



# OPTICKS:

OR, A

## TREATISE

OF THE

REFLEXIONS, REFRACTIONS,

INFLEXIONS and COLOURS

OF

## LIGHT.

ALSO

## TWO TREATISES

OF THE

SPECIES and MAGNITUDE

OF

## Curvilinear Figures.

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### Giordano Bruno's first published work

1 [BRUNO, Giordano](#). *De umbris idearum, implicantibus artem, quaerendi, inueniendi, iudicandi, ordinandi, & applicandi: ad internam scripturam, & non vulgares per memoriam operationes explicatis - Ars memoriae*. Paris: Gilles Gorbin, 1582. Two parts in one volume. 8vo (165 x 100 mm). [39], [1], 80 leaves. Signatures: \*4 a<sup>8</sup> e<sup>8</sup> i<sup>8</sup> o<sup>8</sup> u<sup>4</sup> a-k<sup>8</sup>, u4 blank. Woodcut initials and headpieces, drop title for second part, 12 astrological woodcut diagrams and 19 smaller vignettes of the planets and the Zodiac. Bound in its original limp vellum of the time, yapp edges, spine lettered in manuscript, fore-margin with painted title and decorative ornaments (possibly the coat-of-arms of former owner), boards with traces of missing ties (vellum browned, stained and soiled). Text little browned throughout, insignificant smaller dampstains at outer margins, mainly of first part, a few text markings. Provenance: Don Juan Velasquez (old ownership inscription to title), libraire A. Aubry (old sticker on front pastedown), further ink notes about an old auction sale on front pastedown. A very good and unsophisticated copy. (#003233) € 90,000

#### EXCEPTIONALLY RARE FIRST EDITION OF BOTH PARTS OF GIORDANO BRUNO'S FIRST PUBLISHED WORK.

Giordano Bruno entered the order of the great Dominican convent in Naples at the age of fifteen. Here he acquired a grounding in Scholastic philosophy and also became proficient in the art of memory, for which the Dominicans were noted. When Bruno left Naples in 1576 to avoid prosecution for heresy, beginning a life of wanderings through France, England and Germany, he was able to use his mnemonic skills to his advantage: "an ex-friar who was willing to impart the artificial memory of the friars would arouse interest, particularly if it was the art in its Renaissance or occult form. . ." (Yates, p. 200).



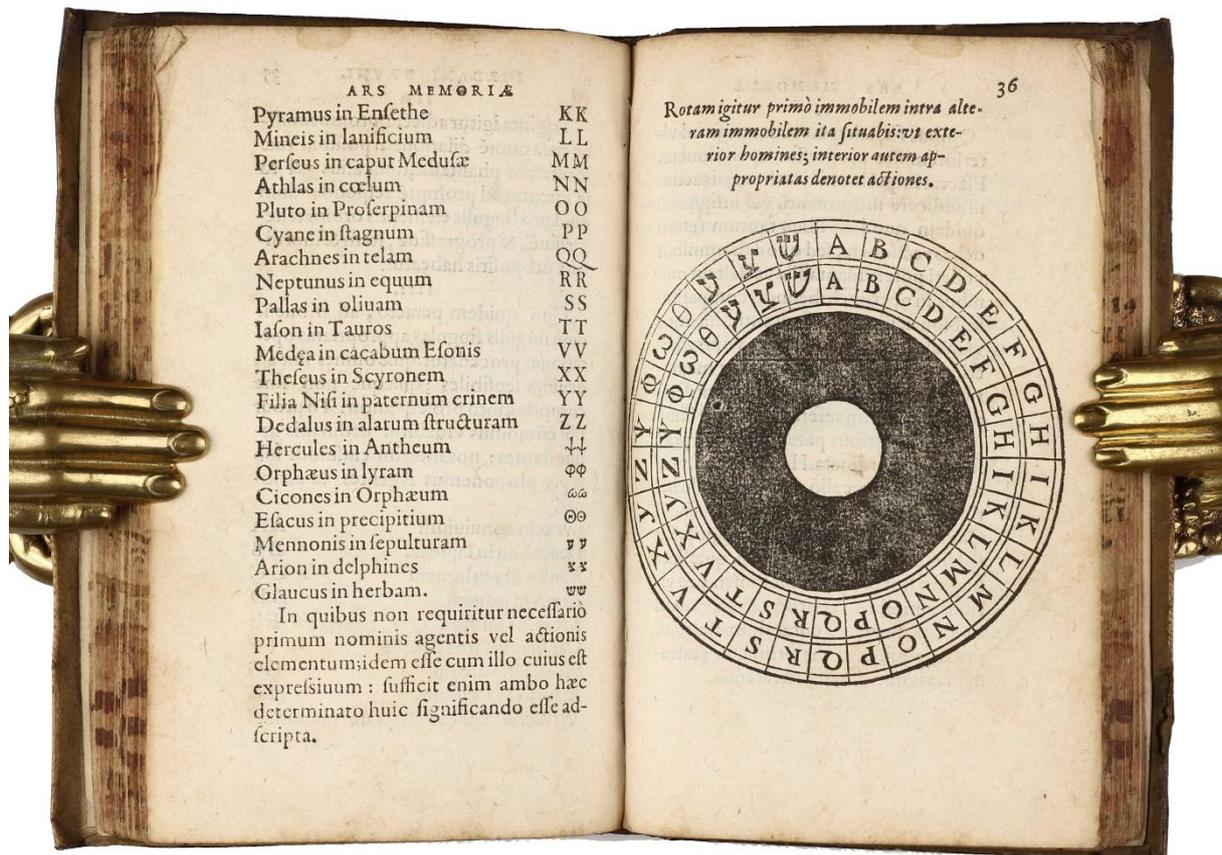
From about 1579 to 1581 Bruno was in Toulouse, where he lectured at the university on, among other things, the sphere of Sacrobosco. In the summer of 1581 Bruno went to Paris where his interest in memory techniques attracted attention from intellectuals at the court of Henri III. It is from this first sojourn in Paris that Bruno's earliest surviving works date. The *De umbris*, which he dedicated to king Henri III of France, "is an example of his transformation of the art of memory into a deeply magical art, and its title is taken from that of a magical book mentioned in the necromantic commentary on the *Sphere* of Sacrobosco by Cecco d'Ascoli, an author whom Bruno greatly admired. Bruno thus came before the world in his first Parisian period as a magician teaching some extremely abstruse art of memory that apparently gained the interest and approval of the king of France, who gave him letters of recommendation to the French ambassador in England. This is the first indication of some mysterious political, or politicoreligious, undercurrent in Bruno's activities and movements." (DSB, p.540). In the first part of *De umbris* Bruno reworks Lullian and other material on the art of memory, on the basis of a platonic link between the physical and ideal world. In the second and third sections dealing with practical applications of the art of memory, he touches particularly on how certain astrological and hermetic elements are embedded in this. In the *Cantus circaeus*, which is cast in the form of two dialogues between Circe and a disciple Moeris, he presents a concrete application of the art he has already expounded in *De umbris*. The text also contains allusions to the magic arts of Aesclepius and a list of 150 magic images of the stars. Contemporary readers would have recognized the work "as belonging to certain contemporary trends, here was a book on memory presented as a Hermetic secret and obviously full of magic. Seized with dread or disapproval, some readers would have discarded the book..." (Yates, p. 207).

"The magical animism that permeates Bruno's philosophy of nature, his vision of the living earth moving round the sun, of an infinite universe of innumerable worlds moving like great animals in space, is inseparably connected with his pseudo-Egyptian religion. It is universal animism which makes possible the activities of the magus and justifies the techniques by which he attempts to operate on nature. Bruno aspired to become such a magus, using the techniques described in the *De occulta philosophia* of Henry Cornelius Agrippa von Nettesheim, a work that was itself the product of the Hermetic core within Renaissance Neoplatonism." (DSB, p.540).

"Even the strangest and most formidably obscure of Bruno's works, those on his magic arts of memory, can be seen to presage, on the Hermetic plane, seventeenth-century strivings after method. Bruno aimed at arranging magically activated images of the stars in memory in such a way as to draw magical powers into the psyche. These systems were of an incredible complexity, involving combinations of memory images with the revolving wheels of Lull to form ways of grasping everything in the universe at once and in all possible combinations. Bruno's Hermetic computers, if one may be permitted to call them such, were almost certainly known to Leibniz, who was also familiar with the art of memory and with Lullism. When introducing his universal calculus, Leibniz uses language that is remarkably similar to that in which Bruno introduced his art of memory to the doctors of Oxford. The many curious connections between Bruno and Leibniz may, when fully explored, form one of the best means of watching the transitions from Renaissance occultism to seventeenth-century science." (DSB, p.543)

Bruno was denounced to the Inquisition. He was tortured and perished at the stake on February 16, 1600 on the Campo del Fiori, in Rome.

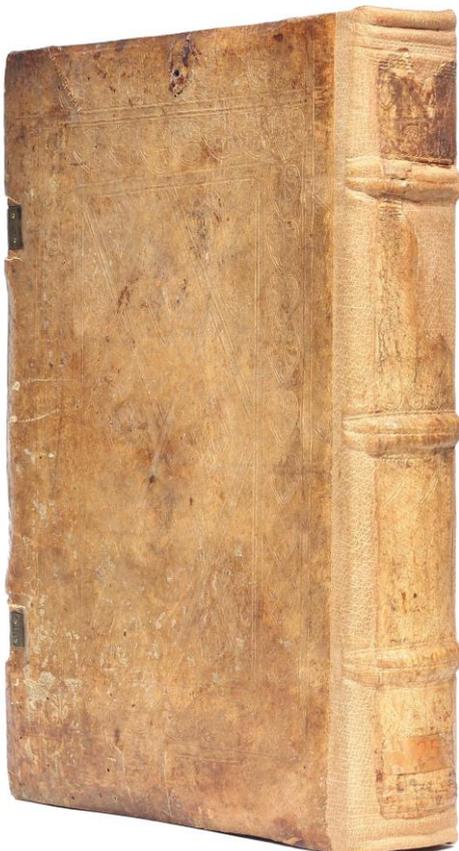
Literature: Adams B-2952; Brunet I:1299; Salvestrini 17; F. A. Yates, *The Art of Memory*, 1972, pp. 200-249; *Giordano Bruno 1548-1600, Mostra storico documentaria*, Roma, Biblioteca Casatanense 2000, Florence, Olschki, 2000, no. 124; Haywood 1, 124; R.M. Sturlese, *Bibliografia censimento e storia delle antiche stampe di Giordano Bruno*, 1987; F. A. Yates, *Giordano Bruno*, In :DSB II, pp. 539-44.



*Editio princeps of the most important agricultural treatise of the middle ages*

2 [CRESCENTIIS, Petrus \[CRESCENZI, Pietro de\]](#). *Ruralia commoda*. Augsburg: Johann Schüssler, 16 February 1471. Chancery folio (296 x 215 mm). 209 leaves (of 212, without the final 3 blanks). Collation: [a-s<sup>10</sup> t<sup>12</sup> v<sup>10</sup> x<sup>7</sup>]. 35 lines, gothic type 1:117G. Title in incipit (leaf [a]1r): *Petri de crescentiis civis. Bononiensis epistola in libru[m] co[m]modoru[m] ruralium*. Illuminated throughout including one 8-line and eight 6-line initials painted in red and with dark-brown penwork, two of them with penwork extensions, several red-painted 2-line initials, red manuscript page numbers, red paragraphs, initial strokes and underlining, all in contemporary hand and typical for illumination by the Schüssler workshop. Original, gothic, elaborately blind-ruled and blind-stamped Augsburg binding of pressed pigskin over wooden boards, spine with 3 raised bands, two original brass catches and one original clasp present, one clasp and the leather straps renewed, upper edge of lower board with traces of old chain attachment, original endpapers preserved (binding expertly restored in the 1960s by Hans Heiland & Sohn with the original board material and most of the spine leather preserved; soiling, browning and spotting of the leather). Text leaves unpressed and untrimmed preserving the deckle edges. Internally very little browned, light dust-soiling and browning of outer edges, occasional mostly marginal spotting and finger-soiling, two small wormholes in blank lower corner of gatherings [v] to [x], faint dampstaining to lower blank margin of a few gatherings towards end, but all in all exceptionally crisp and clean. Provenance: Leonard Kempet (contemporary, partly erased donation notice "Ex donatione v. Leonardi Kempet pro Bibliotheca Officio xxx, anno 1611") at bottom margin of first page; Karl & Faber, Munich, Auction 59, 1957, lot 47 (original lot description loosely inserted), a few annotations and text markings in contemporary black ink, small ink stamp by Heiland & Sohn on rear pastedown. An outstanding, completely untrimmed and crisp copy in its original gothic Augsburg Fuchsvogel/Schüssler binding. (#003247) € 220,000

**EDITIO PRINCEPS of the most important medieval agricultural treatise** and, apart from the Bartholomaeus Anglicus' *De proprietatibus rerum*, the earliest non-classical work to deal with agriculture and viticulture. The author, a successful Bolognese advocate, had retired to his estate in 1299, where he was working on his agricultural handbook, which he finished in 1305. A total of 91 preserved Latin manuscripts of Crescentiis' *Ruralia commoda* prove the broad tradition of the work in medieval times. The work have early been translated into German and other vernaculars. After Schüssler's first print, there were nine Latin and three German editions until 1500 alone.



A student of Günther Zainer in Augsburg, Schüssler opened his own printing press (the second in Augsburg) in 1470 and took over a discharged typeset from Zainer. Within almost 4 years until his death in 1473/4 Schüssler finished the printing of 12 mostly theological and historical works in Latin, but also Crescentiis' late-medieval work on rural economy, his second printing, for which he used a manuscript held by the Benedictine convent St. Ulrich and Afra. The connection between Schüssler and the convent must have been close, because in 1472 the Abbot of the convent Melchior von Stammheim acquired Schüssler's workshop and invested in new equipment. Melchior is said to have also been involved in the appointment of Zainer to Augsburg, but at least the new way of producing books was so dear to his heart that the idea of setting up a printing press in the monastery did not allow him to rest. (see G. Hägele, p.36).

Our copy has survived in its original gothic binding, which is all but common, as important and very valuable books such as this often received elaborate and costly but rather modern recasements in the preferred style of its owner. The binding was made in the workshop of the Wundervogel or Fuchsvogel-Meister I (EBDB w001512/Kyriss No. 90), which was active in Augsburg from 1468 to 1476 (see Wagner-Reed, p.211). The bindery is identified by the used characteristic single stamps, Basilisk (Schwenke-Schunke 18), Palmette (Schwenke-Schunke 39=43), Rosette and Doppellilie (Schwenke-Schunke 356). A further indication is the handmade brass closures, characteristic for this workshop. Another copy of the *Ruralia commoda* in a binding of this workshop is kept in the Staats- und

Stadtbibliothek Augsburg (Ink 283) and had previously been in the convent of the Augsburg Jesuits. Moreover, our binding is very similar to that of the *Ruralia commoda* in the Pierpont Morgan Library (PML 18736) from the same workshop (see, The Scott Husby Database at Princeton University Library, ID 185382). The more frequent occurrence of these and other Schüssler prints in a binding of workshop Kyriss 90 leads to the assumption that Schüssler himself ordered the binding of at least a portion of his print runs there and sold these with a price premium, preferably to his local clients.

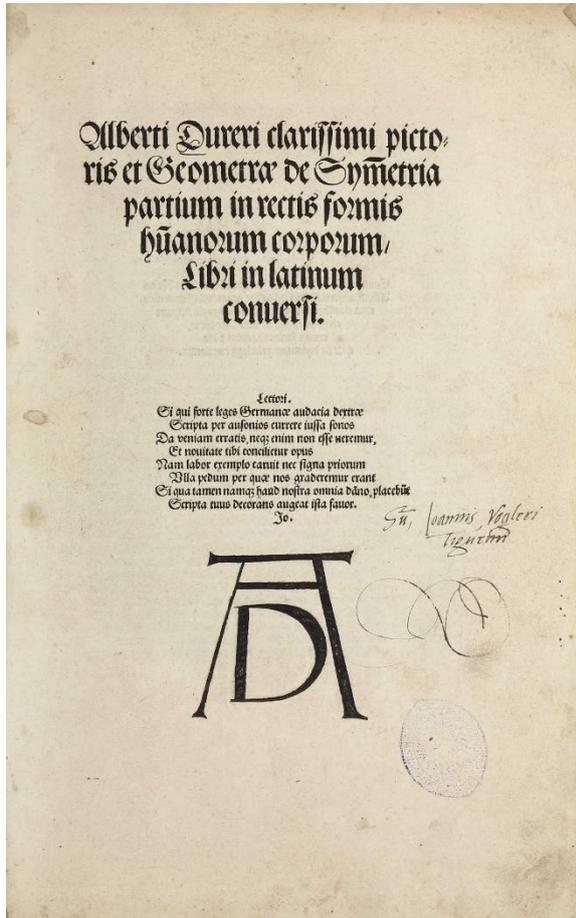
All surviving copies of the *editio princeps* that have come to market are rare and highly priced. The Marcel Jeanson copy sold at Sotheby's in 2017 (lot 55, sales price GBP 187,500) is almost certainly in a contemporary but remboitage binding; the Rothamsted Library copy acquired and sold by Jonathan Hill bookseller in 2018 (his catalogue 228, USD 225,000) is in a 19th century binding. We can trace only one copy in strictly contemporary (sheepskin) binding: the Andre Simon-Crahan-Keck Day copy, sold 1986 at Sothebys (lot 140, USD 27,500).

Literature: Goff C965; HC 5828; BMC ii 328; BSB-Ink C-695; Bod-inc C-477; GW 7820; Klebs 310.1; Fairfax Murray, German 126; Simon BG 401. Kyriss, *Verzierte gotische Einbände im alten deutschen Sprachgebiet*, Stuttgart, Hettler 1951-1958; B. Wagner & M. Reed (eds.), *Early Printed Books as Material Objects: Proceedings of the Conference Organized by the IFLA Rare Books and Manuscripts Section, Munich, 19-21 August 2009*, De Gruyter Saur, 2010); I. Schunke, *Die Schwenke-Sammlung gotischer Stempel- und Einbanddurchreibungen nach Motiven geordnet und nach Werkstätten bestimmt und beschrieben*, vol. I: *Einzelstempel*, Beiträge zur Inkunabelkunde III,7 (Berlin, Akademie-Verlag, 1979), cited as Schwenke-Schunke; A. Roeding, *Studier till Petrus de Crescentiis...* Diss. Göteborg 1927; A. Sorbelli, *Bibliografia delle edizioni dell'opera di Pier de' Crescenzi* [in Pier de' Crescenzi. Studi e documenti] Bologna 1933; A. Taurino, *I 'Libri Commodorum Ruralium' di Pietro de Crescenzi, bolognese (1233–1321). Edizioni a stampa e manoscritti*. In: *Manoscritti, editoria e biblioteche dal medioevo all' età contemporanea*. Studi offerti a Domenico Maffei per il suo ottantesimo compleanno. Editors, Mario Ascheri & Gaetano Colli., Vol. 3., Rome 2006, pp. 1281–1309.



**First Latin edition of both parts of Dürer's treatise on human proportion**

**3** **DÜRER, Albrecht.** *De Symmetria partium in rectis formis humanorum corporum, Libri in Latinum conversi* (per J. Camerarium). Nürnberg: in aedib. viduae Durerianae, 1532. *De varietate figurarum et flexuris partium ac gestib[um] imaginum, libri duo.* . . Nürnberg: Formschneider, 22 Nov. 1534. Two works in one volume. Folio (323 x 208 mm). 79 (of 80, lacking blank) and 55 (of 56, lacking



blank) unnumbered leaves. Signatures: A-E<sup>6</sup> F<sup>4</sup> G-N<sup>6</sup> O<sup>4</sup> (-O4); a-k<sup>6</sup> (-k6). Gatherings b to k of second work misbound after gathering A of first work. First title with 8-line verse to the reader above Dürer's woodcut monogram, gothic letter, text in single and double columns, more than 150 mostly full-page woodcut illustrations and diagrams. Unsigned leaves a4, e6, f6, i5 split from bifolio and attached to a3, e5, f1, i4 respectively to gain folding leaves (as called for). Errata on k5v. Bound without the final blanks O4 and k6. 19th-century half vellum, spine with hand-lettered paper label (slightly soiled and rubbed). Internally only very little age-toned, a few ink smudges, occasional brown spotting, staining and finger soiling, light dampstaining to lower blank margin of a few pages, old paper repair at gutter of final page and lower blank margin of second title (leaving two small holes in blank area), contemporary ink annotations and corrections in text on two pages, a few anatomical illustration with shading hatchures added in sepia, illustration on h2r lightly crayoned. Provenance: Johann Vogler\*, Zürich (inscribed on both title-pages "Joannis Vogleri, Tigurum", on 2nd title also with architectural monograms in sepia of both, Albrecht Dürer and Johann Vogler), illegible stamp to first title, Fürstenberg Hofbibliothek, Donaueschingen

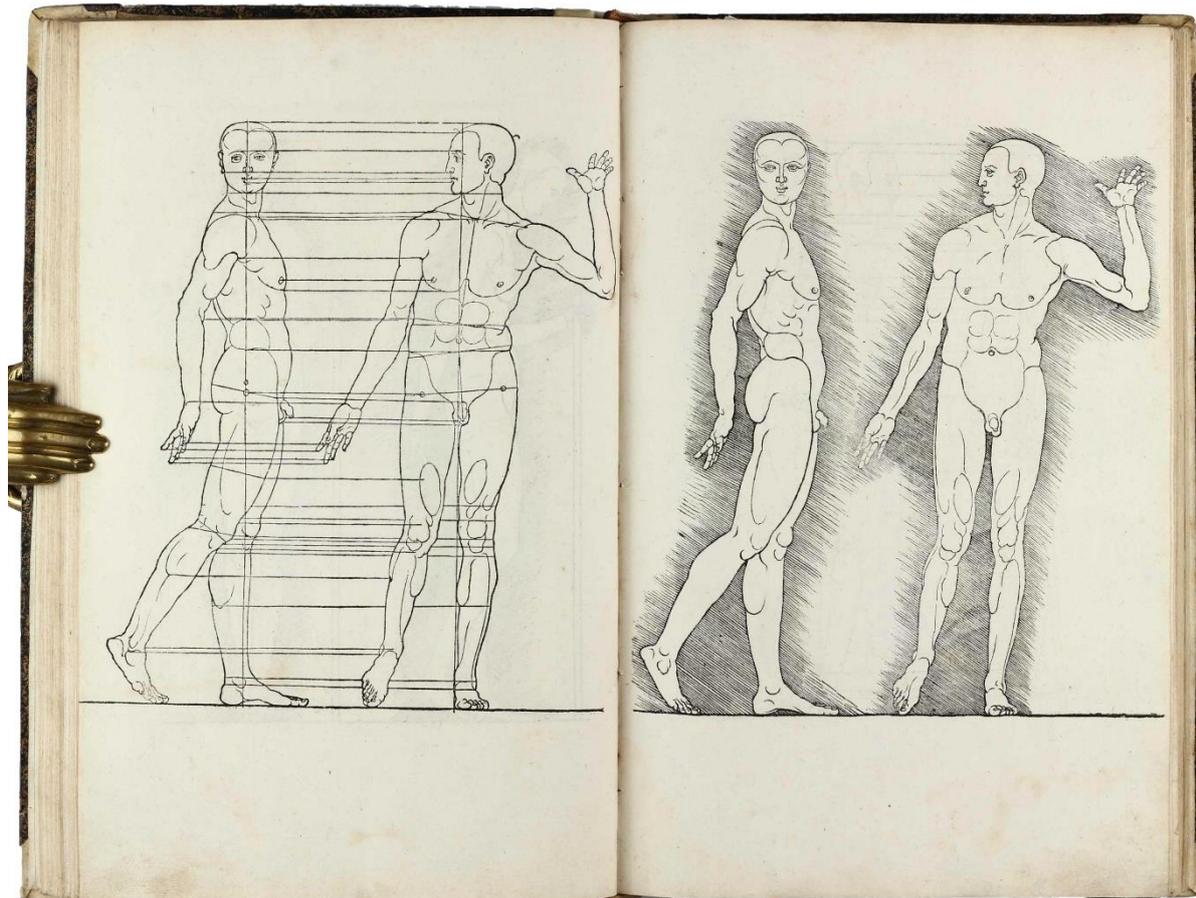
(old stamp on second title); Thomas Vroom (pictorial bookplate to front pastedown). A very good, wide-margined copy, with all the text leaves and woodcuts present. (#003253) € 25,000

Adams D-1044; Fairfax Murray German Books 152; Bohatta 20; DSB IV, pp. 259-60. FIRST LATIN EDITION, in two parts, of *Vier Bücher von menschlicher Proportion* first published 1528 in German. Unlike his Italian contemporary, Leonardo da Vinci, who published nothing, Dürer lived and worked in the world of printing and engraving. Dürer's treatise on human proportion was the earliest of the three theoretical works written in his later years. He began formulating mathematical rules for the proportions of the human form soon after his first trip to Venice in 1494-95. For his mathematical formulations he drew upon the works of antiquity as well as the Italian rediscoveries; as for his other theoretical works, his goal was to establish a scientific basis for aesthetics and to provide practical guidelines for draftsmanship. "The book is the synthesis of Dürer's solutions to his self-imposed formal problems; in it he sets forth his formal aesthetic... Dürer's aesthetic rules are based firmly in the laws of optics--indeed, he even designed special mechanical instruments to aid in the measurement of human form. He used the height of the human body as the basic unit of measurement..." (DSB). Book IV is of the greatest interest as it presents for the first time many "new, difficult, and intricate considerations of descriptive spatial geometry... Dürer's chief accomplishment as outlined in the Four Books is that in rendering figures... he first solved the problem of establishing a canon, then considered the transformation of forms within that canon... In so doing he considered the spatial relations of form and the motions of form within space" (DSB). Camerarius' translation popularised the fame of the book throughout Europe. "Without Camerarius' translation, Dürer's writings would not have achieved exceptional dissamination in Europe. Without Camerarius translation, Michelangelo would never have seen Dürer's theory of proportion" (translation from Dürer Katalog, Nürnberg, 1971).

The private Royal Fürstenberg Hofbibliothek was disassembled and sold between 1980 and 2001 by their former owners.

Of special interest are the two painted monograms on the second title, most likely in Johann Vogler's hand, which nicely demonstrate the appeal and fascination of Dürer's invention to his contemporaries. Today it is commonly agreed that Dürer designed one of the first corporate logos in world history with quite a simplistic, but highly recognizable and catchy monogram just consisting of two letters: A and D. Johann Vogler here applies the architectural style of Dürer's monogram and created his own logo.

\* Johannes (Hans) Vogler (1498-1567) was a Swiss bailiff of Altstätten in St. Gallen and follower of the reformation movement around Vadian and Zwingli in Switzerland. He also became gauger and supervisor of the wine cellars of St. Gallen. He took part in the battle of Bicocca as a lieutenant and in 1541 became owner of Uster castle in Canton of Zürich (see Martin Bucer Briefwechsel/Correspondance: Band IX (September 1532 - Juni 1533), p.347).

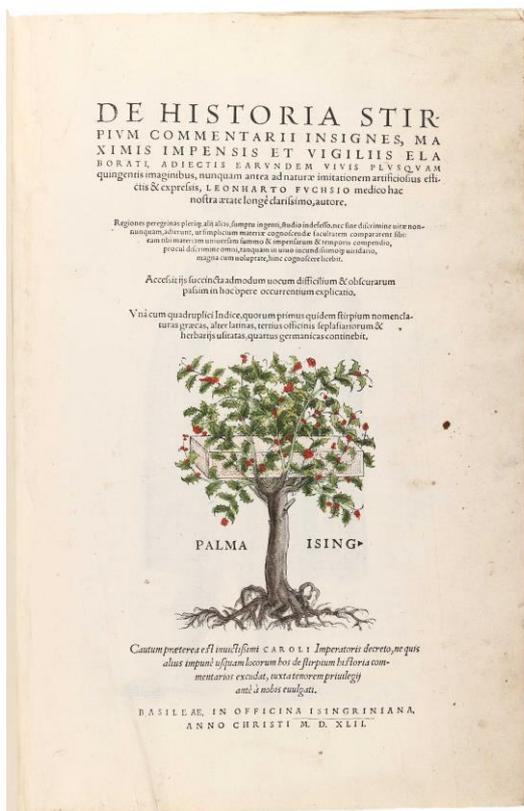


With fine contemporary hand-coloring throughout

**4 FUCHS, Leonhart.** *De historia stirpium commentarii insignes, maximis impensis et virgillis elaborati, adiectis earundem vivis plusquam quingentis imaginibus nunquam antea ad naturae imitationem artificiosus effectis et expressis...* Basel: Michael Isingrin, 1542. Folio (362 x 237 mm). [28], 896, [4] pp. Signatures:  $\alpha^6 \beta^8 A-Z^6 a-3f^6$ . Greek, roman and italic types. 509 full-page botanical woodcuts, 3 smaller cuts in the text, by Veit Rudolph Speckle after Heinrich Füllmauer and Albert Meyer, full-page portrait of the author on title verso, portraits of the 3 artists on fff5r, printer's device on title, repeated on final verso, historiated woodcut initials in various sizes. All woodcut illustrations and devices elaborately and fully colored by a contemporary hand. 3 leaves of supplemental 17th to 18th-century manuscript indices bound in after prelim. leaf  $\beta 4$ . Late 17th- to early 18th-century French calf, spine with 6 raised bands gilt in compartments and with gilt-lettered morocco label, red-dyed edges. Minor repairs to leather at hinges and corners, but keeping the entire book block untouched and in its original state, later endpapers. Housed in a custom-made cloth box. Internally generally crisp and clean, occasional smaller ink smudges or light-brown spots mostly toward lower blank margin, longer tear with old paper repair on pages 166 and 486, shorter clean tears to a total of 13 leaves elsewhere, page 183/4 with small central hole due to paper flaw costing one letter of text on verso, small wormtrack towards gutter of lower blank margin of first gatherings, the final two leaves somewhat soiled and creased, a few further leaves slightly creased at upper margin, small dampstain to leaf i2. Provenance: from a German private collection, 17th to 18th century neat ink annotations in Latin and French to botanical illustrations. An exceptional, well margined copy with the book block untouched and without major interventions or supplied leaves. (#003245) **SOLD**

**FIRST EDITION OF FUCHS' MAGNUM OPUS, WITHOUT EQUAL AMONG THE BOTANICAL WORKS OF ITS TIME. A VERY FINE COPY WITH ALL WOODCUTS IN CONTEMPORARY COLORING.** Fuchs' herbal earned its reputation as "perhaps the most celebrated and most beautiful herbal ever published" (PMM) by virtue of its text and its woodcut illustrations which are largely true to nature and allow for plant identification. According to Meyer, "the figures in the *Historia* command universal recognition and praise for their simple elegance and naturalness of form, traits that place this herbal among the landmarks of the history of botanical iconography" (Meyer, p.116). Unusual for the time, full acknowledgment was given to the three artists involved in producing the work: the plants were drawn from nature by Albrecht Meyer, of Basel, transferred to woodblocks by Heinrich Füllmaurer, of Herrenberg, and finally carved into wood by Viet Rudolf Speckle, "by far the best engraver in Strasbourg" (Fuchs, App. 1 [60]). Such was their importance that their group portrait is included on the final page. Although Fuchs based much of his text on the traditional Dioscoridean corpus, he enriched it with cogent practical observations on actual specimens, taking care to show its roots, stalk, leaves, flowers, seeds and fruits. He chose accuracy over artistic interpretation and intended his herbal to be consulted as much, if not more, for the illustrations as the text.

"The production of the *Historia* coveted a period of approximately ten years from the time of its inception to publication. The unevenness of the drawings, from poor to very high quality, reflects this time lapse. Since the flowering season was limited, the drafting of the original drawings was confined to a few months of the year. This required speed as well as accuracy ... Fuchs's garden near the fourteenth-century Nonnenhaus in Tübingen was undoubtedly a major source of the plants used by the artists to illustrate the herbal, especially the exotics ... With a few exceptions, the figures in the *Historia* are original. In a provocative paper on the herbals of Brunfels and Fuchs, Church correctly observes that at least two figures from Brunfels's *Herbarum vivae eicones* were adapted by Fuchs's draftsmen ... Fuchs probably felt the influence of Brunfels in another way - namely, as a model for the use of woodcuts as plant portraits, one to a page. Plant pictures are rendered as full-page plates throughout the *Historia*. The only exceptions are two species of moss (Bryophta) figured together on the same page as text figures." (Meyer, p.118-9). The highly detailed illustrations include the first depictions of approximately forty plants, including several recently discovered American species, among them maize (which Fuchs believed to have originated in Turkey), chili pepper and the pumpkin. The illustrations served as models not only for the many later



editions, including a number of "pocket-sized" octavo or duodecimo volumes, but also for the illustrations of the botanical works of Bock, Dodoens, William Turner and others.

It is correct to assume that the unshaded outline woodcuts were intended to be colored. "Centuries before Fuchs, the tradition of colored figures in herbals had already been established - first by Crateuas in the first century B.C. The *Juliana Anicia Codex* of A.D. 512 is the oldest manuscript on plants with colored illustrations, but many medieval herbals are colored. In the modern era, beginning in the Renaissance, the prototype among colored herbals is Fuchs's *Historia stirpium*, although the early printed herbals of the fifteenth century were sometimes colored. When published, the *Historia* appeared in two states, with uncolored figures or with hand-colored figures after the originals in Fuchs's manuscript. The colored figures are rendered in water-colors, often called aquarelles ... The thinness of the lines in the figures was intentional, because Fuchs expected that some copies would be colored at the time of publication. In the Dedicatory Epistle, Fuchs explains that 'over and over again, we have purposely and deliberately avoided the obliteration of the natural form of the plants lest they be obscured by shading and other artifices that painters sometimes employ to win artistic glory' (Fuchs, App. 1 [60]). More explicitly, Fuchs describes the colors found in the kernels of maize, *Zea mays* (p. 825): 'From the tip of the sheaths thin hairs hang, spotted sometimes with white, sometimes yellow, sometimes purple, as is quite well shown in the one picture, which will depict for you all the types. This shows you four colors of grain in one sheath, although actually each one has all its grains of only one color, either yellow or purple, russet or whitish.'" (Meyer, p.119). This careful explanation shows clearly that colored copies must have formed an integral part of the edition, for Fuchs's words would be meaningless if the whole had been issued uncoloured. (see Arber, p.315). In the hand-coloring, our copy predominantly follows the two known copies of the first German edition 1543 (Hofbibliothek Regensburg and Stadtbibliothek Ulm) which are supposed to have been colored under Fuchs' supervision (see Meyer, p.120). According to Meyer, of the 150 copies in libraries he could retrieve, only 48 are colored, but in fact only a few with original coloring.

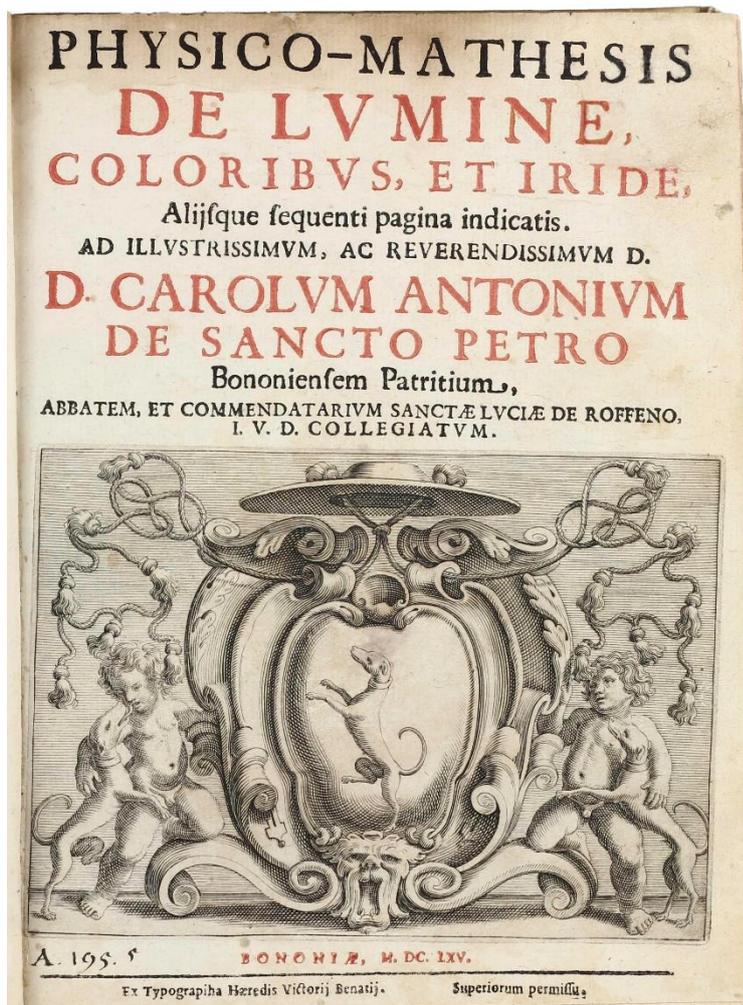
References: *Printing and the Mind of Man* / PMM 69; Dibner, *Heralds of Science*, 19; Horblit, *One Hundred Books famous in Science*, 33b; Sparrow, *Milestones of Science*, 72; Adams F-1099; Fairfax Murray I, 175; Grolier/Norman 17; Hunt 48; Nissen BBI 658; Pritzel 3138; Stearn, W.T., *The Use of Bibliography in Natural History*, in: *Bibliography & Natural History*, London, 1966; Meyer, F. G., *The Great Herbal of Leonhart Fuchs*, Vol. 1, Stanford Univ. Press, 1999; Arber, A., *The colouring of sixteenth-century herbals*, pp. 315-317. In: *Herbals: Their Origin and Evolution* (Agnes Arber, William Thomas Stearn, editors). Cambridge University Press, 1986.



## The discovery of optical diffraction

5 [GRIMALDI, Francesco Maria](#). *Physico-mathesis de lumine, coloribus, et iride*. Bologna: heirs of Victorio Benacci for Girolamo Bernia, 1665. 4to (235 x 180 mm). [24], 535 [1], [16] pp. Signatures: [pi]<sup>2</sup> a<sup>4</sup> b<sup>6</sup> A-Z<sup>4</sup> 2A-Z<sup>4</sup> 3A-Z<sup>4</sup>. Including first blank [pi]1, title page printed in red and black and with large engraved vignette, additional letterpress title also printed in red and black and with smaller woodcut device, text in double columns, several woodcut text illustrations and diagrams, 7 leaves of index and ad lectorem leaf at end. Bound in later limp vellum, yapp edges, spine with gilt-lettered red morocco label, red-dyed edges (vellum slightly soiled and spotted). Text only little browned throughout, light staining and damp-spotting in places, first title with restoration at top corner (possibly from small erased stamp with 4 partially refinished letters). Provenance: Thomas Vroom (pictorial bookplate to front pastedown). All in all a very good copy. (#003250) € 25,000

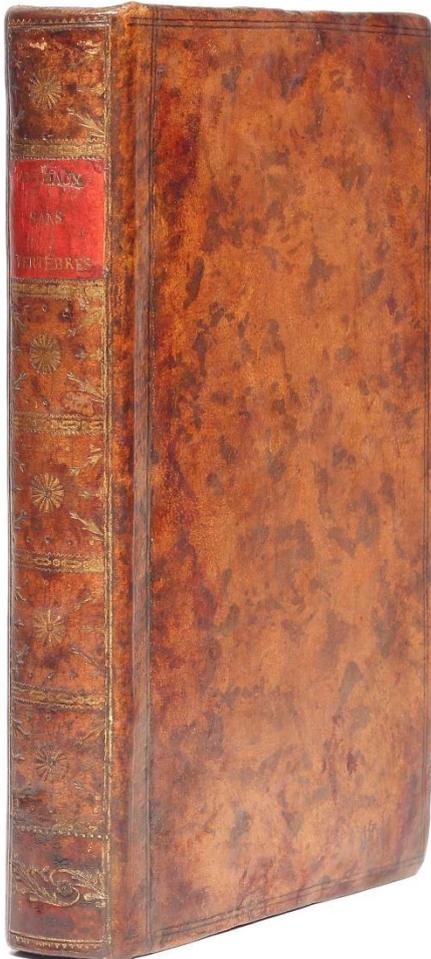
DSB V, pp. 542-45; Riccardi I, 631 ('celebrated and scarce work'). FIRST EDITION of Grimaldi's only publication, the discovery of optical diffraction. In this important and celebrated work Grimaldi describes his discovery of the inflection of the solar rays near certain bodies. He was the first to declare that the diffusion of light was instantaneous. The diffraction experiments which Grimaldi describes show "that a new mode of transmission of light had been discovered and that this mode contradicts the notion of an exclusively rectilinear passage of light. Diffraction thus gave prima facie evidence for a fluid nature of light. The name 'diffraction' comes from the loss of uniformity observed in the flow of a stream of water as it 'splits apart' around a slender obstacle placed in its



path. He discussed other fluid phenomena analogously with light. To explain color and the varieties of color he decided that a "change in agitation" of the luminous flow is responsible. A light ray is conceived like a column of fluid in vibration, but not regular vibration. Lighter colors are said to result from a greater density of rays and darker colors from a lower density ... Knowledge of his work appears in the work of both Hooke and Newton. Hooke performed his first series of diffraction experiments later in 1672, after the notice of Grimaldi's book in the Philosophical Transactions. Hooke referred to it, however, as inflexion and may have encountered diffraction phenomena independently. Newton was aware of Grimaldi's work, but only at secondhand, crediting Honoré Fabri as the source of his knowledge on diffraction. At first (1675) Newton described and attempted to account for only the internal fringes. His description shows that he could not have performed the experiment. By 1686 he came to deny the existence of internal fringes on the basis of experiments. In the *Opticks* he described and tried to explain only the external fringes, which he never ceased to regard as a sort of refraction." (DSB).

6 [LAMARCK, Jean Baptiste de](#). *Système des animaux sans vertèbres, our tableau general des classes, des ordres et des genres de ces animaux*. Paris: chez l'Auteur and Deterville, 1801. 8vo (198 x 122 mm). viii, 432 pp., including half-title, 8 letterpress tables (6 folding). Contemporary calf, plain spine with gilt-lettered morocco label and gilt decoration, boards with double fillet border, gilt-ruled board edges, red sprinkled edges, marbled endpapers (hinges expertly repaired). Little even browning internally, few pages slightly foxed, but generally quite crisp and clean. Provenance: Hôpital St. Pothin, Lyon (faint ink stamp on title-page and two text leaves), two pages with annotations in pencil. Very good copy. (#003248) € 3,800

Dibner 194; Garrison-Morton 215.5; Sparrow 122; Norman 1262. - FIRST EDITION, FIRST STATE (without leaf 402bis of "second eddition") of Lamarck's first published statement of his theory of evolution, the inheritance of acquired characteristics. Lamarck's first public presentation of his theory of evolution was in his opening discourse for his course on invertebrates at the museum in 1800; it



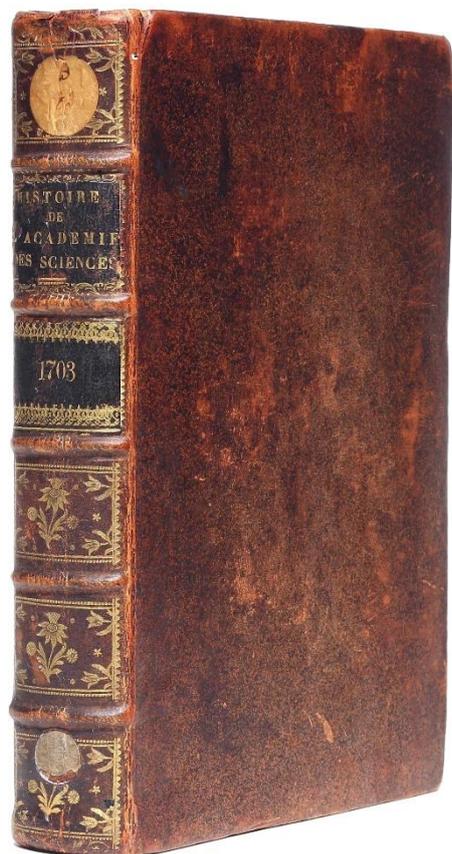
was published the following year at the beginning of his *Système des animaux sans vertèbres*. The evolutionary views sketched in the discourse leave much to be desired in terms of organization and explanation. They are, however, very much a part of a total view of nature, many aspects of which Lamarck had long accepted... In the two branches of living organisms, Lamarck pointed out the 'degradations' in structural organization of the larger classificatory groupings or 'masses' as one moved down the series from the most complex to the simplest... Nature, after having formed the simplest animals and plants directly, produced all others from them with the aid of time and circumstance. In 1800 Lamarck did not explain how spontaneous generation occurred or how unlimited time and varied circumstances produced all other organisms. He did suggest that, for animals, changing circumstances and physical needs led to new responses which eventually produced new habits; these habits tended to strengthen certain parts or organs through use. Gradually new organs or parts would be formed as acquired modifications were passed on through 'reproduction' (DSB)

Lamarck had first presented his theory of 'evolution' (a term not yet used in this context) in the opening discourse of his course on invertebrates at the Museum d'Histoire Naturelle in Paris in 1800. First printed in the present work, the 48-page Discours d'ouverture contains Lamarck's first statement of his theory of the inheritance of acquired characteristics, and of his idea of the progressive process of species differentiation, from the simplest to the most complex. The *Systeme* represented a definite advance in zoological classification. In it Lamarck 'separated spiders and crustaceans from insects, and classified worms into truer categories than had Linne. He separated animals into vertebrates and invertebrates, introducing the latter term' (Dibner).

## Leibniz' invention of binary arithmetics

7 [LEIBNIZ, Gottfried Wilhelm](#). *Nouvelle arithmétique binaire. - Explication de l'arithmétique binaire, qui se sert des seuls caractères 0 & 1; avec des remarques sur son utilité, & sur ce qu'elle donne le sens des anciennes figures Chinoises des Fohy*. In: *Histoire de l'Académie des Sciences, avec les Mémoires, Année MDCCIII*, pp. 58-63 (*Histoire*), pp. 85-89 (*Mémoires*). Two parts in one volume. Paris: Boudot, 1705. 4to (241 x 182 mm). Title page with large woodcut vignette, woodcut head- and tailpieces, engraved historiated frontispiece, the *Mémoires* with separate pagination, errata leaf bound at end, 12 (10 folding) engraved plates and a few woodcut text illustrations and diagrams. Entire volume: [10], 148, 467 [1], [2] pp. Bound in 18th century French calf, spine with 5 raised bands gilt-decorated in compartments and with two gilt-lettered morocco labels (boards and extremities rubbed, corners worn). Text only very little browned, occasional minor spotting, faint dampstaining to upper blank margin of several pages, but generally crisp and clean internally. Provenance: Kaiserl. Universitäts-Sternwarte Strassburg (ink stamps to first flyleaf and title leaf recto and verso). (#003257) € 13,500

**FIRST EDITION, FIRST ISSUE of Leibniz' invention of binary arithmetics.** Before Leibniz, Thomas Hariot and Blaise Pascal had already demonstrated number systems other than the decimal and Caramuel y Lobkowitz, in his *Mathesis biceps* 1670, was the first to publish explicitly on binary arithmetics. However, "Caramuel's contemporaries took so little notice of his work that Leibniz was hailed as the discoverer of the binary system upon publication of his *Explication* 33 years later in 1703. Many investigators still cite this paper as the first

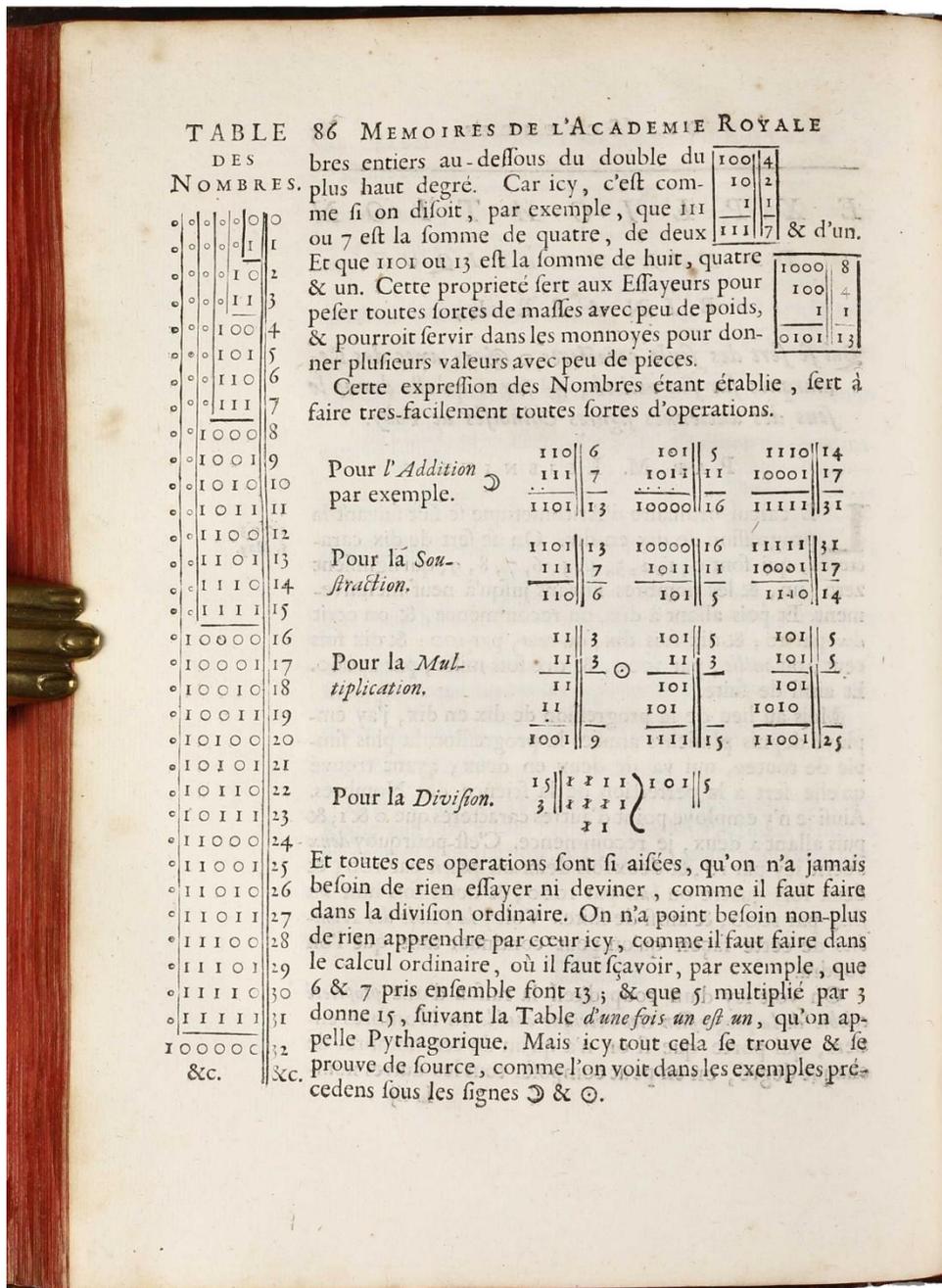


published work on the topic. This technical error is justified in substance, for the test of true publication is the existence of reaction and follow-up, a test failed by Caramuel's work." (Glaser, p.20). The "*Explication de l'arithmétique binaire* by Leibniz appeared in the 1703 volume of the *Mémoires de l'Académie Royale des Sciences* on pages 85-89. This explanation of binary arithmetic was the first publication on this topic to result in a significant impact on the scientific community. Leibniz, now 57, had been a frequent contributor to the *Mémoires* of this Parisian academy. The Berlin academy was not to begin its publications until 1710." (*Ibid.*, p.39). "Of binary numeration, he writes 'it permits new discoveries (in)... arithmetic ... in geometry, because when the numbers are reduced to the simplest principles, like 0 and 1, a wonderful order appears everywhere.' Concerning the binary calculations themselves '... these operations are so easy that we shall never have to guess or apply trial and error, as we must do in ordinary division. Nor do we need to learn anything by rote.' Certainly Leibniz was not the first to experiment with binary numbers or the general concept of a number base. However, with base 2 numeration, Leibniz witnessed the confluence of several intellectual ideas of his world view, not just the *characteristica generalis*, but also theological and mystical ideas of order, harmony and creation. Additionally his 1703 paper contains a striking application of binary numeration to the ancient Chinese text of divination, the *Yijing* (*I-Ching* or *Book of Changes*). Early in life Leibniz developed an interest in China, corresponded with Catholic missionaries there, and wrote on questions of theology concerning the Chinese. Surprisingly he believed that he had

found an historical precedent for his binary arithmetic in the ancient Chinese lineations or 64 hexagrams of the *Yijing*. This, he thought, might be the origin of a universal symbolic language. A hexagram consists of six lines atop one another, each of which is either solid or broken, forming a total of 64 possibilities, while a grouping of only three such lines is called a trigram (or cova). Leibniz lists the eight possible trigrams in his exposition on binary arithmetic, juxtaposed with their binary equivalents. He had been in possession of his ideas concerning binary arithmetic well before his 1703 publication. In 1679 Leibniz outlined plans for a binary digital calculating machine, and in 1697 he sent a congratulatory birthday letter to his patron Duke Rudolph August of Brunswick, in which he discusses binary numeration and the related creation theme with 0 denoting nothing and 1 denoting God. Furthermore, Leibniz sent the French Jesuit Joachim Bouvet (1656-1730) an account of his binary system while Bouvet was working in China. The Jesuits are an educational order of Catholic priests, who, while in China, sought the conversion of the Chinese to Christianity, hopefully by the identification of an ancient theology

common to both religions. Bouvet began a study of the *Yijing*, viewing this text as the possible missing link between the two religions. It was from this Jesuit priest that Leibniz received the hexagrams attributed to Fuxi, the mythical first Emperor of China and legendary inventor of Chinese writing. In actuality, the hexagrams are derived from the philosopher Shao Yong's (1011-1077) *Huangji jingshi shu* (Book of Sublime Principle Which Governs All Things Within the World). Shortly after receiving Bouvet's letter containing the hexagrams and Bouvet's identification of a relation between them and binary numeration." (Hopkins, p.170).

References: Glaser, A., *History of Binary and Other Non-Decimal Numeration*, Anton Glaser, Southhampton, PA, 1971; B. Hopkins, *Resources for Teaching Discrete Mathematics*, 2009, p.170).



**A milestone in the dissemination of ideas through the printing press: Luther's first book, in vernacular German intended for the common folk.**

8 **LUTHER, Martin [LUDER, Martinus]**. *Die Sieben puszpsalm mit deutscher auszlegu(n)g nach dem schriftlichen synne tzu Christi und gottis gnaden, neben seyns selben. ware erkenntniß. grundlich gerichtet.* 1517. Wittenberg: Johann Rhau-Grunenberg, 1517. 4to (208 x 155 mm). 46 unnumbered leaves. Signatures: A<sup>4</sup> B-H<sup>6</sup> (H6 blank). Colophon on H5v reads " Gedruckt tzu Wittenbergk yn der Churfurstlichen stad durch Joannem Grunenbergk Nach Christ geburt Tausent funffhundert und im sibentzen jar. Bey den Augustinern." Bound in 18th century xylographic wrappers (light soiling). Text evenly browned, occasional minor, mostly marginal, spotting and dust soiling, fol. C6r with brown staining; one wormhole running all through (affecting some letters of text), and a few further at blank margins. Ink annotation in contemporary hand on title-page and fol. D6v. Provenance: form a Hungarian private collection; no library stamps (including erased stamps) or other ownership entries present. A very good, wide-margined copy. (#003180) € 65,000

**"No book, no Reformation"** (Bernd Moeller). **IMPOSSIBLY RARE FIRST EDITION**, ISSUE B, of Martin Luther's first original publication, *Die sieben Buspsalmen* (the seven penitential psalms), which appeared in the spring of 1517, about half a year before the nailing of his *95 Theses* on a church door at Wittenberg. Only a handful of copies are known to exist (see further below).

Before autumn 1517, Martin Luther was not much more than a rather obscure Augustinian friar and preacher in a small German town, but his *95 Theses*, in which he vigorously objected to the corrupt practice of the Roman Catholic Church of selling indulgences to absolve sin, changed the world and became the foundation of the Protestant Revolution. Luther intended his *95 Theses*, which were written in Latin and in a remarkably humble and academic tone, rather as the basis of a scholarly disputation. No copies of a Wittenberg printing have survived, which is not surprising as Luther was not famous and the importance of the document was not recognized at that time.

When Luther posted his *Theses*, it is likely that no one would have noticed, if not for the press. Luther used the press so well because he knew his audience and used the language of the common people. It was this vernacular and not the Latin that he learned to use in his street orations, and he naturally turned to the vernacular for his message to his German colleagues as he sought a way to embody his new theology. And it was his use of the printing press to get that vernacular message out quickly and effectively that made the difference... (M. McIntosh-Doty)

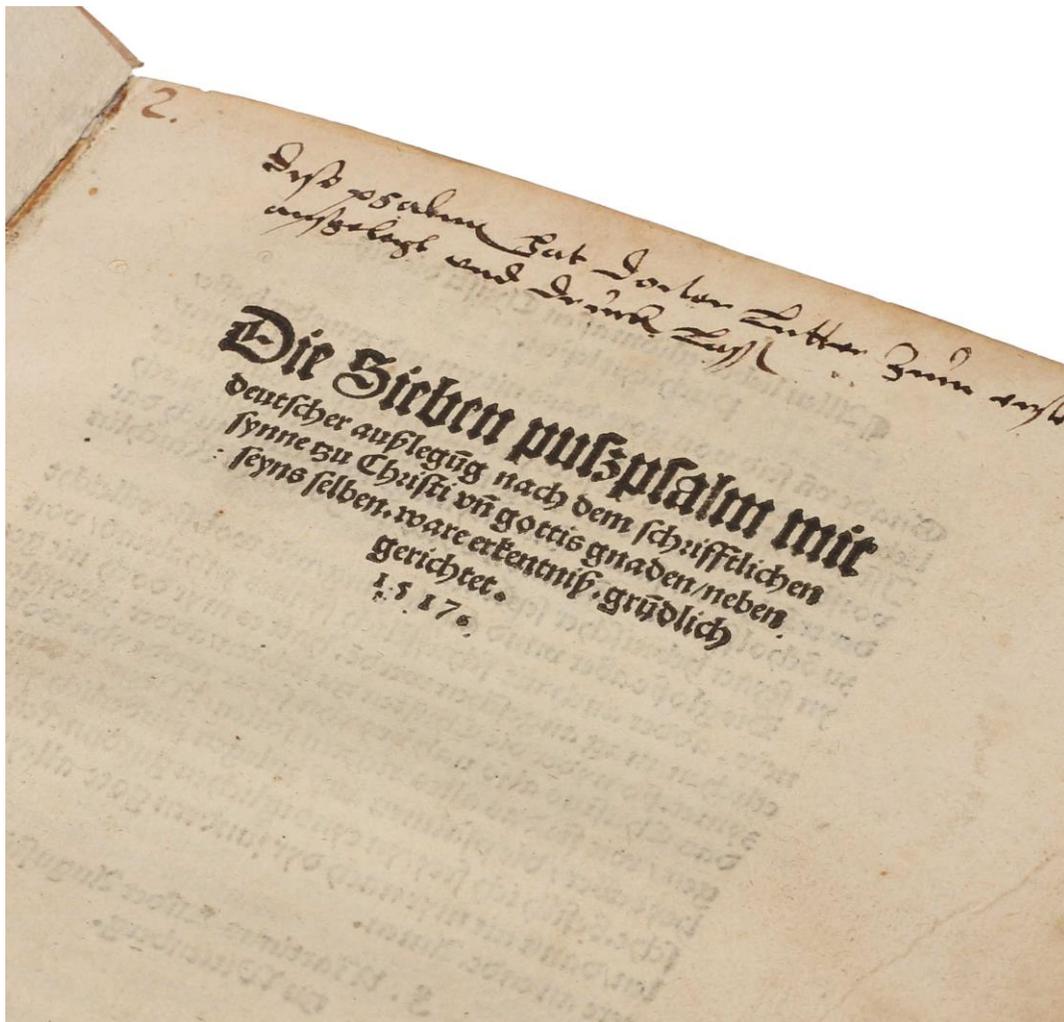
*Die sieben Buspsalmen* is the first of Luther's biblical commentaries and translations into German vernacular, published just before he changed his name from Luder to Luther. Bluhm notes that it was probably written in January and/or February, 1517, perhaps even in the last months of 1516 according to a letter of Luther to Lang dated March 1, 1517 (Bluhm, p.103). The New Testament *epistle of Romans* and Israel's Old Testament *book of psalms* were the two that Luther was predominantly studying and teaching as professor of biblical studies at Wittenberg University in the years preceding his posting of the *Theses*. "It was these two books of Scripture that radically affected Luther and changed the course of human history. While *Romans* would principally formulate his doctrine, it was the *Psalms* that dramatically emboldened him to proclaim God's message to the world. In other words, *Romans* gave Luther his theology, but it was the *Psalms* that gave him his thunder. The *Psalms* gave Luther a towering view of God, so much so that in preaching the gospel, he was ready to fight the devil himself. In so doing, these two biblical books laid the scriptural foundation for the Protestant Reformation." (Steven J. Lawson, *Preaching the Psalms*, 2012).

The success of Luther's *Buspsalmen* was instantaneous and widespread. His "searching analysis of the human situation made a deep impression upon the many readers who, like the author's superior in the Augustinian order, gave the slender volume an enthusiastic reception. It is important to bear in mind that the book, besides stirring Luther's scholarly friends as well as the learned in general rather more than he himself had anticipated, found immediate favor also with the 'common man' for whom it had primarily been written. There is no exaggeration in the claim that Luther's earliest publication straightway established him as one of the most widely read writers in the German tongue: his unparalleled success as an author can safely be said to have begun with the very first book he ever put out. The popular demand for 'Die sieben Buspsalmen' reached such proportions that the second printing was already underway before the first had been completely finished. The book then went through a number of editions both regular and pirated: Wittenberg, Leipzig, Strassburg, and Erfurt printers published it between 1517 and 1525." (Bluhm, p.103).

Georg Wolfgang Panzer, already in 1783, noted the great rarity of this book and held it in high esteem. (Panzer, p.2). We know of two issues of the first edition. One issue (B, Benzing 75, ours) with year "1517" in the sixth line of the title, the other (A, Benzing 74) without the year in the title, with the first 3 lines in larger font size and the signature "F. Martinus Luder Augustiner zu Wittenberg" in the preface on verso additionally dated 1517. The setting of the text in our copy is identical to issue A for the gatherings B to H. Text and setting of the first gathering A differs slightly and thus has been reset in one of the two issues. Since we do not see any difference in paper stock and water-marking of the 4 leaves of gathering A and the subsequent 42 leaves of gatherings B to H in our copy, we cannot say with safety whether gathering A in our issue B or that in issue A was reset. We weren't able to find reliable information in bibliographic literature that proofs any printing priority for the two Wittenberg issues. Panzer argues that the issue he owns has an "F" (for Frater) in Luther's preface signature whereas the Palm copy he refers to has a "D" (for Doctor) instead, and because his three later editions at hand also have the "F", the issue with the "D" must be the first and those with the "F" must be the second printing (or edition). Digitized copies of both issues we found online however all have the "F" in Luther's signature. Thus, we do not know which issue Panzer refers to. Because of the identical type setting of the main text, it would be completely unjustified to call any of the two Wittenberg issues a first or a second edition anyway.

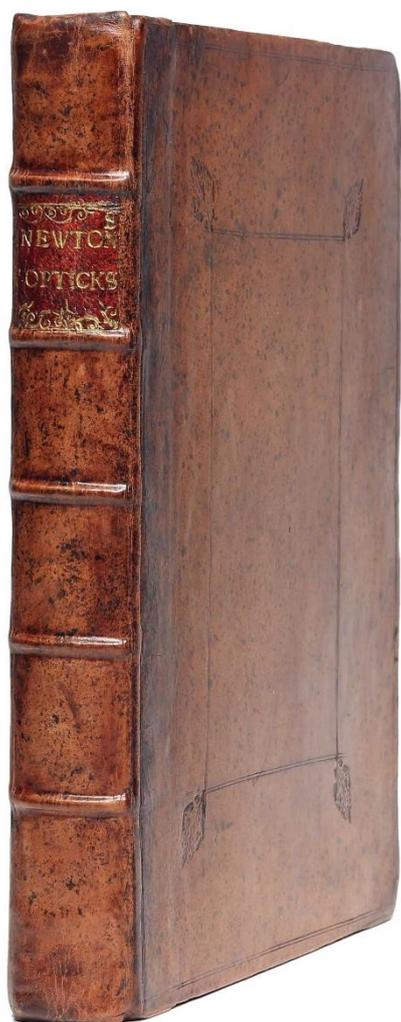
The rarity of this work is attested by the sales record: we were unable to find any copy of the first edition at auction and only traced a single record in an old antiquarian sales catalogue of 1895 (Ludwig Rosenthal Antiquariat München, Katalog 85). OCLC records no copy of our issue B in public libraries outside Germany and France (Paris BNF) and only a single copy of issue A in the US (The Morgan Library, NY). VD16 lists 5 locations (all Germany) of issue A and only one for issue B (Martin Luther University Halle).

Literature: Benzing, *Lutherbibliographie*, 75 and p. 440, Benzing/Claus II.; VD16 B 3483; Luthers Werke (Weimarer Ausgabe) Bd. 1, p. 155:B; Panzer, *Entwurf einer vollständigen Geschichte der deutschen Bibelübersetzung D. Martin Luthers*, 1783, p.2.; H. Bluhm, *Luther's view of man in his first published work*, The Harvard Theological Review, Vol. 41, No. 2, 1948, pp. 103-122. D. Ngien, *Fruit for the Soul: Luther on the Lament Psalms*, Augsburg Fortress, Publishers, 2015; Mikail McIntosh-Doty, *Luther and the Printing Press*. Concordia University Texas, online resources.



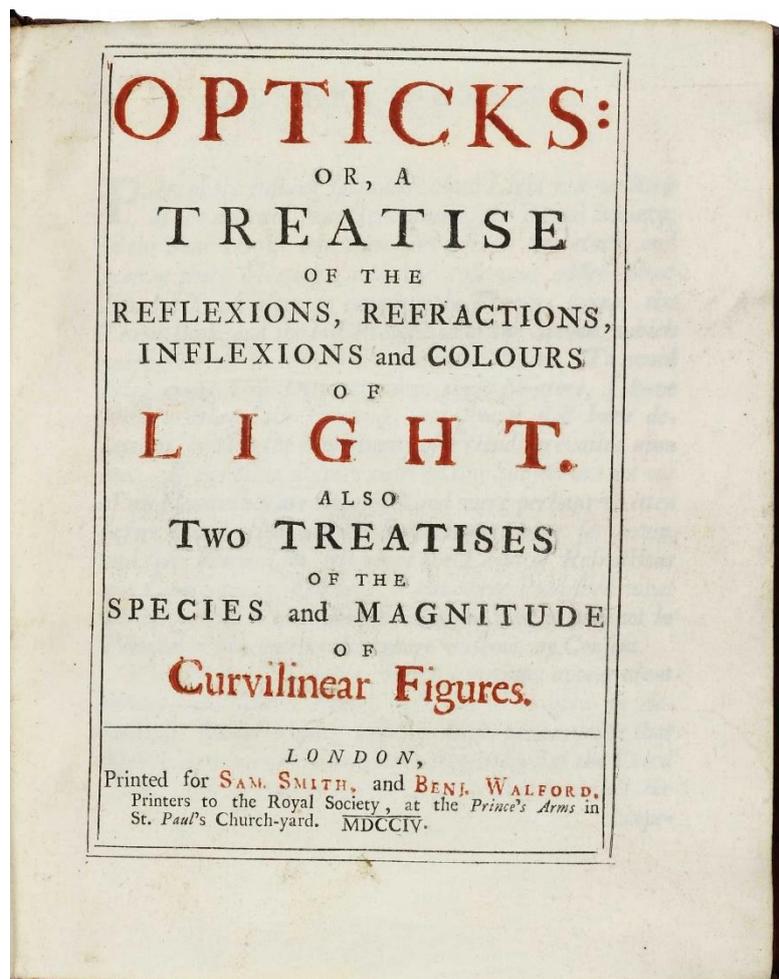
*The Harrison D. Horblit copy*

9 [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, printers to the Royal Society, 1704. 4to (244 x 191 mm). 181 leaves, [4] 1-144, 1-137 [1] 138 [1] 139-211 [1] pp. Signatures: (pi)<sup>2</sup>, A-S<sup>4</sup>, Aa-Bb<sup>4</sup> Dd-Zz<sup>4</sup>, Aaa-Ddd<sup>4</sup>, Eee<sup>2</sup> + single leaf inserted before Tt2 being the divisional title to *Enumeratio linearum tertii ordinis*. Title printed in red and black, 19 folding engraved plates. Contemporary polished panelled calf, expertly rebaked with the original backstrip and red morocco gilt-lettered label laid down, red-sprinkled edges, corners strengthened, slight wear to extremities. Text crisp and clean throughout, faint dampstain spots to a few upper blank margins near gutter, upper margin of 6 plates closely trimmed, partly affecting heading of plate *Curvarum Tab. II*. Provenance: Harrison D. Horblit (his bookplate to first flyleaf); Thomas Vroom (pictorial bookplate to front pastedown). A wide margined and internally exceptionally crisp copy. (#003251) € 90,000



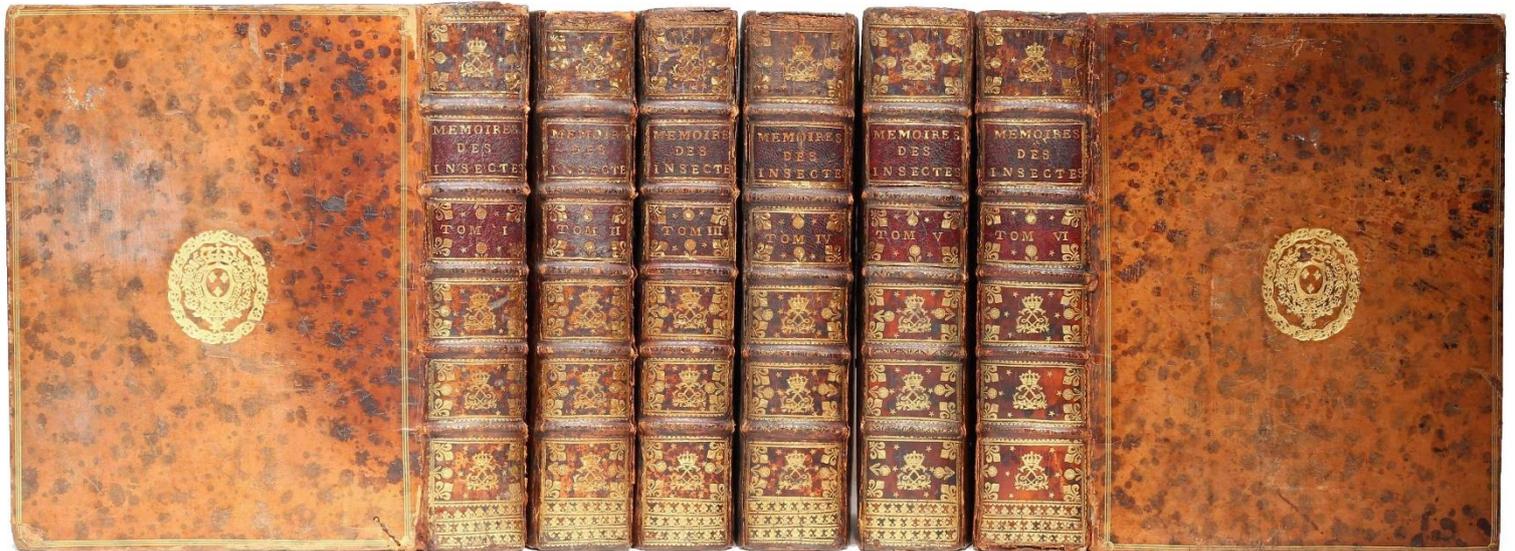
Babson/Macomber 132; Wallis 174; Sparrow, *Milestones of Science* 150; Dibner, *Heralds of Science* 148; Horblit 79b; PMM / *Printing and the Mind of Man* 172; Norman 1588. FIRST EDITION, FIRST ISSUE of Newton's important optical discoveries in collected form. "Newton's *Opticks* did for light what his *Principia* had done for gravitation, namely, placed it on a scientific basis" (E.W. Brown, quoted in Babson). "*Opticks* is also distinguished in two other ways: the first edition contained Newton's first mathematical papers in print [...] and in the later editions it was embellished with a set of 'Queries' long supposed to represent Newton's opinions on the chief mysteries of Nature". (PMM 172). *Opticks* includes explanations of the rainbow, "Newton's rings," the color circle, the spectrum of sunlight, and the

invention of the reflecting telescope. "This work includes assertions of the priority of Newton over Leibniz in the discovery of the calculus, explanations of optical phenomena such as the rainbow, 'Newton rings', the double refraction of Icelandic spar, and important 'Queries' as to the nature of matter" (Horblit). *Opticks* itself was written in the 1670s. Newton showed the manuscript to microscope pioneer and fellow Royal Society member Robert Hooke, whose criticisms were so withering that Newton elected to stall publication until after Hooke's demise. Unusually for one of Newton's works, "Opticks" was first published in English, the Latin version following in 1706. This copy was consigned to Christie's by the Widow of Harrison D. Horblit, Mermin Horblit (1910-2009) and sold in New York on April 22, 1994 (USD 16,100).



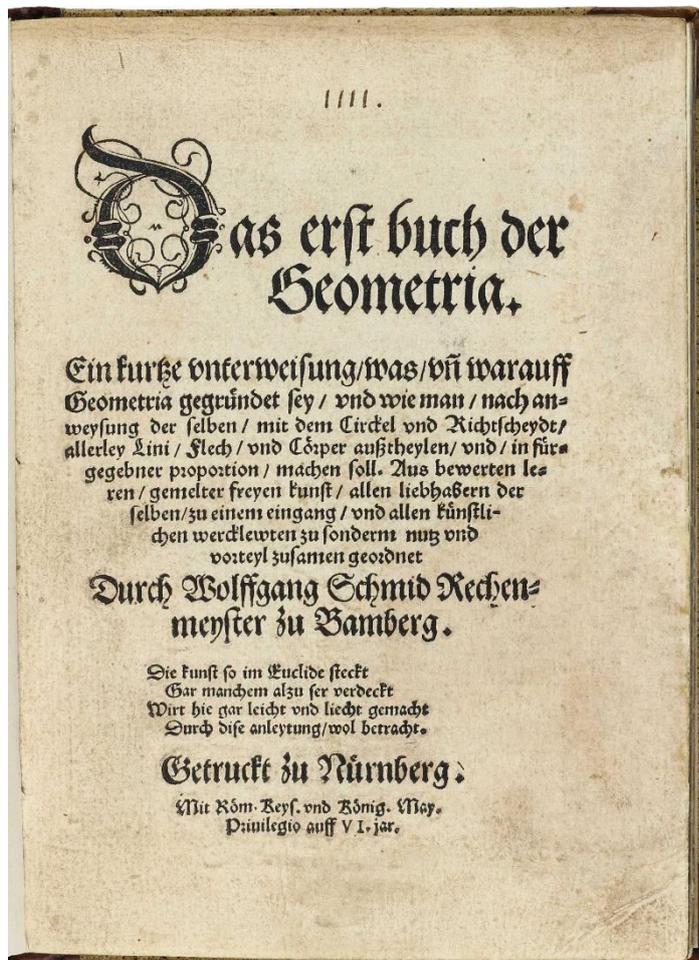
**10** [RÉAUMUR, René Antoine Ferchault de](#). *Mémoires pour servir à l'histoire des insectes*. Paris: Imprimerie Royale, 1734-1742. 6 volumes. 4to (252 x 193 mm). I. [6], 654 pp, 50 plates; II: [4] xlvi [2], 514 pp., 40 plates; III: [4] xl, 532 pp., 47 plates; IV: xxxiv [2], 636 (i.e., 634) pp., 44 plates; V: [4] xlv, 728 pp, 38 plates; VI: [4] lxxx, 608 pp, 48 plates. 267 folding engraved plates by Simonneau, Lucas, Filloeuil and Haussard in total, engraved headpieces and initial capitals, woodcut tailpieces, each title-page with engraved vignette. Bound in uniform contemporary mottled French calf, each spine with 5 raised bands, gilt-lettered morocco label and rich gilt-decoration including crowned monogram of Louis XV of France in 5 compartments, boards with triple gilt fillet borders, central gilt vignette of Louis XV, and gilt-tooled edges and turn-ins; marbled endpapers, red-sprinkled edges (joints mostly cracked but firm, boards and extremities rubbed, corners worn). First flyleaf of vol. I with short biography in manuscript, p. 460 of vol. VI with neat ink annotation. Text and plates generally quite clean and crisp with only minor uneven browning (a few gatherings a bit stronger), occasional minor spotting, few leaves with marginal paper flaws not affecting text, light offsetting from plates, some light dampstaining, mostly to lower corners and blank margins. Provenance: Nernet family of Evreux ("A Monsieur Nernet" gilt-stamped on turn-ins of upper and lower boards in each volume). A very good, wide margined and unmarked set in untouched original bindings. (#003256) € 4,000

Dibner, *Heralds of Science* 192; Sparrow, *Milestones of Science* 169; Norman 1804; *En français dans le texte*, 145; Garrison-Morton 304; Nissen ZBI 3315; Wellcome IV, p. 484. FIRST EDITION of "a classic in the life history and bionomics of insects" (Sparrow). In addition to investigating insect behaviour, Réaumur also looked at the economic value of insects in the production of silk, honey, wax, lacquer and dye, as well as considering pest control. The *Histoire des insectes* was originally planned in ten volumes, but the project was halted after the sixth, possibly due to the author's jealous rivalry with his younger and more popular contemporary Buffon. A posthumous supplement was published in 1928. Individual volume titles are: I + II. *Chenilles, papillons et insectes ennemis des chenilles*. III. *Histoire des Vers, des Teignes, des Pucerons et de leurs ennemis, etc.* IV + V. *Histoire des Gallinsectes, des Progallinsectes, des Mouches à deux ailes, des Mouches à scies, des Cigales et des Abeilles*. VI. *Mouches à quatre ailes, supplément à l'histoire des mouches à deux ailes*.



11 [SCHMID, Wolfgang](#). *Das erst Buch der Geometria. Ein kurtze Unterweisung, was und warauff Geometria gegründet sey, und wie man nach anweysung der selben mit dem Circkel und Richtscheydt allerley Lini, Flech, und Cörper ausstheylen und in fürgegebner Proportion machen soll*. Nürnberg: Johann Petreius, 1539. 4to (195 x 143 mm). [8], 126, [2] pp. Signatures: A-R<sup>4</sup>. Bound in 18th century German half-calf, blind-tooled spine with 4 raised bands, sprinkled paper-covered boards, blue-dyed edges (slight rubbing to extremities, inner upper hinge repaired and first endpaper renewed). Little dust-soiling and browning of title-page, very minor occasional spotting, faint brownstain to first gathering, oversized woodcut diagram on p. 63 shaved at fore-margin, 3 further woodcuts elsewhere only very slightly affected from trimming, but generally crisp and clean throughout. (#003252) € 6,800

VD16 S 3115; Honeyman 2795; Graesse, VII, 308; M. Friedman, *A History of Folding in Mathematics*, p. 67/68; Fleur Richter, *Die Ästhetik geometrischer Körper in der Renaissance*, Stuttgart, 1995, pp. 60-61. VERY RARE FIRST EDITION. The *Geometria* is one of the oldest treatises on geometry published in the German language. Wolfgang Schmid was a citizen and master of calculations for the city of Bamberg. The work is dedicated to his friend the famous writer, calligrapher and creator of characters from Nuremberg, Johann Neudörfer. Inspired by Euclid's *Elements*, Schmid seeks to simplify the geometry of Albrecht Dürer's *Underweysung* (1525) for a less learned and more practically oriented readership. The work is divided into four chapters and begins with a general introduction to geometry. He begins with simple demonstrations before arriving at complicated geometric bodies, ending with a figure with 20 facets. Schmid then developed his text with more complex applications of geometry for the use of architects and craftsmen (stonemasons, masons, etc).



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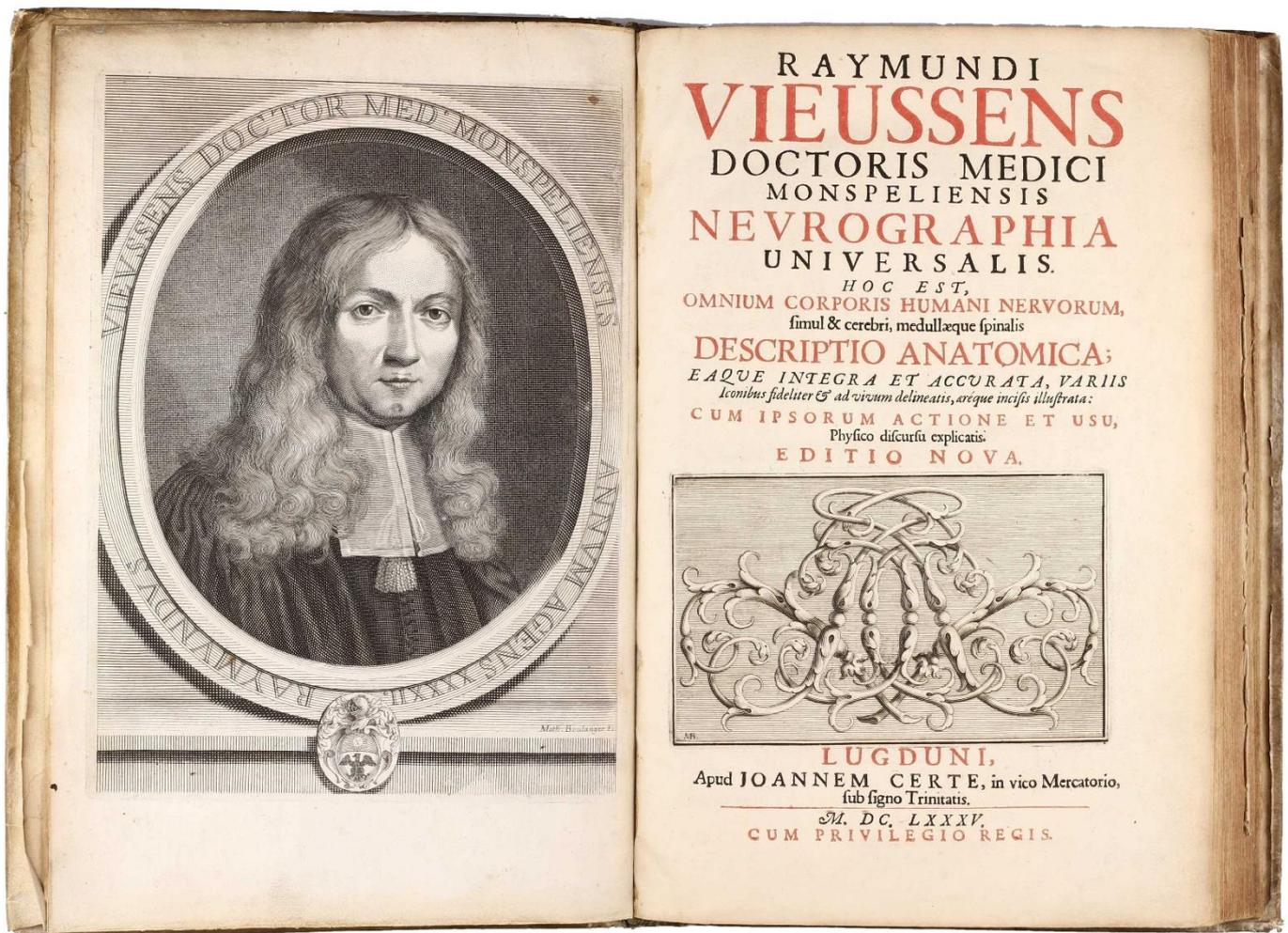
"The descriptions given for each Platonic solid are extremely short, usually describing only the number of faces, their shape, and the shape of the resulting solid. But despite the short descriptions, Schmid solves with his drawings, as Fleur Richter notes, several problems that Dürer had posed: for example, how is one to draw the Platonic solids from an angle, thus showing not only the distortion that a perspectival drawing causes (i.e., shortening of the edges), something which Dürer did not consider, or drawing the

icosahedron from above, thus not implying, as Dürer did, that all of the vertices are on the same circle." (Friedman, p.67)

The work is rare. USTC lists only one copy in the United States (Columbia, Butler Library).

12 [VIEUSSENS, Raymond de](#). *Neurographia universalis. Hoc est, omnium corporis humani nervorum, simul & cerebri, medullaeque spinalis descriptio anatomica. Cum ipsorum actione et usu, physico discursu explicatis*. Editio nova. Lyon: Jean Certe, 1685. Folio (345 x 227 mm). [16], 252, [2] pp., including half-title, title printed in red and black, engraved frontispiece portrait by Mathieu Boulanger, armorial plate, 22 engraved plates (15 folding) and 8 text engravings, numbered I-XXX in a single series. Contemporary sprinkled vellum, spine with 6 raised bands and gilt-lettered red morocco label (extremities slightly rubbed, hinges partially cracked at head and foot, corners bumped and worn, boards bent outwards, first flyleaf removed). Text somewhat browned, occasional minor spotting and dust-soiling, a few short tears at folds of plates, plate facing p.153 with long repaired tear (without loss), occasional short clean tears at margins of text leaves, former bookplate removed from pastedown. Very good copy. (#003240) € 12,000

Norman 2153; Heirs of Hippocrates 641; DSB XIV, p.25-26; Parkinson-L. 2522; Garrison-M. 1379; NLM/Krivatsy 12403; Waller 9961; Osler 4171. - FIRST EDITION, SECOND ISSUE (with imprint date 1685) of the most thoroughly illustrated monograph of the nervous system of the 17th-century, and an important contribution to the study of the brain and spinal cord. Vieussens was chief physician of the Hôtel-Dieu de St. Eloi for over 40 years, a post that permitted him to perform a large number of autopsies. His research into the central nervous system was "of great importance. In *Neurographia universalis* he sought to continue the work of Thomas Willis, which he greatly admired. The first to make good use of Stend's suggestion that the white substance in the brain should be studied by tracing the paths of its fibers, Vieussens described the olivary nucleus and the centrum semiovale; the latter still bears his name. Moreover, his description of the fine structure of the cerebellum, including the discovery of the dentate nuclei, surpassed all previous publications on the subject. The most original part of the work concerns the paths of the peripheral nerves" (DSB). The fine engraved illustrations of his neurological treatise include two large folding plates of the nervous system (plates 28-29), printed from two impressions of a single plate, of which one in reverse, presumably printed through an offset technique: the figure's left side (on the viewer's right), is an exact reverse image of the right side, including the captions and key-numbers. Both the scarcer first issue and the second issue, in which the title is dated 1685, are misleadingly described as editio nova on the title. Our copy includes the rare engraved plate of the coat of arms which is missing in the Norman copy.



## TERMS of SALE

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