

[*with:*] — Alternate Circles and their connexion with the Ellipse. London: Richard Clay, 1850. £500

2 works together, 12mo (180 × 102 mm.), pp. [iv], 134, [1]; [iv], 71. Manuscript note (authorial?) on front free endpaper of first work. Contemporary dark blue calf by Hering, covers with elaborately gilt borders, slightly rubbed, spine richly gilt with red lettering piece, marbled endpapers and edges, gilt inner dentelles. Engraved armorial bookplate on front pastedowns; later bookplates of C. W. Turner.

FIRST EDITION of the second work, second edition of the first work. The *Treatise* is a curious treatment of the geometry of the ellipse using synthetic methods. Its content is described by the author as follows: 'The First Book treats of concentric, and more especially alternate circles. The Second Book is chiefly upon the three classes of parallels, which are here employed in deducing the ellipse from the circle. The Third Book applies the principles developed in the two preceding, to explain and demonstrate some of the simplest properties of the ellipse. The Fourth Book treats of such parallelograms as are connected with the ellipse.' The concept of alternate circles is explained as follows: 'When, of three concentric circles, the area of one is equal to the area of the two others, those others are called alternate circles.' The *Treatise* was first published the previous year; *Alternate Circles* is its sequel. 'The First Section contains some Geometrical Propositions, demonstrated by an Algebraical process. The Second Section employs Alternate Circles to simplify, or to reduce to lower dimensions, such equations as express the properties of the Ellipse' (Introduction).

211. *'Ah, Jenner, I can refuse him nothing.'*

(SMALLPOX.) Rapport sur les vaccinations pratiqué en France en 1808 et 1809. Paris: Imprimerie Imperiale, 1811. £220

8vo (210 × 128 mm.), pp. [vi], 142, 4. With half-title, printer's device to title. Uncut in original blue wrappers, upper cover partly torn. Inscription to front blank endleaf, signed Dr. Delorme, dated 1951. A very good copy.

ONLY EDITION of this important report on vaccination against smallpox conducted throughout France in 1808–1809. Although relatively new, the vaccine invented and experimented by Jenner in 1796–98 was already being implemented in the more advanced European countries at an astonishingly fast pace, nowhere faster than in France, where the head of state took a personal interest in its success. Napoleon was

famously impressed by Jenner's vaccination, even to the extent of freeing Jenner's brother from captivity at the Gloucester doctor's personal request ('Ah, Jenner, I can refuse him nothing,' he is reputed to have said). This document gives evidence of the extension and penetration of Napoleon's new national health system, a vast body of regional authorities and services all firmly tied to the Imperial head through a centralized bureaucracy. Modern scholars are beginning to recognise that smallpox eradication was successful not because of vaccination alone, but where mass compulsory vaccination was combined with proactive policies of surveillance and containment.

212. *Sir John Herschel's copy*

SOMERVILLE, Mary. On Molecular and Microscopic Science ... with illustrations. London: John Murray, 1869. £400

2 vols., 8vo (178 × 122 mm.), pp. xi, [1], 432; viii, 320, 32 publisher's adverts. 180 figures, including 2 frontispieces and 6 other full-page illustrations, others in the text. Vol. I largely unopened. Blue cloth binding by Edmonds and Remnants (binder's ticket at rear of volume I), gilt lettering on spine, gilt vignette of Acanthrometra Bulbosa by Haeckel at centre of covers of both volumes, gilt ruled borders, bevelled edges. Library stamps of the Herschel library at Collingwood on both title-pages and both opening text pages, with pencil marks of John Herschel on p. 55, vol. I.; recent collector's label of Dr Sidney Ross, Rensselaer Institute, Troy, New York. An excellent copy.

FIRST EDITION. Mary Somerville wrote *On Molecular and Microscopic Science* while recovering from the death of her husband in 1869. She was in her 89th year, and retained full possession of all her faculties until her death at the age of 92. She was one of the most remarkable women of science of the century, counting many of the leading scientists of the day — the Herschels, Lyell, Laplace, and Humboldt — among her friends and correspondents. Her speciality was mathematics, but she wrote many books, both popular and complex, on a host of scientific subjects, winning universal respect and numerous honours from scientific institutions throughout Europe. She also spoke out against cruelty to animals and gave powerful support for women's rights; her signature was the first on John Stuart Mill's petition to Parliament on women's suffrage, solicited by Mill himself (*DSB*). Her name was commemorated after her death by the foundation of Somerville Hall, Oxford, and in the Mary Somerville mathematics scholarship for women.

213.

SPIESS, Johann Karl. Schatz der Gesundheit oder Gründliche Anleitung Zur GesundheitsPflege Für Alle Menschen, Wie ein jeder seine Complexion nach der Gründen der Vernunfft urtheilen, allen menschlichen Zufällen mit unverwerfflichen experimentirten Artzney-Mitteln zu Hülffe kommen, und dergestalt durch solche Anweisung ein hohes Alter erreichen könne, Alles aus der Erfdahrung zu jedermnniglichen Nutzen durch Frage und Antwort in Druck gefertiget. Hanover: Fürster, 1711. £750

8vo (162 × 99 mm.), pp. [xxxii], 240. Title printed in red and black. Three small worm-holes running through outer upper corner. Disbound with early German floral paper spine. A good, unsophisticated copy.

FIRST EDITION of Spiess's 'treasure', a classic of the medical genre sprung from the medieval and early-modern 'books of secrets'. Spiess was born in Wernigerode, in the Harz, in 1663. He graduated at Utrecht and became Land-physicus in Magdeburg. After entering the service of Duke Anthon Ulrich at Wolffenbüttel in 1701, he was made private physician. His treatises on foreign remedies, his discovery of a cure for smallpox, and dissertation on the medical use of valerian earned him the professorship of therapeutics at Helmstädt. This work gives practical solutions to the most common health issues, and is structured in a user-friendly succession of questions and answers. An interesting compendium is devoted to dietary suggestions that involve the healthy and curative use of coffee, tea, beer, and wine.

Ferguson II, 394.

214. *The only English midwifery book illustrated with overlays*

SPRATT, George. Obstetric Tables: Comprising Coloured Delineations on a Peculiar Plan, intended to Illustrate Elementary and Other Works on the Practice of Midwifery, elucidating particularly the Application of the Forceps, and other Important Practical Points in Obstetric Science. London: for the Author, by John Churchill; Maclachan and Stewart, Edinburgh; Hodges and Smith, Dublin, 1833;

[*with:*] — Supplement to Obstetric Tables: comprising Graphic Illustrations, with Descriptions and Practical Remarks; Exhibiting on Dissected Plates Many Important Subjects in Midwifery. London: for the Author, by John Churchill; Maclachan and Stewart, Edinburgh; Hodges and Smith, Dublin, 1835. £1500

2 works, demy 4to. *Obstetric Tables*: pp. [xii], [24]; 12 lithographed plates (one uncoloured, 4 partially hand-coloured and 7 hand-coloured) with between them a total of 27 flaps (2 on rice paper, 2 folding). *Supplement*: pp. [x], [26]; 7 lithographed plates (2 uncoloured, one partially hand-coloured and 4 hand-coloured) with between them 17 flaps (5 double-sided). In total 19 plates with 44 flaps (individual figures and/or plates with between one and 5 flaps). Some dust soiling and occasional spotting. Original matching sage-green moiré cloth, corners bumped, backstrips slightly frayed at head and feet, original blue leather labels on upper covers lettered in gilt, a little rubbed. A good set, with all the flaps firm and in good condition.

FIRST EDITION, COMPLETE WITH THE SUPPLEMENT published two years after the original volume. Spratt's book is renowned as the only English midwifery book to be illustrated with flaps, or overlays. The work covers the female pelvic bones and genitalia, the development of the foetus, and the birth of the child. Several different presentations are represented, as is the use of forceps and the operation for craniotomy.

215. *Victorian metallurgy*

SPRETSON, N. E. A Practical Treatise in Casting and Founding. Including Descriptions of Modern Machinery employed in the Art. London: E. & F. N. Spon, New York, 1878. £100

8vo (213 × 136 mm.), pp. xii, 412. Half-title. 82 plates at rear, 3 folding. Internally clean and crisp. Publisher's diagonal-grain brown cloth, blind ruled borders to sides, gilt on spine, binders ticket at rear. Covers and edges lightly marked and rubbed. Ownership inscription on half-title. A very good copy.

FIRST EDITION. Spretson's authoritative work on the casting and founding of iron gives a clear insight into late Victorian technology and metallurgy. The 82 plates show a wide variety of the machinery employed at the time, including cupolas, air furnaces, pyrometers, mouldings, fans, and plans of whole foundries.

216.

STEPHENS, John. The History of the Rise of the Progress of the New British Province of South Australia; including particulars descriptive of its soil, climate, natural productions, &c. and proofs of its superiority to all other British colonies. Embracing also a full account of the South Australian Company, with hints to various classes of emigrants, and numerous letters from settlers, concerning wages, provisions, their satisfaction with the colony &c. London: Smith, Elder, & Co., 1839. £200

8vo (212 × 137 mm.), pp. viii, 224, [11] adverts. Frontispiece folding map, 4 zinc lithographs, folding map, folding table. Plates a little dull, plate facing p. 98 with stain to blank margin. Edges uncut, recently rebound in green quarter morocco, two raised bands on spine with gilt title between, green cloth sides. A very good copy.

SECOND EDITION of a work first issued anonymously as *Land of Promise* earlier the same year, an interesting early account of South Australia apparently written with the intention of attracting emigrants to the province. Stephens waxes lyrical about the

superiority of South Australia to every other British colony. On the verso of the title he promises a personal reply to any reader or possible emigrant who writes to him for further information. The frontispiece map show South Australia with an inset of the whole continent. The plan of Adelaide facing pp. 101 shows how arrangement of acre lots in the city's first years defined its present street plan.

217.

STEWART, Matthew. Tracts, Physical and Mathematical. Containing, an Explication of several important points in Physical Astronomy; and, a new method for ascertaining the Sun's distance from the Earth, by the Theory of Gravity. Edinburgh: for A. Millar, J. Nourse, W. Sands and A. Kinkaid, & J. Bell, 1761. £650

8vo (198 × 122 mm.), pp. vii, 411. 19 folding engraved plates (one torn in upper margin, not affecting printed area). Some offsetting, occasional light browning. Contemporary mottled calf, very rubbed, covers with gilt border, spine gilt in compartments and with remains of leather label, joints cracked. From the library of Dundas of Arniston with armorial bookplate on front pastedown; later bookplate of C. W. Turner. Good internally in a well-used binding.

FIRST EDITION of Stewart's major astronomical work, his second book. Stewart gained his reputation with the publication of *Some general theorems of considerable use in the higher parts of mathematics* (1746), a geometrical work which owed much to his teacher Robert Simson. After his election to the chair of mathematics at Edinburgh in 1747, his interests turned to astronomy and natural philosophy. The present work consists of several tracts giving purely geometrical proofs of a number of results that had previously been obtained only by algebraic or analytic methods. Stewart wrote it 'pursuing his plan of introducing the simplicity of ancient geometrical demonstrations into astronomic investigations', and so, 'after laying down the doctrine of centripetal forces in a series of propositions requiring only a knowledge of the elements of plane geometry and of conic sections, he proceeded to determine in the same manner "the effect of those forces which disturb the motions of a secondary planet." A theorem in which he deduced the motion of the moon's apsides attained an accuracy far surpassing that reached by Newton. The result confirmed that arrived at through algebraical methods by Charles Walmesley in 1749' (*DNB*). The tract on the estimation of the distance of the sun from the earth was later expanded into his *Distance of the sun from the earth* (1763), but the erroneous result he obtained drew such criticism that he retired to his estate in 1772, leaving the duties of his chair to his son Dugald, the philosopher, who was elected joint professor with him in 1775.

Lalande p. 474.

218.

TACQUET, Andreas. Cylindricorum et Annularium Libri IV. Item De Circulorum Volutione per Planum dissertatio Physiomath. Antwerp: Jacob Meurse, 1651. £1500

4to (218 × 178 mm.), pp. [xx], 284, [4]. Fully-engraved title, 18 folding engraved plates (the first re-attached to its sheet and wormed at fold without any loss of plate). Browning throughout, some small marginal repairs, partially erased stamp at foot of half-title. Later half vellum, blue marbled paper sides.

FIRST EDITION of Tacquet's most important mathematical work, which 'contained a number of original theorems on cylinders and rings. Its main importance, however, lay in its concern with questions of method. Tacquet rejected all notions that solids are composed of planes, planes of lines, and so on, except as heuristic devices for finding solutions. The approach he adopted was that of Luca Valerio and Gregorius, an essentially Archimedean method' (*DSB*).

219. *With close copies of Wandelaer's magnificent plates from Albinus*

TARIN, Pierre. Myo-Graphie ou Description des Muscles du Corps Humaine. Paris: Briasson, 1753. £1900

Large 4to (241 × 185 mm.), pp. [ii], 171, [1]: text within printed borders. 29 engraved plates, the first 9 with accompanying engraved outline plates, one folding, 2 partially hand-coloured, 4 with captions added in ink in a neat hand, one soiled at upper outer corner. Title dust-soiled and slightly frayed at outer edge, some light browning or occasional spotting. Contemporary ownership inscription in ink on title and headings and annotations in ink throughout. Neatly rebound to style in calf-backed marbled boards, spine elaborately gilt, red morocco label. A very good copy.

FIRST EDITION of this admirable and informative work on the muscles of the human body. Although 'better known for his *Dictionnaire anatomique* (1753) and his description of many anatomical structures in the brain' (*Heirs of Hippocrates* 961), Tarin also wrote several other text-books and the entire section on anatomy in the *Encyclopédie*. This work has the text in French and Latin on facing pages, and uses closely copied versions of the magnificent plates that Jan Wandelaer made for Albinus's great *Tabulae sceleti et musculorum corporis humani* published six years earlier, which source Tarin gratefully acknowledges.

NLM/Blake p. 445; Waller 9489; *NUC* records only one location, University of Minnesota Biomedical Library.

220. *The most important Italian mathematical book of the sixteenth century*

TARTAGLIA, Niccolò. La Prima [–Sesta] Parte del General Trattato di Numeri, et Misure. Venice: Curtius Troianus dei Navo, 1556–60. £5750

6 parts in 2 vols., folio. Titles with woodcut portrait of Tartaglia, woodcut device or arms, woodcut initials, diagrams, and repeated woodcut portrait. One blank (*6) lacking in vol. 1, some mainly marginal damp-staining to first two parts, and more pronounced in parts 3–6, a few tears repaired, title of part 3 re-margined and repaired with later library stamps, preliminaries of part 3 slightly wormed with loss of a few letters, inkstain holes in FF_3 of part 1 repaired with slight loss, one page of table and dedication of part 3 misprinted upside-down, some slight soiling. Vol. 1 bound in modern vellum with ties, vol. 2 in contemporary vellum, title inked on spine, old library label on spine, some soiling and worming. Some early annotations.

FIRST EDITION OF THE MOST IMPORTANT ITALIAN MATHEMATICAL BOOK OF THE SIXTEENTH CENTURY. Tartaglia's treatise on pure and applied mathematics stands as the finest achievement of the self-taught mathematician and engineer from Brescia. His most comprehensive work, the result of a long preparation, combines the rich theoretical texture developed in the 1540s through the translations of Euclid and Archimedes with the broad appreciation of practical applications of mathematics, minutely researched between 1546 and 1551. 'Indeed, there is no other treatise that gives us such information concerning the arithmetic of the sixteenth century, either as theory or application' (Smith, p. 278).

Riccardi I (2), 505; Adams T-180.

221. *Trouble in the Americas*

TENNENT, John. Physical enquiries: discovering the mode of translation in the constitution of northern inhabitants, on going to, and for some time after arriving in southern climate; an error of the College of Physicians in recommending vinegar to His Majesty's fleet in the West-Indies to prevent the epidemic fever there so fatal to Britons: The deadly effect of all acids in that case, whether used for cure or prevention: A plain easy method both to prevent and to cure that disease: and the barren state of useful physical knowledge, as well as the mercenary practice of physicians, by an impartial state[ment] of Dr. Ward's qualifications for the practice of physic ... illustrated with remarks upon a printed letter to a Member of Parliament, signed Philanthropos. London: T. Gardner, 1742. £650

8vo (187 × 120 mm.), pp. [x], 69, [1]. Modern purple marbled boards, gilt-lettered black morocco strip to spine. A very good copy.

FIRST EDITION. The various unknown infections and fevers afflicting British colonists in the West Indies naturally concerned London's medical societies, who were however ineffective in coming up with any solution. Let down by medical science, the

colonists were easy prey for the promises of Mr Ward, a man of obscure provenance whose 'Ward's pill' was so popular a cure-all in the 1740s as to receive an ironic encomium in chapter 76 of Fielding's *Tom Jones*.

Tennent's typically choleric treatise is exercised as much by the failures of the learned medical societies as by any credulity of the settlers. He was familiar with conditions in the Americas, having emigrated to Virginia in about 1725, where in 1734 he produced the first American domestic medicine manual, *Every Man his own Doctor: or, The Poor Planter's Physician*, a popular work reprinted twice in Philadelphia by Benjamin Franklin. Of doubtful medical qualification himself, his relaxed attitude to Ward's quackery is probably also explained by the critical reception of his own *Essay on Pleurisy* (1736), in which he advocated the therapeutic use of Virginia's native rattlesnake-root, a natural remedy he had picked up from the Seneca Indians. Tennent was ahead of his time — the root was later widely imported to Europe for use as an expectorant — but he came under fierce attack for such unorthodoxy, and, citing the 'ingratitude of the colony', returned to England in 1739 where he spent the remainder of his life attempting to find some recognition of his talents.

NLM/Blake p. 446; Sabin 94715.

222. *Notes and queries on human lifespan*

THOMS, William J. The Longevity of Man. Its Facts and Its Fictions. With a prefatory letter to Prof. Owen, C.B., F.R.S. on the limits and frequency of exceptional cases. London: F. Norgate, 1879. £150

Large post 8vo, pp. xxxii, 320. Half-title. Original green cloth gilt and blind-stamped, spine lettered and decorated in gilt, multiple blind fillets to sides enclosing frame with protruding cornerpieces. Head of spine lightly bumped. Inscription on half-title 'To W. F. Graham from William J. Thoms with all good wishes', library stamp, and library label inside. A very good copy.

PRESENTATION COPY of the classic detailed study on longevity produced by William J. Thoms, first published in 1873. Thoms, deputy librarian to the House of Lords, had made a name for himself as founder and president of the periodical *Notes and Queries*, whose subtitle 'A Medium of Inter-Communication for Literary Men, Artists, Antiquaries, Genealogists, Etc.' still sounds surprisingly modern. Thoms devoted his research to antiquarian enquiries related to the collection of proverbs, rural legends, and cures, a subject for which he coined the term 'Folk-Lore'. This demographic study is based on the analysis of insurance company records and various birth and death registries to work out the average and maximum human lifespan. About a century earlier, the French naturalist Georges Buffon had argued that human beings, regardless of their social condition or race, only rarely lived beyond 100 years, but several eminent authorities continued to accept accounts referring to as many as 165 years. Thom's evidence led him to conclude that Buffon's suggested upper limit was substantially accurate.

223.

TISSOT, Samuel August André David. Advice to the People in General in Regard to their Health, but more particularly calculated for those, who, by their very distance from regular Physicians, or other very experience'd practitioners, are the most unlikely to be seasonably provided with the best Advice and Assistance, in acute Diseases, or upon any sudden inward or outward Accident. With a Table of the most cheap, yet effectual Remedies and the Plainest Directions for preparing them readily. Translated from the French ... London: Becket and De Hondt, 1765. £450

8vo (194 × 122 mm.), pp. xxxii, 608, [4] index. Engraved initials, head- and tailpieces. Internally fresh and clean. Contemporary calf, raised bands, gilt rules and lettering, expertly repaired and rebacked with original spine laid down. An excellent copy.

FIRST ENGLISH EDITION. 'A tract on medicine written for the lay public; it ran through several editions and was translated into all European languages' (Garrison–Morton, p. 251). One of the most celebrated practitioners of his time, Samuel Tissot studied at Montpellier and practised in Lausanne. He wrote on numerous subjects, including

smallpox, inoculation, nervous diseases, migraine, and onanism. He also wrote the delightfully titled *Essay on the Disorders of People of Fashion; and a Treatise on the Diseases incident to Literary and Sedentary People.* 'Tissot's importance is due to his clear differentiation between diseases of the nervous system and the pathology of the other body systems, which laid the foundations of modern neurology' (*Heirs of Hippocrates*, p. 324).

Garrison–Morton 1597; NLM/Blake p. 451

224.

[THORNTON, Robert John.] The Philosophy of Medicine, or Medical Extracts on the Nature of Health and Disease. Including the Laws of Animal Oeconomy and the Doctrines of Pneumatic Medicine. By a friend to improvements. London: Whittingham for T. Cox, H. D. Symonds, J. Johnson, Murray & Highley, Evans, Richardson, Cuthell, and Bell and Bradfute in Edinburgh, 1799. £1500

5 vols., 8vo (208 × 125 mm.). 34 plates, many folding, some hand-coloured, 2 folding tables. Internally fresh and clean. Contemporary sprinkled calf, black spine labels to flat panelled spines, gilt bird and lyre tools to compartments, some light wear to joints, armorial bookplate of Westport House in all volumes. An excellent set.

A very attractive set of the fourth edition. This earlier work by the author of *The Temple of Flora* is dedicated to Joseph Banks, and is a popular primer on all aspects of medicine. Thornton was a proponent of the Brunonian system, taking his material from Beddoes's edition of Brown's works (see item 41 above). Thornton's volumes deal with chemistry, the first, second, and third laws of 'animal oeconomy', and pneumatic medicine respectively. It is said that Thornton also introduced digitalis into the treatment of scarlet fever. The plates are mostly anatomical, with some portraits of physicians, some depictions of mental illness ('The Fair Maniac,' 'The Frantic Mother'), a plate of 'Emblems of Immortality', and another of Charlotte Corday's execution.

NLM/Blake p. 450; not in Garrison–Morton or Osler.

225. *Presentation to his biographical subject's lifelong friend*

TODHUNTER, Isaac. A History of the Progress of the Calculus of Variations during the Nineteenth Century. Cambridge & London: Macmillan & Co., 1861. £800

Large 8vo, pp. xii, 532, 24. Folding engraved plate. Entirely uncut and unopened in original elephant-hide grain moss-green cloth, head and tail of spine bumped, spine slightly faded, covers bordered in blind, spine lettered in gilt. Inscribed on half-title 'From the Author' and with the Collingwood library stamp of Sir John Herschel at head of title and first page of text.

FIRST EDITION, PRESENTATION COPY TO SIR JOHN HERSCHEL, of the first of Todhunter's important works on the history of mathematics, still valuable today, and in all of which he 'gave a close and carefully reasoned account of the difficulties involved and the solutions offered by each investigator. His studies and use of source material were thorough and fully documented' (*DSB*). Todhunter was the biographer of Herschel's lifelong friend and fellow Cambridge scientist, William Whewell.

226.

TRAPHAM, Thomas. A Discourse of the State of Health in the Island of Jamaica. With a provision therefore Calculated from the Air, the Place, and the Water: The Customs and Manners of Living, &c. ... London: for R. Boulter, 1679. £3200

8vo (157 × 100 mm.), pp. [xvi], 149, [3] adverts. Title within double-ruled borders. Rebound to style in modern sprinkled sheep, sides with blind-tooled borders, blue morocco spine label. Title a little soiled and stained, very slightly frayed at fore-margin, a few tiny spots and rust-holes to text. Early inscription to title 'Geo. Gilbert' together with the inkstamp of the Medical Society of

London; label of the Wellcome Institute to prelim, small withdrawal stamp to title verso; the Norman copy with bookplate to front pastedown. A very good copy.

FIRST AND ONLY EDITION: RARE. No other copy appears in auction records for the past 25 years. Trapham's *Discourse* is likely to be the earliest treatise in English on Caribbean medicine, and is especially notable for its inclusion of an account of the yellow fever outbreak of 1671. Trapham attended Magdalen College at Oxford, and obtained his medical degree from the protestant University of Caen in 1664 before becoming an honourary fellow of the College of Physicians. He left for Jamaica shortly after his marriage, and is supposed to have perished in the Jamaican earthquake of 1692. The *Discourse* is of more than purely medical interest and it also gives extensive accounts of 'customs and manners of living' among the native population, including their habits of eating and drinking. Trapham dedicates the work to John Vaughan, third (and last) Earl of Carbery (1640–1713), a patron of John Dryden. Vaughan had sailed for Jamaica in 1674, in the company of buccaneer Henry Morgan, and there lived a sufficiently colourful life for Pepys to describe him as 'one of the lewdest fellows of the age' (*Diary*, 16 Nov. 1667).

NLM/Krivatsky 11952; Norman 2091; Sabin 96473; Wing T2030.

227. *A classic of the* Wunderkammer *genre*

VALENTINI, Michael Bernard. Museum Museorum, oder Vollständige Schaubühne aller Materialien und Specereyen, nebst deren natürlichen Beschreibung ... aus andern Material-Kunst und Naturalien-Kammern, Ost- und West-Indischen Reiss-Beschreibung ... Frankfurt: Johann David Zunners [and Johann Adan Jung], 1704–14. £14,500

3 vols. (5 parts) bound in 2, folio (368 × 235 mm.). 2 additional engraved title-pages, 93 engraved plates, 276 engraved illustrations in the text, one woodcut, engraved head- and tailpieces. Minor marginal worming at beginning of second volume, just touching engraved title. Contemporary vellum, some light soiling. J. A. Freilich's small bookplate to front pastedowns. A superb copy, from the Koslov and Freilich collections.

FIRST EDITION of the celebrated *Museum Museorum*, Valentini's magnum opus and a classic of the *Wunderkammer* genre. Natural history specimens, history of art and technology, wonders, and devices constantly crossing the threshold between science and magic are arranged in one of the largest and most profusely illustrated chambers of marvels. Measurement tools, perspective instruments and accurately described machines work together with magic stones and herbs, as in the description of the 'magnetic airship' designed by a Brazilian priest (part 3, p. 35). Here coral-agates placed in the network above the pilot were supposed to possess such magnetic powers as to keep the craft aloft, in a daring implementation of the fashionable theories on magnetic levitation. The *Museum* was the most comprehensive and successful compilation that the German natural scientist and physician Michael Valentini (1657–1714), a keen collector of natural history objects, published on the strength of his own specimen collection and of received literature, and was reprinted in the year of his death.

Eales 1259; Nissen BBI 2035; Pritzel 9663; Sabin 98357.

228. *The saviour of air travellers*

VALSALVA, Antonio Maria. De aure humana tractatus, in quo integra ejusdem Auris Fabrica, multis novis inventis, & Iconismis illustrata, describitur: omniumque ejus Partium Usus indagantur. Quibus interposita est Musculorum Uvulae, Atque Pharingis Nova Descriptio, et Delineatio. Bologna: Costantino Pisarius, 1704. £8500

4to (230 × 165 mm.), pp. [xvi], 184, 10 engraved plates, one folding, decorated woodcut initials and tailpieces. Contemporary full vellum, somewhat soiled, some staining, some foxing throughout (endleaf torn at upper corner). Ownership inscriptions to title and half-title ('Johannes Scheuitzerus[?] ... Ex dono celeberrimi auctoris'), red wax armorial seal on half-title, bookplate incorporating middle ear structures by designer Mervyn Peake. A good copy of a scarce book.

FIRST EDITION, PRESENTATION COPY, of what is perhaps the most significant study of the human ear ever written, detailing and depicting for the first time its most minute muscles and nerves and dividing it into the now standard inner, middle and outer anatomical subsections. 'This remarkable book ... became a standard on the subject for over a century' (*Heirs of Hippocrates*). The plates, fine and extremely precise, were drawn following the example of the copperplate anatomical illustrations of the celebrated Eustachi (Valsalva named the tube of the middle ear in his honour) and illustrate the anatomy of the ear, uvula, and pharynx in minute details. Valsalva (1666–1723), pupil of the great Malpighi and teacher of Morgagni, developed the 'Valsalva Manoeuvre', now routinely used by air travellers, to unblock the ear by inflating the middle ear.

Norton 2125; Garrison–Morton 1546; Waller 9795; NLM/Blake p. 468; *Heirs of Hippocrates* p. 729.

229. *The foundation stone of cellular pathology*

VIRCHOW, Rudolf. Die Cellularpathologie In Ihrer Begründung Auf Physiologische Und Pathologische Gewebelehre. Berlin: August Hirschwald, 1858. £5000

4to (216 × 140 mm.), pp. xvi, 440. Half-title. 144 woodcut illustrations in the text (one full-page) of microscopic observations. Very light, barely noticeable even browning. Contemporary marbled boards, flat spine ruled in gilt, green morocco label. Some wearing or rubbing to extremities, lower corner of label torn. A very good, clean copy.

FIRST EDITION of 'one of the most important books in the history of medicine and the foundation stone of cellular pathology' (Garrison–Morton). Virchow, 'the greatest figure in the history of pathology' (*ibid.*), was at the time lecturing in the Pathological Institute in Berlin. He gathered his lectures in this text, where for the first time he expounds his idea of illness as a situation of conflict between healthy and diseased cells. 'Using improved microscopic and biochemical techniques, Virchow succeeded in reducing pathological processes to alterations and disturbances occurring at the cellular level. Every morbid structure consisted of cells derived from pre-existing cells, depending for their function on intracellular physiochemical changes. All morbid structures were to be regarded as deviations from normal structures — hence, the seat of disease, as well as any developed tissue, could be traced back only to a cell' (Norman). Hence also his dictum 'Omnis cellula e cellula' ('Every cell from a cell'), which imitates Harvey and Pasteur in summarizing with a short motto a ground-breaking assertion and a revolutionary change at the heart of all medical disciplines.

PMM 307c; Norman 2156; Garrison–Morton 2299; *Heirs of Hippocrates* 1892; Dibner 132; Osler 1624; Waller 9996.

230. *Presentation to Giovanni Ceva*

VIVIANI, Vincenzo. Quinto libro degli elementi d'Euclide, ovvero scienza universale delle proporzioni spiegata colla dottrina del Galileo ... Aggiuntevi cose varie, e del Galileo, e del Torricelli ... Florence: alla Condotta, 1674; [*with:*] — Diporto geometrico preso da V. V. intorno alla soluzione di dodici problemi d'Autore incognito. Florence: alla Condotta, 1676;

[*bound with:*] — Enodatio problematum universis geometris propositorum a d. Claudio Comiers ... Praemissi, horum occasione, Tentamentis variis ad solutionem illustris veterum problematis De Angulis trisectione. Florence: Giovanni Gugliantini, 1677. £36,000

2 works together in one vol., 4to (234 × 158 mm.), pp. [xiv], 149, [3], 153–284; [xii], 63, [3]. Half-titles. 2 folding engraved plates, woodcut diagrams to text in first work; 4 folding engraved plates, woodcut title vignette, head- and tailpieces in second work. Contemporary mottled calf, gilt spine with five raised bands, gilt floral tools in compartments, title lettered in gilt, edges speckled in red and green. Inscription by the author to verso of half-title of first work, 'All'Ill.mo Giovanni Ceva dono dell'autore', signed 'Vincenzo Viviani in ossequio', and inscription to title of second work, 'All'Ill.mo Sig. Giovanni Ceva' signed 'L'Autore'. Contemporary pen annotations to more than 40 pages (15 in the first part, 27 in the second part of first work, 2 in the second work) and a long 16-line note in margin of p. 111 in Latin by Giovanni Ceva. Joints

and upper cover skilfully repaired, light occasional foxing. A unique annotated presentation copy in very good condition.

FIRST EDITION, PRESENTATION COPY TO THE MATHEMATICIAN GIOVANNI CEVA, of one of the major Galileian texts, bound with the first edition of Viviani's geometrical masterpiece. The *Quinto libro* is a collection of previously unpublished works by Galileo, with writings by Torricelli and Viviani. Viviani (1622–1703) was one of the brightest of Galileo's pupils, his biographer, and his amanuensis. He obtained Galileo's manuscript on the fifth book of the *Elements* from Cardinal de Medici. The fragment, concerned with the demonstration of Euclid's fifth and seventh propositions about size and proportions, is published here for the first time (pp. 61–77), together with other writings by Galileo (pp. 79–113), Viviani's own completion of Galileo's demonstration (pp. 1–60), studies by Torricelli, and fragments of an unpublished dialogue by Galileo. Viviani's principal contributions, his study on the trisection of the angle, are contained in the appendix to geometric problems. The first edition of 1674 was published without the addition of pp. 153–284 and without plates. A second was issued two years later, with the additional part and plates, dated 1674 in the title but 16 May 1676 in the dedication. This copy, specially assembled for its illustrious recipient, contains the original first issue of the work (1674 in dedication), but also the addition of *Diporto* published in 1676.

The *Enodatio*, in a rare first edition, contains Viviani's studies on the trisection of angles conducted with the use of a cylindrical spiral or of a cycloid, in reply to the questions posed by Claude Comier.

PROVENANCE: Giovanni Ceva (1647–1734) was Professor of Mathematics at the University of Mantua, appointed by the Gonzagas in 1686. Author of many works of geometry and mechanics as well as mathematical applications in economics, Ceva's main contribution remains the theorem named after him, one of the most important discoveries ever on the synthetic geometry of triangles, which states that lines from the vertices of a triangle to the opposite sides are concurrent precisely when the product of the ratio of the sides is 1.

Gamba 1048; Riccardi II 627; Cinti 151.

231.

VOGTER, Bartholomäus. Ein nutzlich unnd notwenndigs Artzney Büchlin für den gemeynen menschen, Darinnen vonn allen kranckhaitenn allerlay art, so dem menschen zu stehen mögenn, die zu vertreibenn, Mit vil bewertenn stuckenn, Kreutern, Salbenn, Pflaster, und receptenn &c. Augsburg: Heinrich Steiner, 1536. £3000

Small 4to (197 × 140 mm.), ff. [iv], lxxvii. Large engraved vignette on title. Browned, soiled and stained throughout, several pages with repairs to lower margins, one leaf (xxxvi) torn from head to toe and crudely repaired with loss of a few letters. Modern quarter vellum, marbled sides.

This rare early German work of popular folk medicine, first published in 1531, is here found in third edition. The chief inspiration for Vogter's handy little treatise was Hieronymous Brunschwig's *Chirurgia* (1534) and the title-page vignette (a man contemplates the application of a remedial paste to his diseased leg, while the doctor or apothecary's assistant is distracted from his job by the view through the open window) is very reminiscent of illustrations from that renowned work. Although principally an oculist, Vogter also covers many other aspects of medicine in this work, including dentistry, urology, gynaecological complaints, plague, and wounds. Vogter plied his trade in Dillingen, a small town in Bavaria. His work was obviously popular at the time and like other such early works on popular medicine, it has become increasingly difficult to find in any edition.

NLM/Durling 4688 (imperfect, as is their copy of the first edition); no other location recorded in *NUC*.

232.

WALLACE, Alfred Russel. Darwinism, an Exposition of Natural Selection and some of its Applications. London: Macmillan and Co., 1889. £300

Crown 8vo, pp. xvi, 494, [2] adverts. Half-title, frontispiece portrait, folding map, numerous figures, illustrations in text. Publisher's diced green cloth, gilt on spine. An excellent copy.

FIRST EDITION. Wallace wrote *Darwinism* after the success of an American lecture tour on Darwin's views. It contains a few previously unpublished extracts from Darwin's manuscripts on natural selection at pp. 46, 69, and 79–80 (Freeman, *The Works of Charles Darwin*, p. 185).

Freeman, *British Natural History Books,* 3866.

233. *Only of only two recorded extant copies*

WATT, James. Directions for Erecting and Working the Newly Invented Steam Engine by Boulton and Watt. [No place, 1779.] £30,000

8vo (120 × 180 mm.), pp. [iv], 24, [xvi]. 6 engraved plates (2 of which are folding) numbered X–XV, a little light offsetting from first plate. Contemporary stiff blue paper wrappers. Spine and small portion of upper joint somewhat frayed, but overall exceptionally well-preserved, in a modern calf-backed box. A remarkable survival.

EXCEPTIONALLY RARE FIRST AND ONLY EDITION, ONE OF ONLY 50 COPIES ON COPY PAPER, of the 'first book in the English language devoted to the steam engine'. Only one copy other than the present is known: that among the Boulton Papers at Manchester Library. 'This extraordinarily rare pamphlet giving directions for the operation of the steam engine was written by Watt alone and published privately for circulation among purchasers of the steam engine, as the engines were not always erected by their manufacturers. Entries in Watt's journal from 25 May to 4 September 1779 comment on the writing and publication of these directions. The entry for 12 June notes that only a hundred copies of the directions were ordered, fifty [including the present] on copy paper and fifty on thin post paper' (*Bibliotheca Mechanica* p. 347).

Watt's steam engine was, of course, the single most important invention of the industrial revolution, but its early success owed much to the collaboration of the Birmingham industrialist Matthew Boulton. While Watt certainly takes the credit for inventing the first reliable steam engine, it was Boulton who made it a practical reality by securing funds to complete the design. The present pamphlet, however, was evidently written by Watt alone, and represents a compilation of component parts by different printers.

Bib. Mech. pp. 346–7; H. W. Dickinson & Rhys Jenkins, *James Watt and the Steam Engine*, Oxford, 1927.

234. *Early anaesthesia in dentistry*

WEIGER, Joseph. Beweise der Unschädlichkeit des Schwefel-Aethers und der Nachtheile des Chloroform's: nebst Anleitung, die Narkose auf eine leichte und angenehme Art zu bemerkstelligen, und Anhang über kupferfreie Platinasegirung in der Zahntechnik. Vienna: C. Gerold & Sohn, 1850. £475

8vo (223 × 147 mm.), pp. [viii], 136. Uncut and unopened in original wrappers. A very good copy.

FIRST EDITION of the account of the earliest ether narcosis experiences in dental surgery, performed by a relatively unknown dentist in Vienna. Josef Weiger was the first doctor to apply the very recent, almost contemporary findings of Jackson and Morton in Boston to anaesthetic practice in dentistry, and indeed to add pioneering details to Jackson's and Morton's experiences conducted in Boston. The method had a huge and immediate success: 21,000 operations were conducted in 1850 following the protocol given by Weiger.

235.

[WELLS, Edward.] Elementa Arithmeticae numerosae et speciosae. Oxford: at the Sheldonian Theatre, 1698. £300

8vo, pp. [x], 220. Engraved printer's device on title. Light browning, dust-soiling to upper margins of some early leaves. Contemporary panelled calf, rebacked and relined. Bookplate of John, Lord Summers; later bookplate of C. W. Turner. A good, crisp copy.

FIRST EDITION of this text-book of arithmetic and algebra, whose aim was to render Oughtred's *Clavis Mathematicae* more accessible to students of the day for whom the author considers most arithmetics too commercial. Wells, mathematician, geographer and divine, 'was esteemed one of the most accurate geographers of his time' (*DNB*).

Wing W1286.

236.

WHARTON, Thomas. Adenographia: sive, glandularum totius corporis descriptio. Nijmegen: Andreas ab Hoogenhuyse, 1664;

[*bound with:*] STENO, Nicolaus. Observationes Anatomicae, Quibus Varia Oris, Oculorum, & Narium Vasa describuntur, novique salivae, lacrymarum & muci fontes deteguntur, et Novum Nobilissimi Bilsii De lymphae motu & usu commentum Examinatur & rejicitur. Leiden: Jacques Chouet, 1662;

[*bound with:*] GRAAF, Regner de. De Succi Pancreatici Natura Et Usu Exercitatio Anatomico-Medica. Leiden: Officina Hackiana, 1664;

[*and with:*] HIGHMORE, Nathaniel. Exercitationes Duae. Quarum prior De Passione Hysterica: Altera De Affectione Hypocondriaca. Amsterdam: Commelinus, 1660. £10,000

12mo (129 × 70 mm.). Wharton: pp. [xiv], 262, [2] bl.; 4 engraved plates cut from one sheet, device with motto to title. Steno: pp. [12], 108; 3 folding engraved plates (third rather torn with marginal losses), device to title. De Graaf: pp. [4], 90, [2] bl.; 3 folding engraved plates, device with motto to title. Highmore: pp. [viii], 136; title in red and black, device. Contemporary vellum over pasteboards, titles in ink on spine, sprinkled edges. Minor foxing and some light soiling to cover. Good copies.

A pleasing collection of four Dutch-published early works on physiology, in particular on the anatomy and functions of glands.

WHARTON: second edition (the first published in London in 1656 and reprinted 3 years later) of Wharton's foundation of the study of gland functions. 'In *Adenographia* Wharton gave the first thorough account of the glands of the human body, distinguishing them from viscera and classifying them as either excretory, reductive, or nutrient. He provided a valuable description of the adrenal glands and the first adequate account of the thyroid gland, to which he gave its present name. He discovered and described the duct of the submaxillary salivary gland (Wharton's duct), and accurately explained the role of saliva in mastication and digestion. In his discussion of the reproductive glands, Wharton ... furnished the original description of the mucoid jelly of the umbilical cord (Wharton's jelly)' (Norman). A strong supporter of the Parliamentarians, Wharton established a medical practice in London with John Bathurst, Oliver Cromwell's physician. His work soon earned the praise of Thomas Bartholin, whose acknowledgement of 'incomparable accuracy' most probably prompted the preparation of this second edition. *Adenographia* was then republished regularly and continued to be the key text in gland studies during the first half of the eighteenth century.

STENSEN: FIRST EDITION of a report that gathered the results of his researches in 1660–61. Published only four years after Wharton's *Adenographia*, this work contains the description of what the author called his 'little discovery': the first study on the parotid salivary duct, which led Stensen to a global investigation of the whole glandular lymphatic system. 'Going against received opinion ... Stensen stated that the true purpose of the glands was to secrete fluids' (Norman). New glands in the nose, cheeks, palate and in the sublingual area are described in this work for the first time, and a first exhaustive account on the functioning of the lacrymal system is drawn.

DE GRAAF: FIRST EDITION, 'EXCEPTIONALLY RARE' (Norman), of his pioneering investigation on the physiology of the pancreas. De Graaf intended to conduct his early experiments on pancreatic functions by examining the features and reactions of the juice produced in the gland. He resorted to the body of a living dog, trying to obtain the juice through an artificial fistula. The observations contained in this book,

which give a gripping account of all the frustrated attempts and failures in setting the experiment before the success, constitute a comprehensive study on the pancreatic function, but also 'one of the most interesting passages in the history of the experimental method' (Fulton p. 167).

HIGHMORE: second, corrected edition (published the same year as the first) of *Exercitationes*, Highmore's late work that engaged the author in a controversy with Oxford physician Thomas Willis. Highmore's anatomical works of the early 1650s had earned him wide fame and high esteem among contemporary scientists and physicians. His friendship and fellowship with Harvey was formed in the early years at Oxford, and Boyle spoke of him as 'my learned friend'. Highmore approached embryology and anatomy with the tools offered by the recent microscopic instruments. His main work, *Corporis humani disquisitio* (1651), was the first to accept Harvey's theory of circulation, and through its spectacular frontispiece it introduced the metaphor of the body as a garden in the public imagination.

WHARTON: Norman 2228; Garrison–Morton 1116; Wing W1576 (all 1656 ed.); Lilly 69; Russell 854; Speert, *Milestones*, 185–9. STENSEN: Garrison–Morton 973; Norman 2010. DE GRAAF: only one copy in *NUC*; Norman 923. HIGHMORE: Wing H1968a.

237.

WHITE, Charles. Cases in Surgery, with Remarks. Part the First [all published]. ... To which is added, an Essay on the Ligature of Arteries, by J. Aikin, Surgeon. London: for W. Johnston, 1770. £1250

8vo (200 × 122 mm.), in two parts, pp. xv, [i] bl., 173, [143]–198, [3]. 7 folding engraved plates, some light spotting. Portion of upper margin of third leaf excised and repaired, title detached and restored, occasional light soiling or browning. Contemporary polished speckled calf, worn, joints cracked, red leather label on spine. From the libraries of Fort Pitt (stamped in gilt at foot of spine) and Dr Haskell Norman with bookplate on front pastedown.

FIRST EDITION, PRESENTATION COPY, inscribed by the author on the front free endpaper to a Dr Taylor. The work contains the first publication in book form of White's new method of reducing shoulder dislocations (see Garrison–Morton 4407 for the journal edition of 1762). It also contains the first publication in book form of his description of the first recorded excision of the head of the humerus (journal edition of 1770 in the *Philosophical Transactions*). Aikin, who wrote the essay on ligature of the arteries, was one of White's pupils.

NLM/Blake p. 488; Norman 2231; Waller 10271.

238.

[WHITE, Gilbert.] The Natural History and Antiquities of Selborne, in the County of Southampton: with Engravings, and an Appendix. London: by T. Bensley; for B. White and Son, 1789. £4000

4to (254 × 1980 mm.), pp. [ii], vi, 440, 443–468, [14] including errata leaf. General title, two part titles with engraved vignettes, 7 engraved plates (2 folding) by Peter Mazell and Daniel Lerpinière after Samuel Grimm. Some very occasional trivial dampstains and some minor offsetting to plates. Contemporary calf, sometime rebacked retaining old red morocco label. A good copy.

FIRST EDITION of a work rightly considered both a ground-breaking work in natural history and a classic of English literature. It can also be claimed with justification that White was the father of popular natural history, and he is revered by present-day ornithologists as one of the first observers to take detailed and systematic notes of bird habits and habitats. He discovered Britain's smallest mammal, the harvest mouse, which had previously been undistinguished from related species, and he made significant observations on the habits of crickets. *The Natural History and Antiquities of Selborne* was the fruit of a lifetime's observation of the fauna, flora, and environment of an English parish, communicated in letters to like-minded friends such as Thomas Pennant.

Freeman, *British Natural History Books*, 3976; Grolier *English* 62; Rothschild 2550.

239. *The circle of Willis*

WILLIS, Thomas. Cerebri Anatome: cui accessit London: J. Flesher for J. Martyn & J. Allestry, 1664. £22,000

4to (190 × 150 mm), pp. [xl], 456: with blank after title. 15 engraved plates, of which 11 are folding, the last with slight tear at fold. Contemporary half calf, marbled sides, joints slightly cracked, new spine label. From the libraries of John Washer and Norman Shaftel, with their bookplates on verso of title and on front pastedown respectively. A very good, crisp, clean copy.

FIRST EDITION of one of the most desirable books in neurology and one of the classic publications of English medicine. 'The most complete and accurate account of the nervous system which had hitherto appeared, and the work that coined the term "neurology". Willis's classification of the cerebral nerves held the field until the time of Soemmerring' (Garrison–Morton). 'Willis classified and described ten pairs of cranial nerves, six of which are still recognized, and was the first to grasp the physiological significance of the "circle of Willis," the circle of anastomosed arteries at the base of the brain by which full circulation to all parts of the brain can be maintained even when the carotid or vertebral arteries are blocked. From his observations of animal brains, Willis hypothesized that the convolutionary complexity of the human cerebral cortex is correlated with man's superior intelligence, and that the cerebellum, a similar structure in all mammals, is the source of involuntary action' (Norman).

Garrison–Morton 1378; Grolier *Medicine* 32; *Heirs of Hippocrates* 538; NLM/Krivatsy 13009; Norman 2243; Osler 4249; Waller 10315; Wing W2824.

240.

WILLIS, Thomas. Cerebri anatome: Cui accessit nervorum descriptio et usus. Amsterdam: Gerbrand Schagen, 1666. £3250

Small 8vo (154 × 105 mm.), pp. [16], 342, [4], 37, [1] bl., [14] index, [2] bl. Engraved frontispiece, 12 folding engraved plates, containing 19 figures. Small repair to lower corner of B_1, not affecting text, small ink stain in the lower margin of P_2 and P_3. Full burgundy morocco, covers with gilt double-rule border, front cover and spine with the 'circle of Willis' stamped in gilt, spine lettered in gilt, top edge gilt, others uncut, marbled endpapers, by John F. Grabau, 1947. A good copy.

Second edition (first published at London in 1664; see above item).

NLM/Krivatsy 13012 (imperfect); Waller 10317.

241.

WILLIS, Thomas. Opera Omnia quorum posthac extat Catalogus. Geneva: Samuel de Tournes, 1676–77. £4500

4to (208 × 164 mm.), in six parts, pp. [vi], [22], 254, [2] bl.; [xvi], 176; 21, [1] bl.; [xvi], 214, [2] bl., [iv], 62, [5], [1] bl.; [xxxii], 333, [11]; [xvi], 204, [4]; [xxxii], 266, [6]. Fine engraved portrait frontispiece, 45 engraved plates, some folding, printer's device to all part-titles, many woodcut initials, head- and tailpieces throughout, running titles. Contemporary vellum, early title painted on orange band to spine, foot of spine with early library shelf-mark in red ink, red sprinkled edges. Some small stains to cover, some light browning and a couple of instances of offsetting, small tear to lower margin in one leaf, tiny worm-hole to front free endpaper and pastedown. Early engraved armorial bookplate of Ignatius Dominicus, Comes de Chorinsky De Ledske (1729–1792). A very good copy.

FIRST COLLECTED EDITION of Willis's works, a landmark in the history of medicine, and the book which laid the foundation of the discipline of neurology. Thomas Willis (1621–1675) had published his *Anatomy of the Brain* in 1664, and several parts of this collected volume were conceived as a further analysis of the brain tissues from a pathological perspective. Willis was able to provide an unprecedentedly clear description of the brain and its functions by removing it physically from the cranium. He reached a more sophisticated notion of localization and reflexes, and described epilepsy, apoplexy, and paralysis. In his *Pharmaceutice rationalis*, published for the first time only two years before the appearance of this collected edition, Willis 'was the first to notice that cases of wasting disease in which this symptom [increased

quantity of urine] was associated with sweetness of the urine formed a distinct group, and thus may justly be regarded as the discoverer of diabetes mellitus' (*DNB*). 'Willis ... was remarkable for his careful clinical observation ... To him we owe the original descriptions of several conditions' (Garrison–Morton).

Garrison–Morton 62; NLM/Krivatsky 12998, 13000.

242.

WILLIS, Thomas. The London Practice of Physick: Or the Whole Practical Part of Physick ... London: Thomas Basset and William Crooke, 1685;

[*bound with:*]: — Plain and Easie Method for Preserving (by God's Blessing) those that are Well from the Infection of the Plague, or Any Contagious Distemper ... and for curing such as are infected with it. Written in ... 1666. Never before printed. London: W. Crooke, 1691. £2500

2 works bound in one vol., 8vo (184 × 110 mm.). *London Practice*: pp. [x], 672, [16] table and errata, misnumbered; engraved frontispiece portrait signed R. W. [Robert White?] after Loggan. *Plain and Easie Method*: pp. [xii], 74; engraved portrait. Contemporary brown calf, rebacked, sides ruled and rolled in blind, edges of boards dotted in gilt. Corners worn, some wearing and rubbing to extremities, neat tear to first title restored. A very attractive pair.

FIRST EDITIONS. *The London Practice of Physick* is a synopsis edited from several of Willis's Latin works. Founded on the distinctive practical and clinical approach that marks all Willis's works, it contains what Garrison–Morton calls a 'probable description of myasthenia gravis' on p. 431. This popular English version of many of the great neuro-anatomist's cases and findings was edited by Willis's apothecary and secretary J. Hemming. The preface is signed Eugenius Philiatros, the alchemical name used by Thomas Vaughan among others. The *Plain and Easie Method* was also edited by Hemming from Willis's manuscripts. It is found here in its very rare first issue, without the poem on the Laurel leaf.

London Practice: Wing, *Bibliography of Dr Thomas Willis*, 60. Cushing W231; Garrison–Morton 4730; Norman 2249; Wing W2838. *Plain and Easie Method*: Wing, *Bibliography* 42; Wing W2852.

243.

WILLUGHBY, Francis. The Ornithology ... In Three Books. Wherein all the Birds Hitherto known being reduced into a Method suitable to their natures are accurately described. The Descriptions illustrated by most Elegant Figures, nearly resembling the live Birds, Engraven in LXXVIII Copper Plates. Translated into English and enlarged with many Additions throughout the whole Work. To which are added, Three Considerable Discourses, I. Of the Art of Fowling: with a Description of several Nets into two large Copper Plates. II. Of the Ordering of Singing Birds. III Of Falconry. By John Ray, Fellow of the Royal Society. London: A[ndrew]. C[lark]. for John Martyn, 1678. £3000

4to (352 × 228 mm.), pp. [xii], 441, [1] bl., [6] index. 80 plates, 2 tables, title page in red and black. Tear at lower margin of plate xviii, with small loss not affecting plate, closed tear (20 mm.) to lower margin of plate lxvi not affecting text; some darkening and spotting to last few plates, otherwise plates clean and fresh. Full contemporary calf, expertly rebacked to style retaining original red morocco label, gilt rules to compartments. Nineteenth-century armorial bookplate of Christopher Tower (MP for Bucks), Weald Hall, Essex. An excellent copy.

FIRST EDITION IN ENGLISH, with three more plates than the Latin first edition of 1676. The *Ornithology* was the first comprehensive guide to birds published in Britain and, according to Wood, 'One of the most important treatises on Ornithology of all time', and 'The first systematic classification of the birds of the World'. The two tables, before books II and III respectively, outline the method of classification. Willughby and Ray's work represents some of the most important contributions in natural history before those of Linnaeus. Willughby met John Ray at Cambridge, when he was a student and Ray a fellow. The wealthy Willughby became Ray's patron and collaborator, and together they toured the Continent extensively collecting material

for his research and observing specimens to be reproduced in his drawings. Whilst on their travels they purchased plates by Baldner that were used in the *Ornithology*. Following Willughby's death in 1672, Ray undertook the large task of editing their material and supplemented it with his own material. Although Ray was displeased with the quality of the engravings (drawn at Willughby's expense by three of the finest engravers in London), the importance of the text ensures that the *Ornithology* remains 'fundamental to systematic ornithology' (Anker, *Bird books and Bird Art*, p. 532).

Wing W2879; Nissen IVB 991; Ripley & Scribner, p. 312; Zimmer pp. 677–8; Freeman, *British Natural History Books*, 4024; Wood p. 629.

244.

WILLUGHBY, Francis. De historia piscium libri quatuor: jussu & sumptibus Societatis Regiae Londinensis editi; in quibus non tantum De piscibus in genere agitur, sed & species omnes ... accurate describuntur ... cum appendice historias & observationes in supplementum operis collatas complectente, Francisci Willughbeii; totum opus recognovit, coaptavit, supplevit, librum etiam primum & secundum integros adjecit Johannes Raius e Societate Regia. Oxford: at the Sheldonian Theatre, 1686. £8500

Folio (359 × 245 mm.), in two parts, pp. [v], 343, 30, [12] index, [12] index to plates, errata. 187 full-page engraved plates (engraved on recto only), additional engraved title-page (*Francisci Willoughby Ichthyographia ... Sumptibus Societatis Regalis Londinensis*, 1685) bound here at front, although often placed as a title-page to the plates when they are bound following the text or in a separate volume. Contemporary speckled calf, rebacked, blind-stamped sides with double rectangular frame enclosing central panel with floral border, blind-stamped floral cornerpieces, gilt board edges. Abrasions to sides, internally crisp and clean. Ownership inscription to front pastedown, 'Ben. Langwith', and several pen annotations.

FIRST EDITION of Willughby's monumental *Historia piscium*, a project designed to follow his celebrated *Ornithologia* (1676). Willughby (1635–1720), author of some of the most important contributions in natural history before those of Linnaeus, toured the Continent extensively with John Ray, collecting material for his research and observing specimens to be reproduced in his drawings. He died before publishing his studies on fish. The large editorial work was undertaken by Ray, the renowned naturalist who had carried out extensive experimental work in embryology and plant physiology, a member of the Royal Society of London since 1667. Ray brought his taxonomy system to bear on Willughby's descriptions. Although broadly based on Aristotle's classification, it relied on anatomical and functional features, and was the first system based on the notion of species in the distinction of diverse animals and plants.

The exceptional collection of plates is known in two editorial states, one with engravings on both recto and verso of each leaf, the second engraved on recto only. This copy has 'state b' plates, and the title-page which is sometimes bound before the plates is here bound at the beginning.

Wing W2877; Nissen 4417.

245.

WINTER, George Simon. Bellerophon, sive Eques peritus. Hoc est: artisequestris accuratissimo institutio, Opere bopartito, seu cuodus Libris, absoluta: Quorum prior modum explicat, quo dextre quis ... Posterior autem, quo modo indomitus, intractatum ... Nuremburg: Wolfgang & Johannes Endter, 1678;

[*bound with:*] — Hippiatur Expertus, seu Medicina Equorum Absolutissima, Tribus Librus comprehensa quorum I. Agit de Equorum Temperamentis ... II. De Affectibus internus Thoracis & Abdominis ... III. De omnis generis Unguentis; Oleis; Balsamis ... Nuremberg: Wolfgang & Johannis Endter, 1678. £19,000

2 works bound together, folio (318 × 210 mm.), pp. [xvi], 192, [xvi], 490, [10] index, errata leaf. *Bellerophon*: half title, engraved title, title, German title. *Hippiatur Expertus*: engraved title, title, German title. 171 plates, 41 engravings in text of second book. Tear to fore-edge of title to *Bellerophon*, some loss. Sturdy contemporary white pigskin, tooled in blind to a panel design, with blind decorative rolls between rules, spine with four bands, author and title in contemporary ink in the uppermost compartments, oval medallion at centre of front cover scuffed out, now illegible, edges stained blue, two leather and iron clasps. Bookplate of Henry Sarasin. A crisp and clean copy in a handsome contemporary binding.

FIRST EDITION. This rare book is much sought after for its very fine horse prints. The first work, *Bellerophon*, is concerned with the riding and training of horses, while the second, *Hippiatur Expertus*, deals with horse medicine. Of the 170 plates bound between the two works, 66 show a total of 114 mostly lifesize bits, the others, by Cornelis Nicolas Schurtz and P. Troschel, illustrate the text of the first work, the teaching and riding of horses. There are a further 41 plates in the text of the second work, and a folding plate of medical instruments. The text to both work is in Latin and German in parallel columns. The fine engraved titles are by Schurtz alone.

Mennessier de la Lance II, 649–651.

246. *Rare first edition of the* Tractatus Logico-Philosophicus

WITTGENSTEIN, Ludwig Josef Johann. Logisch-Philosophische Abhandlung. [In 'Annalen der Naturphilosophische', Vol. XIV, parts 3/4.] Leipzig: Reinhold Berger for Verlag Unesma G.m.b.H., 1921. £10,000

8vo (224 × 158mm.), pp. 185–262. Line diagrams, title and index at rear, loose single leaf publisher's advert for 'Verlag: Art. Institut Orell Füssli, Zurich'. Lightly browned. Publisher's orange paper printed wrappers, slightly chipped at edges and foot of spine. Well protected by a modern black cloth portofolio, with lettering piece on cover, gilt on red. Excellent condition. Scarce.

EDITIO PRINCEPS: THE RARE GERMAN EDITION OF WITTGENSTEIN'S *TRACTATUS*, IN ORIGINAL WRAPPERS. Although not published until 1921, Wittgenstein was already composing the *Tractatus* while living in solitude in Norway in 1913–14. Its dense and difficult subject matter, written in short epigrammatic paragraphs laid out according to Wittgenstein's own decimal system, made finding a publisher difficult. Bertrand Russell offered to write an introduction to the work as a financial incentive to wary publishers. In 1921, Russell persuaded C. K. Ogden to publish an English translation for Kegan Paul. Meanwhile Russell's friend, Dorothy Wrinch, contacted three German journals, including Ostwald's *Annalen der Natur Philosophische.* Ostwald alone accepted, but only because of Russell's introduction, which occupies the first 12 pages here. The text is riddled with errors: Ostwald had simply set in type the symbols available on a normal typewriter that Wittgenstein had used in place of those used in Russellian logic. Wittgenstein fumed about Ostwald's inaccuracies in a letter to Russell of 28 November 1921, but it was by then too late. The present work contains the first use by Wittgenstein in print of the 'truth tables' (pp. 224–225).

247. *From Alexander Fleming's tutor to Dr Crippen's nemesis*

WRIGHT, *Sir* A[lmroth]. E[dward]. Technique of the Teat and Capillary Action, and its Application in Medicine and Bacteriology. London: Constable, 1912. £500

8vo (mm.), pp. xvi, 208. 5 colour plates, including frontispiece, 78 figures in text. Inscribed to 'B. H. Spilsbury from his friend, the author.' Publisher's blue cloth, gilt, blind stamped title and author on front cover. An excellent copy.

FIRST EDITION, PRESENTATION COPY TO THE FORENSIC PATHOLOGIST B. H. SPILSBURY. Wright's major claim to fame was, along with Pfeiffer and Kohle in Germany, the discovery of a successful typhoid vaccine. While writing this book Wright ran the department of Therapeutic Immunisation at St. Mary's Hospital, London, where one of his research workers was the discoverer of penicillin, Alexander Fleming. Wright here describes his methods for accurate measurements of liquids with the use of teats and glass tubes. Although originally conceived as a method for measuring functions of the blood, as Wright says in his preface (p. v), 'It was a general technique for conducting

quantitative tests in uncalibrated capillary tubes with minimal quantities of reagents', but he rapidly realised its wider application 'in connection with the investigation of scurvy, haemophilia, chilblains and urtucaria, and the treatment of these, and finally and most urgently in connection with vaccine therapy'.

Although they crossed swords over Wright's reactionary views on women's rights, George Bernard Shaw admired Wright and his writings, using him as the model for the character Sir Colenso Ridgeon in his play, *The Doctor's Dilemma*.

PROVENANCE: Bernard Henry Spilsbury (1877–1947) was also at St Mary's Hospital, London, at the same time as Wright and Fleming, but specializing in the new science of forensic pathology. He made his name by giving evidence at the trial of Crippen in 1910, and was afterwards involved in many notable murder trials, including the Siddon case, 1912, the 'Brides in the Bath' murders, 1915, and the Mahon case, 1924. He was knighted in 1923.

248. *A new theory of galaxies, beautifully illustrated*

WRIGHT, Thomas. An Original Theory or New Hypothesis of the Universe, Founded upon the Laws of Nature, and solving by Mathematical Principles the General Phaenomena of the Visible Creation; and particularly the Via Lactea. Compris'd in Nine Familiar Letters from the Author to his friend. And illustrated with upwards of Thirty Graven and Mezzotinto Plates, by the Best Masters. London: Printed for the Author, and sold by H. Chapelle, 1750.

£20,000

4to (278 × 225 mm.), pp. viii, [iv], 84. Title in red and black. 32 engraved plates (8 in mezzotint, 2 folding), finely engraved head-, tailpieces and initials. Title slightly browned at outer edges, otherwise remarkable clean and fresh. Contemporary polished English speckled calf, red morocco label, corners bumped, joints slightly cracked. A lovely copy, clean and crisp, the plates beautifully fresh, in a good plain English contemporary binding.

FIRST EDITION, UNCOMMON, of this fascinating marriage of astronomy and religion. Wright's physico-philosophical system of the universe is the first after Newton, carrying Newton's theories forward and, indeed, providing a basis for the theories of Laplace and Kant. 'Wright hypothesized a "divine center" of the universe, corresponding to a gravitational center around which the sun and other stars orbited. He also proposed, as a possible explanation for the visual phenomenon of the Milky Way, a model of the universe in which the orbiting stars formed a flattened ring; this hypothesis caused Immanuel Kant, who did not realize that Wright's "center" was supernatural, to credit Wright with originating a disk-shaped model of the galaxy' (Norman). The plates illustrating Wright's system are exceptionally clear and finely executed; those executed in mezzotint have an almost surreal beauty not found in any other book on astronomy.

Lalande p. 443; Norman 2265.

249.

ZONCA, Vittorio. Novo Teatro di machine et Edificii per varie et sicure operationi có le loro figure tagliate in Rame é la dichiaratione e demostratione di ciascuna. Padua: Pietro Bertelli, 1607. £8000

4to (275 × 192 mm.), pp. [vi], 88, [4], 89–115, [1]. Engraved title, 42 full-page engraved plates. Some minor occasional foxing or marginal soiling. Contemporary vellum, title in gilt on spine. Neat Harvard discard stamp on verso of title, small private ownership stamp in upper margin of title, cancelled old ownership inscription in lower margin of title, with short break of ink erosion. A very good copy.

FIRST EDITION of Zonca's profusely illustrated, highly influential and often reprinted work. 'Zonca's was the first of a number of books on machines derived from the unpublished *Trattado di architectura* of the Sienese architect-engineer Francesco di Georgio Martini (1439–1501). Francesco's work, composed circa 1475, illustrated designs for a variety of machines including mills, pile-drivers, hauling and drayage machines, winches, cranes and pumps, rendered in a distinctive artistic style and with a technical expertise second only to that of Leonardo da Vinci; in fact, Leonardo

himself owned and annotated a copy of Francesco's treatise. Many of Francesco's designs once were thought to have originated in the sixteenth century, but recent research has shown that the sixteenth-century Italian school of engineers credited with carrying on the Leonardo heritage — Zonca, Ramelli, Besson, Strada et al. — owed much of their mechanical and artistic inspiration to Francesco's treatise. The engraved plates in Zonca's work are straightforward plagiarisms (all but one in mirror image) of the original manuscript drawings in the Laurenziana codex of Francisco's treatise' (Norman).

Norman 2281.

250. *The first photographs of the human brain in print*

ZULINSKI, Thaddée. Quelques mots au sujet d'un Grand-Russe envoyé a la Société d'Anthropologie de Paris par la Section Anthropologique de la Société des Amis des Sciences Naturelles de Moscou. Paris: Louis Leclerc, 1867. £5800

8vo (242 × 154 mm), pp. 15, [1]. 3 photographic plates of a human brain pasted to two sheets. Original mauve paper wrappers. Upper forecorner of one leaf torn away, without loss to text. Preserved in a morocco-backed chemise with slip-case.

EXTREMELY RARE PAMPHLET, CONTAINING THE FIRST PHOTOGRAPHS OF THE HUMAN BRAIN TO APPEAR IN ANY PUBLICATION. To mark the 1867 *Exposition Universelle*, the Society of Friends of the Natural Sciences in Moscow presented the mummified brain of a Muscovy slave to the Anthropological Society of Paris. In this celebrated article Zulinski contested for the first time the long-held notion that regional or racial identification could reliably be made from the shape of the brain or the cranium.

The pamphlet is known in two states: roughly half of the edition was issued without the photographs found in this copy. The illustrated version sold for 3 francs; that without the photographs was priced at only 1 franc. The photographer was Phillip Jacques Potteau, of the Museum d'Histoire naturelle.

Voignier, *Repertoire des photographes de France au dix-neuvième siècle*, p. 208.

REFERENCE WORKS CITED

Abbey, *Scenery*	*Scenery of Great Britain and Ireland in Aquatint and Lithography 1770–1860. From the Library of J. R. Abbey. A bibliographical catalogue.* Curwen Press, 1952.
Adams	H. M. Adams. *Catalogue of Books Printed on the Continent of Europe, 1501–1600, in Cambridge Libraries.* Cambridge, 1967. 2 vols.
Babson	*A descriptive catalogue of the Grace K. Babson collection of the works of Sir Isaac Newton.* New York, 1950. [With:] H. C. Macomber. *A supplement ...* Babson Park, Mass., 1955.
Bakken	*Books and Manuscripts of the Bakken Library.* Metuchen, N.J., & London, 1992.
Becker	*Catalogue of the Bernard Becker, M.D. collection in ophthamology.* 2nd edition. St. Louis, 1983.
Bentley	G. E. Bentley, Jr. *Blake books. Annotated catalogues of William Blake's writings in illuminated printing, in conventional typography and in manuscript, and reprints thereof, reproductions of his designs, books with his engravings, catalogues, books he owned and scholarly and critical works about him.* Oxford. Clarendon Press. 1977.
Berlin Katalog	*Katalog der Ornamentstich Sammlung der Staatlichen Kunst–bibliothek Berlin.* Berlin, 1936–39 (reprint: Utrecht 1986). 2 vols.
Berry	A. J. Berry. *Henry Cavendish. His life and scientific work.* Hutchinson: London, 1960.
Bib. Mech.	Verne L. Roberts & Ivy Trent. *Bibliotheca Mechanica.* NewYork, City, 1991.
Bird	D. T. Bird. *Catalogue of Sixteenth-Century Medical Books in Edinburgh Libraries.* Edinburgh, 1982.
Bitting	K. Bitting. *Gastronomic Bibliography.* San Francisco, 1939 (reprint: Holland Press 1981).
BM, *Italian*	A. F. Johnson & others. *Short-title catalogue of books printed in Italy and of Italian books printed in other countries from 1455–1600 now in the British Museum.* London 1966.
BMC	*Catalogue of Books printed in the XVth Century now in the British Museum.* London, 1908– (reprint, 1963). 14 vols.
Brunet	J. C. Brunet. *Manuel du libraire et de l'amateur de livres.* Paris, 1860–65. 6 vols. (*Supplément,* 2 vols.)
Cantor	M. Cantor. *Voarlesungen über geschichte der mathematik.* Leipzig, 1880–1908. 4 vols.
Carli & Favaro	A. Carli & A. Favaro. *Bibliografia Galileiana (1568–1895).* Rome, 1896 (reprint: Bologna, 1972).
Carteret	L. Carteret. *Le Trésor du Bibliophile Romantique et Moderne 1801–1875.* 4 vols. Paris, 1924–1928.
Caspar	M. Caspar. *Bibliographia Kepleriana.* Munich, 1968.
Choulant–Frank	Ludwig Choulant. *History and bibliography of anatomic illustration.* Translated and annotated by Mortimer Frank. New York 1945.
Cinti	Dino Cinti. *Bibliotheca Galileiana.* Florence, 1957.
Cockle	H. D. Cockle. *A Bibliography of English Military Books up to 1642 and of contemporary foreign works ... With an introductory note by Charles Oman.* Simpkin, Marshall & Co.: London, 1900.
Crahan	*Important Books and Manuscripts Relating to Cookery and Gardening Including Viniculture, Mycology, and Beekeeping. Property From the Marcus and Elizabeth Crahan Collection...[and] Various Owners.* (Catalogue). New York: Sotheby's, 1986.
Cranz–Schmitt	F. E. Cranz, C. B. Schmitt. *A bibliography of Aristotle editions 1501–1600.* Baden-Baden: Koerner. 1984
Cushing	*The Harvey Cushing Collection of Books and Manuscripts. A short-title catalogue.* Eds. Hans H. Schaltenbrand, Margaret Brinton & Henrietta T. Perkins. New York, 1943.
De Haan	D. B. De Haan. *Bibliographie Néderlandaise historique-scientifique des ouvrages importants dont les auteurs sont nés aux 16e, 17e et 18 siècle.* Nieuwkoop, B. De Graaf, 1965.
Dibner	*Heralds of Science as represented by two hundred epochal books of Science and pamphlets in the Dibner Library, Smithsonian Institution.* Preface and notes by Bern Dibner. Norwalk & Washington, 1980.
DNB	*Dictionary of National Biography.* Oxford, 1921–11. 22 vols, including one supplement. Later supplements: 1927–93. 10 vols.
Doe	Janet Doe. *A bibliography of the works of Ambroise Paré.* Chicago, 1937.
DSB	*Dictionary of Scientific Biography.* New York, 1981. 16 vols. in 8.
Duveen	Denis I. Duveen. *Bibliotheca alchemica et chemica.* London, 1949.

En français dans le texte	*En français dans le texte: dix siècles de lumières par le livre.* Paris, Bibliothèque Nationale, 1990.
Essling	V. Massena, prince of Essling. *Études sur l'art de la gravure sur bois à Venise. Les livres à figures vénitiens de la fin du XVe siècle et du commencement du XVIe.* [With illustrations.] Florence, Paris [printed], 1907.
Fairfax Murray, *German*	H. W. M. Davies. *Catalogue of a collection of early German books in the library of C. Fairfax Murray.* London 1962. 2 vols.
Ferguson	J. Ferguson. *Bibliotheca Chemica.* London, 1954. 2 vols.
Ford	P. L. Ford. *Franklin Bibliography. A list of books written by or relating to Benjamin Franklin.* Brooklyn, N.Y., 1889.
Fowler	L. H. Fowler & E. Baer, compilers. *The Fowler Architectural Collection of The Johns Hopkins University, Catalogue.* Baltimore, 1961.
Freeman	R. B. Freeman. *The Works of Charles Darwin: an annotated bibliographical handlist.* 2nd edition. London, 1977.
Fulton	J. F. Fulton. *A bibliography of the Honourable Robert Boyle.* 2nd edition. Oxford, 1961.
Garrison–Morton	E. H. Garrison & L. T. Morton. *Morton's Medical Bibliography (Garrison and Morton).* Edited by Jeremy M. Norman. 5th edition. London, 1991.
Gaskell	Philip Gaskell. *A bibliography of John Baskerville.* Cambridge, 1959 (2nd ed. Chicheley, 1973).
Gibson	G. W. Gibson. *Francis Bacon: a bibliography of his works and of Baconiana to the year 1750.* Oxford, 1950.
GKW	*Gesamtkatalog der Wiegendrucke. Herausgegeben von der Kommission fur den Gesamtkatalog der Wiegendrucke.* Leipzig: Verlag von Karl W. Hiersemann, 1925-
Goff	F. R. Goff. *Incunabula in American Libraries, a third census.* New York, 1964 (Supplement: 1972).
Graesse	J. G. T. Graesse. *Trésor de Livres Rares et Précieux ou Nouveau Dictionnaire Bibliographique ...* reprint. 8 vols. in 4. Cambridge, MA.
Gray	G. J. Gray. *A bibliography of the works of Sir Isaac Newton together with a list of books illustrating his works.* 2nd edition. Cambridge, 1907.
Grolier *English*	Harrison D. Horblit. *One Hundred Books Famous in English Literature with facsimiles of the title-pages.* 2 vols. New York, 1967.
Grolier/Horblit	Harrison D. Horblit. *One Hundred Books Famous in Science.* New York, 1964.
Grolier *Medicine*	Haskell E Norman. *One Hundred Books Famous in Medicine.* Hope Mayo, editor. New York, 1995.
Grulee Collection	*Catalog of the Clifford G. Grulee Collection on Pediatrics ...* The John Crerar Library, Chicago, 1959.
Gunther	R. W. T. Gunther. *The Astrolabes of the World.* Oxford, 1932.
Hagelin	Ove Hagelin. *Rare and important medical books in the library of the Karolinska Institute. An illustrated and annotated catalogue.* Stockholm, 1992.
Hain (HC, HCR)	L. Hain. *Repertorium bibliographicum ... ad annum MD.* Stuttgart & Paris, 1826–38; W. A. Copinger. *Supplement to Hain's Repertorium bibliographicum.* London, 1898–1902; D. Reichling. *Appendices ad Hainii–Copingeri Repertorium bibliographicum.* Munich 1905–11 (Supplement, Münster I. W., 1914).
Hall	A. R. Hall. *Ballistics in the Seventeenth Century. A study in the relations of science and war with reference principally to England.* Cambridge, University Press, 1952.
Harris	E. Harris. *British Architectural Books and Writers 1556-1785*. 1990.
Heirs of Hippocrates	*Heirs of Hippocrates. The Development of Medicine in a Catalogue of Historic Books in the Health Sciences Library, the University of Iowa.* Iowa City, 1980.
Henrey	B. Henrey. *British Botanical and Horticultural Literature before 1800.* London, 1975.
Honeyman	*The Honeyman Collection of Scientific Books and Manuscripts.* London: Sotheby's, 1978–81. 7 vols.
Hoover	*Bibliotheca de re metallica. The Herbert Clark Hoover collection of mining and metallurgy.* Claremont, California, 1980.
Houzeau	J. C. Houzeau & A. Lancaster. *Bibliographie générale de l'Astronomie (ou, Catalogue méthodique des ouvrages, des Mémoires et des Observations astronomiques publiés depuis l'origine de l'imprimerie jusqu'en 1880).* Brussels, 1887.

Hunt	Jane Quinby. *Catalogue of Botanical Books in the Collection of Rachel McMasters Miller Hunt.* 3 vols. Pittsburgh, 1958–1961.
IGI	*Indice generale degli incunaboli delle biblioteche d'Italia.*
Keynes *Browne*	Geoffrey Keynes. *A Bibliography of Sir Thomas Browne Kt. M.D.* 2nd ed. Oxford, 1968.
Keynes *Hooke*	Geoffrey Keynes. *A Bibliography of Dr Robert Hooke.* Oxford,1960.
Keynes *Ray*	Geoffrey Keynes. *John Ray: A Bibliography.* London, 1951.
Klebs	Amold C. Klebs. *Incunabula scientifica et medica.* Bruges, 1938.
Kress	*The Kress Library of Business and Economics.* Harvard, 1940–1967.
Lalande	J. de Lalande. *Bibliographie Astronomique; avec l'Histoire de l'Astronomie depuis 1781 jusqu'à 1802.* Paris, 1803.
Lilly	*Notable Medical Books from the Lilly Library Indiana University.* Indianapolis, 1976.
Maclean	V. Maclean. *A short-title catalogue of household and cookery books published in the English tongue 1701–1800.* London. Prospect. 1981
Madan	F. Madan. *Oxford Books. A bibliography of printed works relating to the University and City of Oxford, or printed or published there. With appendixes and illustrations.* Clarendon Press: Oxford, 1895–1931.
Meyer	Arthur Meyer. *The Rise of Embryology.* Stanford, Ca., 1939.
Mortimer *French*	Ruth Mortimer. *Harvard College Library ... Catalogue of Books and Manuscripts. Part I. French 16th Century Books.* Cambridge, Mass., 1964.
Mortimer *Italian*	Ruth Mortimer. *Harvard College Library ... Catalogue of Books and Manuscripts. Part II. Italian 16th Century Books.* Cambridge, Mass., 1974.
Mottelay	P. F. Mottelay. *Bibliographical history of electricity & magnetism. Chronologically arranged.* London, 1922.
Nissen BBI	Claus Nissen. *Die botanische Buchillustration.* Stuttgart, 1951–56. 2 vols.
Nissen ZBI	Claus Nissen. *Die Zoologische Buchillustration.* Stuttgart, 1969. 2 vols.
NLM/Blake	J. B. Blake. *A short-title catalogue of eighteenth century printed books in the National Library of Medicine.* Bethesda, MD, 1979.
NLM/Durling	Richard J. Durling, compiler. *A Catalogue of sixteenth century printed books in the National Library of Medicine.* Bethesda, MD, 1967.
NLM/Krivatsy	Peter Krivatsy, compiler. *A Catalogue of seventeenth century printed books in the National Library of Medicine.* Bethesda, MD, 1989.
Norman	Jeremy M. Norman & Diana H. Hook. *The Haskell E Norman Library of Science & Medicine.* San Francisco, 1991. 2 vols.
NUC	*National Union Catalog*, Pre-1956 Imprints.
Oates	J. C. T. Oates. *A catalogue of the fifteenth-century printed books in the University Library Cambridge.* Cambridge, 1934.
OCLC	Online Computer Library Center Inc.
Palau	A. Palau y Dulcet. *Manual del librero hispano-americano ... Segunda ed., corregida y aumentada por el autor.* Barcelona, 1948–77.
Parkinson & Lumb	*Catalogue of Medical Books in Manchester University Library, 1480–1700.* Compiled by Ethel M. Parkinson, assisted by Audrey E. Lumb. Manchester, 1972.
Partington	J. R. Partington. *A history of chemistry.* London, 1961–1970. 4 vols.
PMM	John Carter & Percy H. Muir, editors. *Printing and the Mind of Man.* 2nd edition. Munich, 1983.
Poggendorff	J. C. Poggendorff. *Biographisch-literarisches Handwörterbuch zur Gechichte Exacten Wissenschaften enthaltend Nachweisungen über Lebensverhältnisse und Leistungen von Mathematikern, Astronomen, Physikern, Chemikern, Mineralogen, Geologen u.s.w. aller Völker und Zeiten.* Leipzig, 1863, 2 vols.
Polain (B)	Marie-Louis Polain. *Catalogue des livres imprimés au quinziéme siécle des bibliothéques de Belgique.* Brussels 1932 (reprint with Supplement: 1978). 5 vols.
Prandi	Dino Prandi. *Bibliografia delle opere di Francesco Redi.* [Italy,] 1941.
Pritzel	Georg August Pritzel. *Thesaurus Literaturae Botanicae Omnium Gentium.* Reprint. Milan, 1950.

Proctor	R. Proctor. *An index to the early printed books in the British Museum ... to the year MD.* London, 1898.
Quérard	J. M. Quérard. *La France Littéraire, ou dictionnaire bibliographique des savants, historiens et gens de lettres de la France.* Paris, 1827–1839.
Riccardi	Pietro Riccardi. *Biblioteca matematica italiana dalla origine delta stampa ai primi anni del secolo XIX.* Milan, 1952. 2 vols.
Risse	Wilhelm Risse. *Bibliographia philosophia vetus repertorium generale systematicum operum philosophicorum usque ad annum MDCCC typis impressorum.* Hildesheim, 1998.
RLIN	RLG Online Union Catalogue.
Roper	Freeman C. S. Roper. *Catalogue of works on the microscope, and of those referring to the microscope.* New York [1865], reprint edition.
Rothschild	John Hayward. *The Rothschild Library; a catalogue of the collection of eighteenth-century printed books and manuscripts formed by Lord Rothschild.* Reprint. London, 1969.
Russell	K. F. Russell. *British anatomy 1525–1800: a bibliography.* 2nd edition. Winchester, 1987.
Sabin	Joseph Sabin. *A Dictionary of books relating to America, from its discovery to the present time.* New York, 1858–1936 (reprint, Amsterdam 1961). 29 vols. in 15.
Sander	Max Sander. *Le livre a figures italien depuis 1467 jusqua 1530.* New York, 1941; supplement, Milan, 1969.
Schreiber	Wilhelm Ludwig Scheiber. *Un catalogue des incunables à figures imprimés en Allemagne, en Suisse, en Autriche-Hongre, et Scandanavie.* 2 parts. Leipzig, 1910–11.
Singer	Charles Singer, *ed. A History of Technology.* 5 vols. Oxford, 1957–1958
Smith	David E. Smith. *Rara arithmetica: a catalogue of the arithmetics written before the year MDCI.* Boston 1908.
Sommervogel	Carlos Sommervogel. *Bibliothèque de la Compagnie de Jésus.* 1890–1930, 10 vols.
Sotheran	*Bibliotheca chemico-mathematica.* Compiled by H. Zeitlinger. London, 1921–52.
Sparrow	Ruth A. Sparrow, compiler. *Milestones of Science: epochal books in the history of science as represented in the library of the Buffalo Society of Natural Sciences.* Buffalo, 1972.
Spaulding–Karpinski	T. M. Spaulding & L. C. Karpinski. *Early Military Books in the University of Michigan Libraries.* Ann Arbor, University of Michigan1941.
Stillwell	Margaret B. Stillwell. *The Awakening Interest in Science during the First Century of Printing 1450–1550: An annotated checklist of first editions viewed from the angle of their subject content.* New York, 1970.
STC	A. W. Pollard & G. R. Redgrave. *A Short-title Catalogue of Books printed in England, Scotland, & Ireland and of English Books printed abroad.* London, 1976–86–91. Second edition, compiled by Katherine Pantzer. 3 vols.
Struik	D. J. Struik, ed. *A source book in mathematics, 1200–1800.* Cambridge (Mass.): Harvard University Press; London: distributed by Oxford University Press, 1969.
Taylor	E. G. R. Taylor. *The Mathematical Practitioners of Tudor and Stuart England.* Cambridge, 1954.
Tchermerzine	Avenir Tchermerzine. *Bibliographie d'éditions originales et rares d'auteurs français des Xve, XVIe, XVIIe, et XVIIIe siècles.* 1927–34; reprint Teaneck, N.J., 1973.
Theime–Becker	U. Theime & F. Becker. *Allgemeines Lexicon der bildenden Künstler.* 37 vols, Leipzig, 1907–50.
Thomas-Stanford	C. Thomas-Stanford. *Early editions of Euclid's 'Elements'.* San Francisco. Alan Wofsy Fine Arts. Folkestone. Distributed by Dawson. 1977
Thorndike	Lynn Thorndike. *A History of Magic and Experimental Science.* 8 vols. New York, 1923–1958.
Van Ortroy	F. van Ortroy. *Bibliographie de l'œuvre de Pierre Apian.* Amsterdam: Meridian Publishing Co., 1963.
Vercruysse	Jeroom Vercruysse. *Bibliographie descriptive des ecrits du baron d'Holbach.* Paris, 1971.
Vicaire	Georges Vicaire. *Bibliographie Gastronomique.* Second edition. London, 1954.
Waller	*Biblioteca Walleriana. The books illustrating the history of medicine and science collected by Dr. Erik Waller and bequeathed to the Royal Library of the University of Uppsala ...* compiled by Hans Sallander. Stockholm, 1965.
Wallis	P. & R. Wallis. *Newton and Newtoniana 1672–1975: a bibliography.* Folkestone, 1977.

Ward & Carozzi	D. C. Ward & A. V. Carozzi. *Geology emerging: a catalog illustrating the history of geology (1500–1850) from a collection in the library of the University of Illinois.* Urbana-Champaign, 1984.
Weidler	Johann Friedrich Weidler. *Historia astronomiae sive de ortu et progressu astronomiae liber singularis.* Wittenberg 1741.
Wellcome	*Wellcome Historical Medical Library, London. A Catalogue of Printed Books.* London, 1962.
Wheeler Gift	W. D. Weaver, editor. *Catalogue of the Wheeler Gift of books, pamphlets, and periodicals in the library of the American Institute of Electrical Engineers.* New York, 1909, 2 vols.
Wing	D. Wing. *Short-title Catalogue ... of English Books ... 1641–1700.* 3 vols. New York, 1972–82–88 (2nd ed.)
Wood	Casey A. Wood. *An Introduction to the Literature of Vertebrate Zoology, Based Chiefly on the Titles in the Blacker Library of Zoology..., the Bibliotheca Osleriana and Other Libraries of McGill University, Montreal...* London: Humphrey Milford, 1931 (repr. Cambridge, 1993).
Zinner, *Instrumente*	E. Zinner. *Deutsche und Niederländische astronomische Instrumente des 11.–18. Jahrhunderts.* 2nd edition. Munich, 1967.
Zinner, *Literatur*	E. Zinner. *Geschichte und Bibliographie der astronomische Literatur in Deutschland zur Zeit der Renaissance,* 2nd edition. Stuttgart, 1964.

SUBJECT INDEX