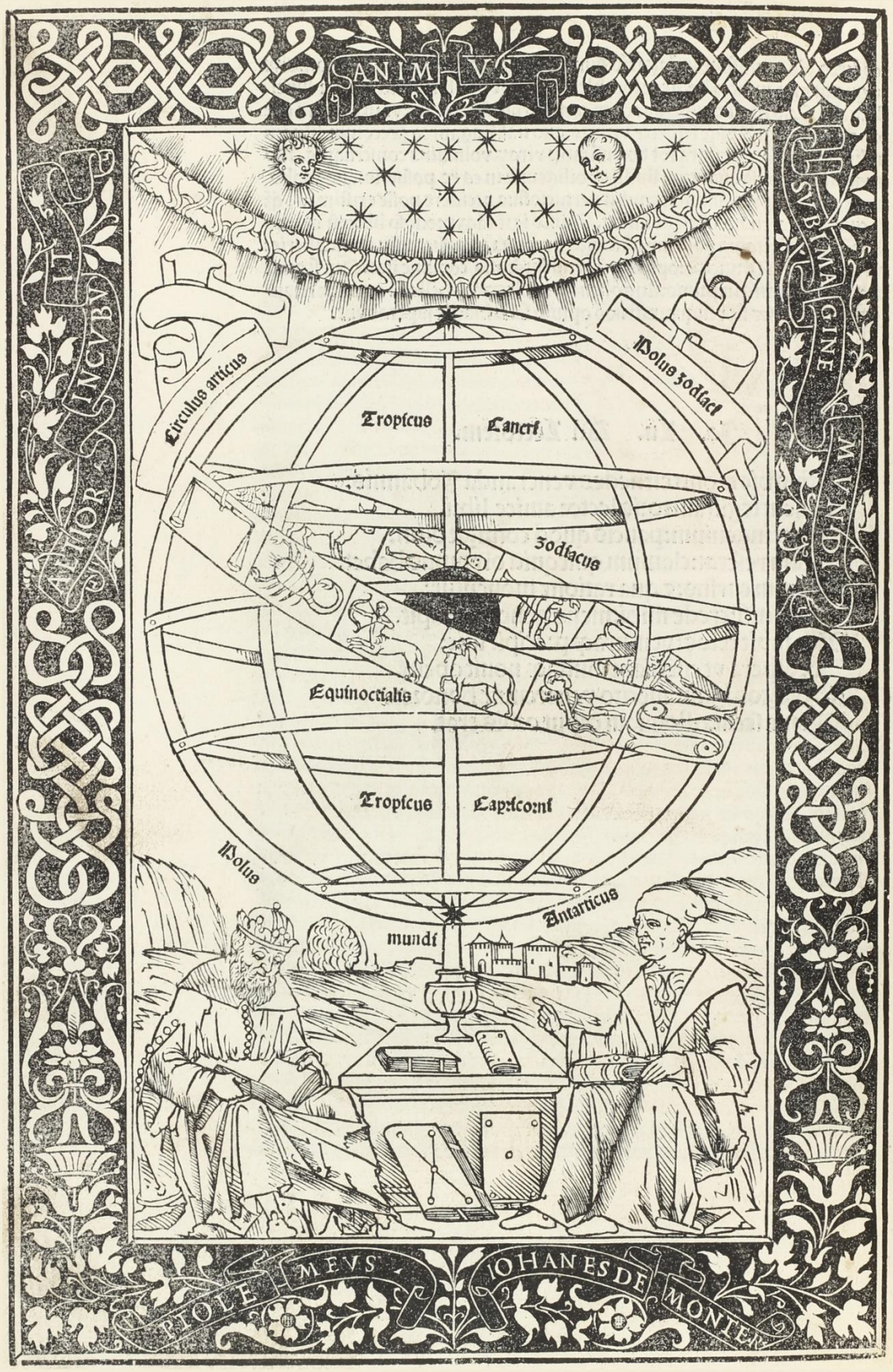

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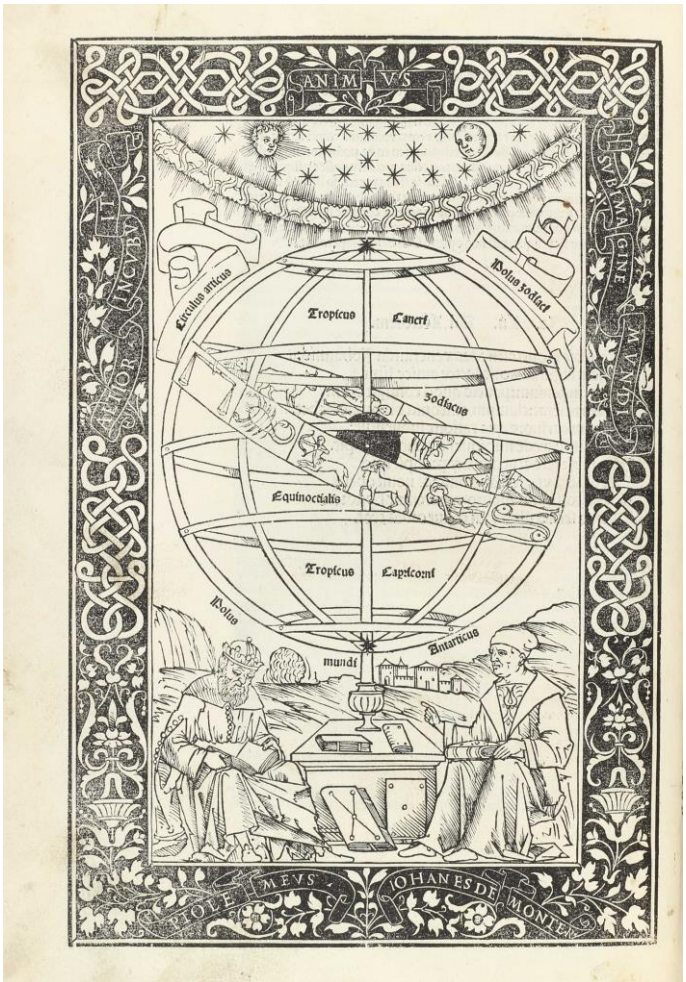
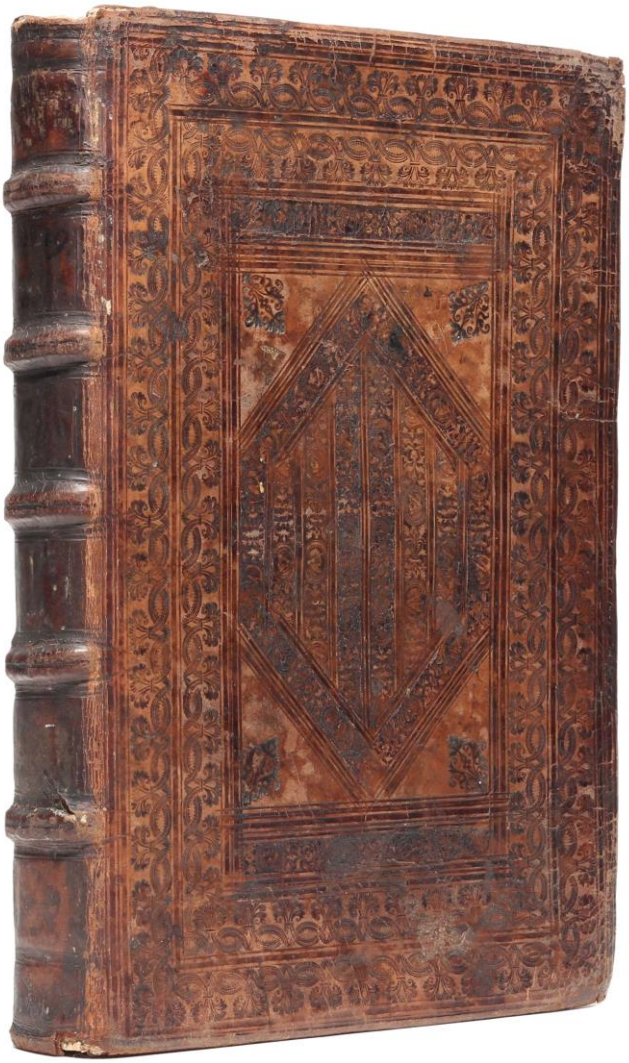
The first two editions of the *Almagest* in untouched renaissance binding

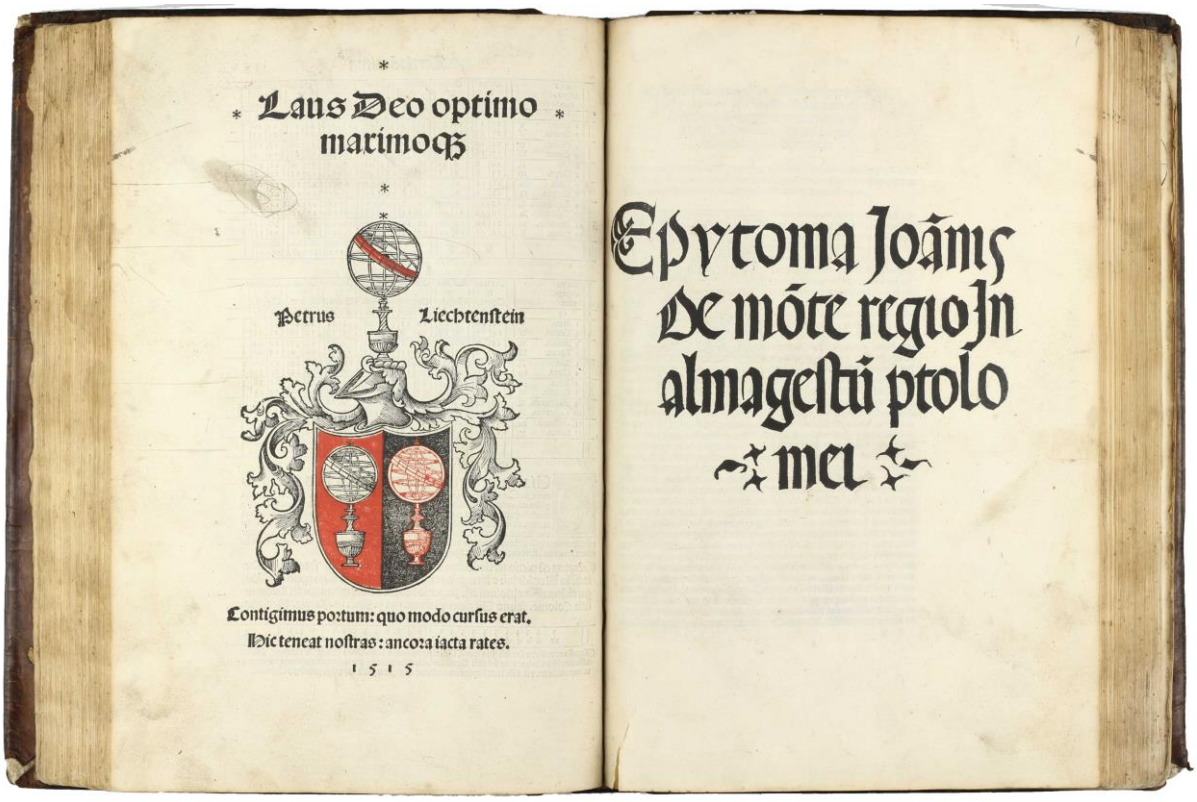
1 **REGIOMONTANUS, Johannes & PEURBACH, Georg**. *Epitoma in Almagestum Ptolemaei*. Edited by Caspar Grosch and Stephan Römer. Venice: Johannes Hamman for the editors, 31 August 1496. Super-Chancery folio (303 x 212 mm). 107 (of 108) unnumbered leaves (lacking final blank). 48 lines and headline, xylographic title, full-page woodcut of Ptolemy and Regiomontanus seated beneath an armillary sphere, within a fine white-on-black woodcut border, 279 woodcut marginal diagrams (including repeats), 6-, 7-, and 14-line white-on-black floriated and historiated woodcut initials, woodcut printer's device on colophon leaf. Signatures: a^{10} b-$n^{8.6}$ o^{6} p^{8} (-p8, blank). Without the bifolium containing Johannes Baptista Abiosus's letter dated 15 August 1496, inserted in a minority of copies between a1 and 2). Text generally crisp and bright with only minor occasional spotting and soiling, the final gathering p working loose, clean tear at foot of title, tear without loss in text area of f. i2; f. p2 with old paper repair at gutter; final 10 gatherings with pale dampstain to lower corner; final f. p7 with paper repairs to margins and soiled on verso. Foliation added in pencil, an additional diagram drawn by an early reader on f. b1v and a few ink annotations elsewhere. [Bound before:] **PTOLEMAEUS, Claudius**. *Almagestum ... opus ingens ac nobile omnes celorum motus continens*. Venice: Peter Liechtenstein, 10 January 1515. [2], 152 leaves. Signatures: $*^{2}$ a-z^{6} A^{6} B^{8}. Woodcut initials, several woodcut diagrams at text margins, final page with woodcut printer's device printed in red and black above colophon. Text with light even browning; occational spotting, finger- and dust soiling; few pages with marginal ink smudges; title page, f. 12v and 13r soiled, faint dampstaining and fraying to fore-margin of few leaves, hole in fore-magin of f. 94 and f. 101 not affecting print, upper corner of f. 98 torn, first tables with values added in old hand, several diagrams with added ink notes. Bound in its first, early 16th-century, German (likely Saxonian*) calf over paste-paper boards, both boards with rich blind-tooling, spine with 5 raised band and ruled in blind, original pastedowns (spine ends chipped, lacking free endpapers, corners bumped and scuffed, extremities rubbed). Provenance: illegible old (16th century) inscriptions and a shelf mark (partly erased) on front pastedown and first title-page. Still readable are "Bibliotheca Magna", "Ex libris Iust ... urij" and "Sum ex libris Johannis" and "publici religionis notarii iurati" (partly overwritten with ave Maria verse) and "Sum ... emptus 4 fl", below "Inscriptus catalogo librorum Collegii ... S[ocietatis]. I[esu]." An erased ink stamp is pasted over with a patch of paper. According to expert Felix Hartung of Hartung & Hartung, this copy comes from a reputable German private collection assembled before 1999. We were unable to find any record of similar copies of these two works in a single volume missing from known public librar. A very good, tall copy in untouched original binding. (#003689) €130.000



I. FIRST EDITION and the first appearance in print of Ptolemy's *Almagest* in any form. The *Almagest* (or Mathematical syntaxis), was the chief astronomical work from its composition in the second century A.D. until the end of the sixteenth century. It was largely known in the Western Middle Ages through the twelfth century Latin translation by Gerard of Cremona, but neither Gerard's version (the second work in this vol.) nor the original Greek were printed until 1515 and 1538, respectively.



"The importance of this book lies in the fact that it enshrines, within the editor's commentary, the first appearance in print, in a Latin translation from the Greek, of the monumental compendium of Claudius Ptolemaeus of Alexandria known as the *Almagest* (an Arabic portmanteau word derived from the Greek for 'the great astronomer'). Its editor, Johannes Müller of Königsberg (Franconia), called after his birthplace Regiomontanus, had studied in Vienna under the astronomer Peuerbach, who had begun this translation of an abbreviated version of the *Almagest*. After Peuerbach's death Regiomontanus visited Italy where he became attached to Cardinal Bessarion. He studied Greek and after finding another, more accurate, manuscript of the text he finished the edition of Ptolemy's great work and had it published in Venice. The *Almagest* is an encyclopaedia of astronomical knowledge - much of it derived from Hipparchus, whose original texts are lost - which established astronomy as a mathematical discipline. It contains an elaborate theory of the planets, the discovery of the second inequality of the moon's motion (known as evection), the determination of the distance of the moon, an exposition of spherical and plane trigonometry and an account of the construction and use of astronomical instruments. After a stay at the Court of the Emperor Matthew Corvinus at Budapest, Regiomontanus finally settled at Nuremberg. With his patron Bernhard Walther he established the first European observatory and constructed many scientific instruments, such as astrolabes, surveying instruments, sundials and celestial globes. He founded his own printing press from which he issued his famous *Ephemerides* for 1474-1506. These contained calculations for the daily phases and constellations of the moon and the planets. They became a model for such tables and were widely used by the early navigators, notably Columbus. Regiomontanus corrected certain errors in the Alphonsine tables (composed in the thirteenth century and first published in Venice, 1483) which had been used hitherto; and it has even been suggested that his commentary on Ptolemy adumbrates a belief that the sun is in the centre of the universe and that the earth moves. [. . .] Regiomontanus's influence was felt in both western and eastern Europe and his publication of the *Almagest* helped to re-introduce Greek astronomy into the western world. The first complete edition of the *Almagest* was published in Greek in 1533" (PMM 40).



The two inserted leaves containing a letter from the astrologer Giovan Baptista Abioso, found according to Goff in about 2 out of 34 copies only, are completely irrelevant to the text. The simply comprise prognostications, and "appear[s] to be a later supplement" (Horblit).

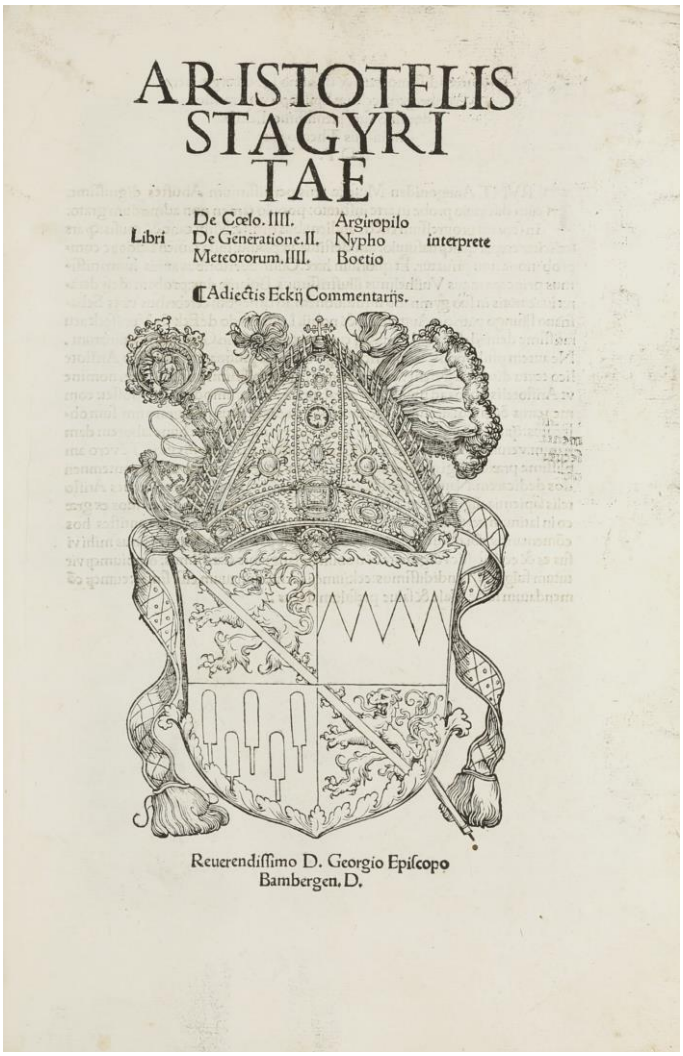
References: HC *13806; BMC V, 427; CIBN R-60; BSB-Ink R-67; Bod-inc R-040; IGI 5326; Klebs 841.1; Essling 895; Sander 6399; Stillwell Science, 103; Dibner, *Heralds* 1; Grolier/Horblit 89; Norman 1565; Evans 14; Schäfer/Arnim 192; PMM 40; Goff R-111.

II. EDITIO PRINCEPS of Ptolemy's complementary astronomical and astrological works. His astronomical survey, the *Almagest*, appears here in the first printing of Gerard of Cremona's Latin translation, made in Toledo in the twelfth century from an Arabic manuscript. It contains a star catalogue in books seven and eight which were still being used by Halley at the beginning of the eighteenth century, although Tycho Brahe had already corrected some of the coordinates. Ptolemy also describes various instruments for measuring the heavens.

"It was commonly assumed that [Ptolemy's] conceptions could be traced back to an essentially Aristotelian cosmology. As a matter of fact, Aristotle and Ptolemy were in agreement with regard to the sphericity of the Earth and its position at the center of the universe, as well as the sphericity and the circular motion of the heavens. Hence, the physical considerations of the philosopher and the mathematical arguments of the Alexandrine astronomer could reinforce each other concerning these central issues. What is more, the *Almagest* began with a mention of Aristotle's partition of speculative knowledge into the three disciplines (mathematics, physics and theology) and repeated some physical theories of Aristotle... In this consensual spirit, Sacrobosco, for one, assumed the essential concordance between Aristotle and Ptolemy and could therefore rely on both authorities in his (very) elementary introduction to spherical astronomy which, in spite of its intrinsic scientific limits, was one of the most successful textbooks ever. In Latin Europe, an 'Aristotelian-Ptolemaic cosmology' thus emerged, bringing together elements from both classical authorities. This unified geocentric worldview was assumed by most philosophers and theologians, for instance Robert Grosseteste. In his narrative of the Copernican revolution, Kuhn therefore felt legitimized to talk about an Aristotelian-Ptolemaic 'paradigm' which Copernicus' *De revolutionibus* was to undermine." (Omodeo, Pietro Daniel and Tupikova, Irina (2016). *Cosmology and Epistemology: A Comparison between Aristotle's and Ptolemy's Approaches to Geocentrism*. In: *Spatial Thinking and External Representation: Towards a Historical Epistemology of Space*. Berlin: Max-Planck-Gesellschaft zur Förderung der Wissenschaften").

References: Adams P-2213; Houzeau & Lancaster 865; Stillwell 97; DSB XI, p. 196; Norman 1760 (for the 1528 edition).

2 **ARISTOTELES [ARISTOTLE]**. *Libri de coelo IIII, de generatione II, meteorum IIII. Argiropilo, Nypho, Boetio interprete. Adiectis Eckij commentariis*. Augsburg: S. Grimm & M. Wirsung, 15 June 1519. Folio (315 x 214 mm). 125, [1] leaves (Roman numbers). Signatures: a-x^{6}. Title-page with large arms of the dedicatee (Georg von Limburg, Bishop of Bamburg), attributed to H. Weiditz or H. Burgkmair. Last leaf blank except for large armorial device of Grimm and Wirsung, by Weiditz. Two half-page and numerous smaller woodcut diagrams in text, floriated woodcut initials. Bound in contemporary blind-stamped pigskin over wooden boards with 2 catches (rubbed and bumped, staining and worming, some loss of pigskin to front cover, spine shortened and aslope, lacking clasps). Quite crisp and bright internally with only little browning to few pages, title soiled, occasional faint dampstains to upper and lower blank margin, final two gatherings with small wormholes mostly at outer margins (a single wormhole running up to first half of book), light crease near upper corner of final two gathering. Several ink annotations to several pages in neat contemporary hand. (#003677) € 9000

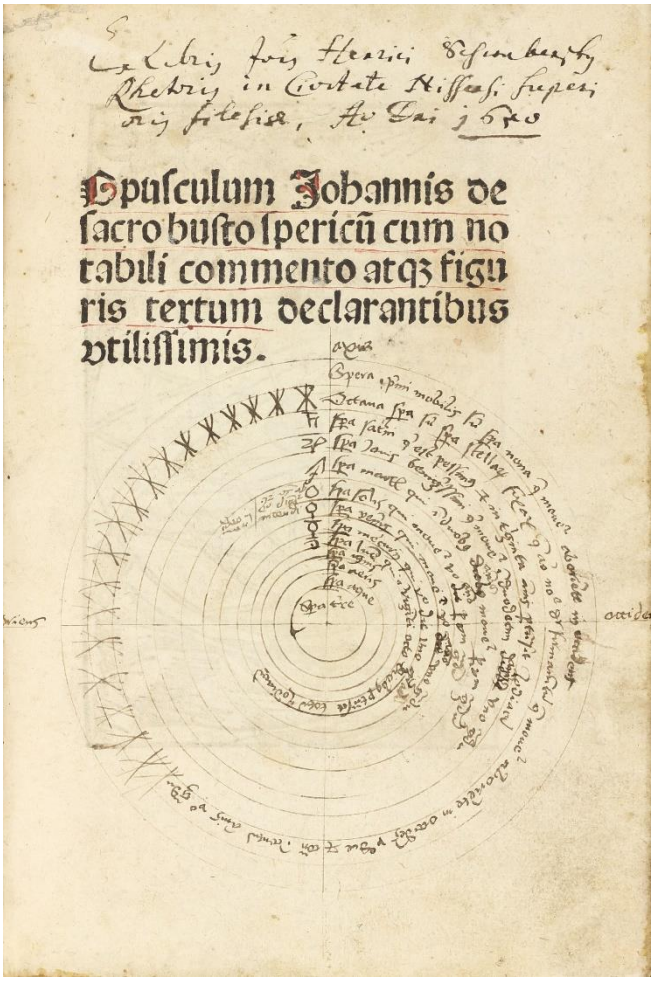

ARISTOTELIS
STAGYRI
TAE
Libri De Cœlo. IIII. Argiropilo
De Generatione. II. Nypho interprete
Meteororum. IIII. Boetio
Adiectis Eckij Commentarijs.
Reuerendiſſimo D. Georgio Epiſcopo
Bambergen. D.

VERY RARE EARLY EDITION of this collection of Aristotle's works *de Coelo*, *de generatione* and *meteorum* and the first edited and commented by Johann Eck for his reading courses (resumtiones) he introduced at the University of Ingolstadt. On fol. 29 verso is a half-page woodcut diagram of the planetary spheres and in the text further astronomical woodcuts can be found. The coat of arms woodcut on the title page with the dedication for the Bamberg bishop Georg is from Hans Burgkmair, the printer's mark at the end with the double coat of arms of the printers is from Hans Weiditz II. The New World, "Americus Vespucius," is mentioned on fol. XXXV verso.

References and literature: VD 16, A 3379; IA 107.853; Metzler 22; Dodgson II, 150, 12 (Burgkmair); Musper L 97, 634 (Weiditz).

Rare incunable edition of Sphaera mundi

3 **SACROBOSCO, Johannes de**. *[Sphaera mundi, cum commento Wenceslai Fabri de Budweiss]. Opusculum Johannis de sacro busto sperícu[m] cum notabili commento atq[ue] figuris textum declarantibus utilissimis*. Leipzig: Wolfgang Stöckel, 1499. 4to (210 x 140 mm). 49 leaves (of 50, lacking I6, blank). 39 lines, types: 160 (title and headings), 81, (text, leaded), 73 (commentary). Capital spaces with capitals, initial strokes and underlines supplied in red. Woodcut printer's device at end hand-colored in red and green, 28 woodcuts in-text, a few hand-colored in outline in red, one full-page.



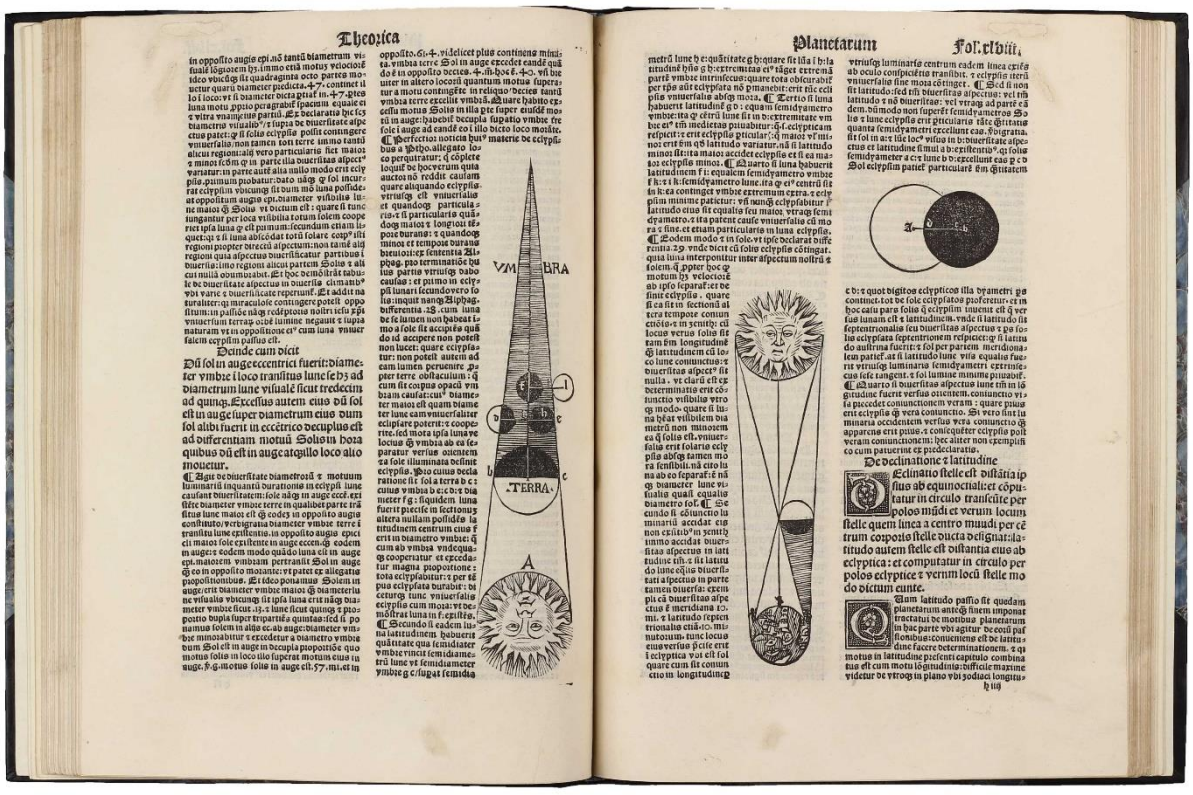
Signatures: A-C^{6} D^{4} E-G^{6} H^{4} I^{6} (-I6). Bound in later stiff vellum, later endpapers (some minor soiling of boards). Text little browned thoroughout, few leaves a bit stronger, occasional brown spotting, dust- and finger-soiling. Copiously annotated in at least three different hands of red-brown and black ink, diagram drawings including a large one depicting the geocentric planetary system on title-page; some annotations slightly shaved at fore-margin. Provenance: Jois Henrici (?)Gisimberti (inscription on title dated 1640); Dr. Eugene Vigil, Antiquariat Botanicum. (#003616) € 18,500

A close reprint of Landsberg's edition of ca 1497, the first to be published with commentary by Wenzel Faber von Budweis (1455-1518), an astronomer, astrologer and theologian from Bohemia. Sacrobosco's *Sphaera Mundi*, in which he sets out the basic principles of spherical astronomy, was widely commented upon, corrected and republished across Europe. First written in about 1220, the *Sphaera Mundi* is "a small work based on Ptolemy and his Arabic commentators antedating the *De sphaera* of Grosseteste. It was quite generally adopted as the fundamental astronomy text, for often it was so clear that it needed little or no explanation. It was first used at the University of Paris and from the middle of the thirteenth century it was taught in all the schools of Europe. In the sixteenth century it gained the attention of mathematicians, including Clavius. As late as the seventeenth century it was used as a basic astronomy text" (DSB XII, p. 61).

RARE: according to online records, only one copy of this edition has sold at auction in the last 50 years (Ketterer Hamburg, 2004, €16,100); ISTC traces only 12 copies at institutions worldwide. BMC III 655; Goff J420; GW M14592; HC 14123; not in BSB-Ink; OCoLC: 953259513

4 **PEURBACH, Georg von**. *Theoricarum novarum textus Georgii Purbachij . . . expositione Dom. Francisci Capuani de Manfredonia: it in easd Reu. p. p. Syluestri de Prierio perfamiliaris commentatio; insuper Jacobi Fabri Stapulen astronomicon; omnia nuper emendata cu figuris*. Paris: Michel Lesclencher for J. Petit and R. Chaudière, 1515. Folio (256 x 188 mm). [1] 2-91 [1] leaves, roman foliation. Signatures: a^8 b-p^6. Black letter type, text in double column, large woodcut of Petit's device on title, full-page illustration of an armillary sphere by Oronce Finé on verso, woodcut decorative initials, several woodcut astronomical diagrams in text, colophon on final leaf recto. Rebound in modern half calf over marbled boards, spine lettered and ruled in gilt, all edges gilt, new endpapers. Internally quite clean and bright with only very minor brown spotting, several small closed wormholes throughout, mostly marginal but one in middle of leaves sometimes touching text, including the full-page illustration on verso of title, the small loss skilfully supplied in pen manuscript, worming stronger in upper margin of gatherings e-i, larger repair in corner of e5 (not affecting text), a few clean closed tears including a longer one across leaf d6 (without loss). Provenance: Sotheby's Sale Nov. 2, 1981, lot 130. A fine, expertly restored copy, collated complete. (#002972) € 12,000

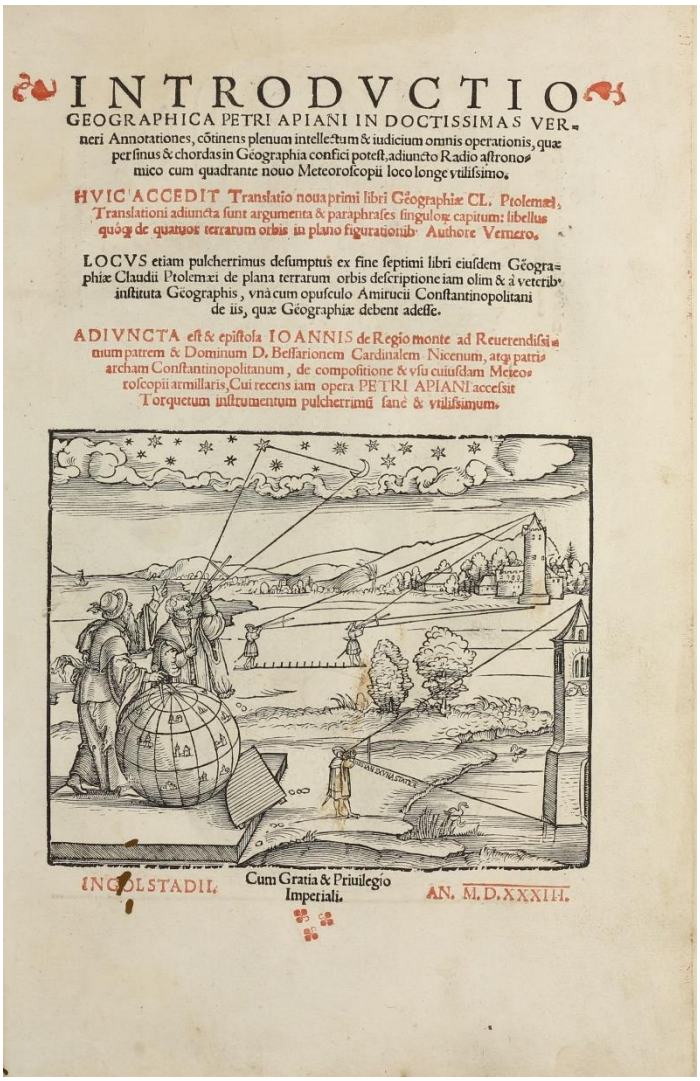
Houzeau-Lancaster 2252; Mortimer/Harvard French, 432; DSB XV, Suppl. 1, p.475-6. - FIRST PARIS PRINTING as an independent work, with a commentary by Francesco Capuano and Silvestro Mazzolini da Priero. Of exceptional rarity, only two copies have appeared at auction in the past 40 years (our copy and an incomplete copy lacking the title-page). The work contains the earliest known woodcut by Oronce Finé, an illustration of the armillary sphere with his monogram and crowned dolphin in the lower border. "*Theoricae novae Planetarum* is an elementary but thorough textbook of planetary theory written by Peurbach to replace the old, and exceedingly careless, so-called *Theorica planetarum Gerardi*, a standard text written probably in the second half of the thirteenth century.



The original version of the *Theoricae novae*, completed in 1454 ... contained sections on the sun, moon, superior planets, Venus, Mercury, characteristic phenomena and eclipses, theory of latitude, and the motion of the eighth sphere according to the Alphonsine Tables. Peurbach later enlarged the work ... by adding a section on Thabit ibn Qurra's theory of trepidation. Regiomontanus brought out the first printed edition (Nuremberg, ca, 1474). Zinner reports no fewer than fifty-six editions through the middle of the seventeenth century ... The diagrams are of considerable importance. Since parts of Peurbach's text would be unintelligible without them ... The *Theoricae novae* contains very careful and detailed descriptions of solid sphere representations of Ptolemaic planetary models that Peurbach based either upon Ibn al-Haytham's description of identical models in his *On the Configuration of the world* (translated into Latin in the late thirteenth century) or upon some later intermediary

work. Peurbach's book was of great importance because his models remained the canonical physical description of the structure of the heavens until Tycho disproved the existence of solid spheres. Even Copernicus was to a large extent still under their influence, and the original motivation for his planetary theory was apparently to correct a number of physical impossibilities in Peurbach's models relating to nonuniform rotation of solid spheres." (DSB XV, p.475).

5 **APIAN, Peter**. *Introductio geographica in Verneri annotationes*. Ingolstadt: (Peter) Apian, 1533. 88 unnumbered leaves. Signatures: A-E^4 a^4 b-c^6 d^8 e-h^6 i^8 k-l^6 (D3 missigned E3). Title printed in red and black and with large woodcut illustration, full-size woodcut coat of arms on verso, historiated woodcut initials, several woodcut diagrams and illustrations in text. Generally crisp and clean internally with light even browning, small worm holes in gatherings A-B, light dampstaining toward lower gutter, light brown staining at upper third from gathering l towards end. [Bound with:] **APIAN, Peter**. *Horoscopium generale dignoscendis horis cuiuscumque generis aptissimum*. Ingolstadt: (Peter) Apian, 1533. 20 unnumbered leaves. Signatures: A-E^4. Title printed in red and black and with large woodcut illustration, historiated woodcut initials, several woodcut diagrams and illustrations in text, single plate, duplicating the illustration on the title-page, tipped to gutter of final leaf of first work. Some damp- and brownstaining at inner margin which becomes stronger towards end (the final two leaves showing faint old mould spots, some softening of paper and slight surface abrasion affecting a few letters on final leaf recto). Two works in one volume. Folio (301 x 198 mm). Bound in 18th century three quarter vellum over colored paste paper, spine lettered in ink (boards soiled and rubbed, spine spotted, wear and bumping to corners and board edges, top of spine chipped, extremities rubbed, vellum over spine with a diagonal split), red-sprinkled edges, later endpapers. Still very good copy of two rare works by Apian. (#003414) € 12,000


INTRODVCTIO
GEOGRAPHICA PETRI APIANI IN DOCTISSIMAS VERneri Annotationes, cõtinens plenum intellectum & iudicium omnis operationis, quæ per sinus & chordas in Geographia confici potest, adiuncto Radio astronomico cum quadrante nouo Meteoroscopii loco longe vtilissimo.
HVIC ACCEDIT Translatio noua primi libri Geographiæ CL. Ptolemæi, Translationi adiuncta sunt argumenta & paraphrases singulorum capitum: libellus quoq; de quatuor terrarum orbis in plano figurationib' Authore Vernero.
LOCVS etiam pulcherrimus desumptus ex fine septimi libri eiusdem Geographiæ Claudii Ptolemæi de plana terrarum orbis descriptione iam olim & à veteribus instituta Geographis, vnà cum opusculo Amirucii Constantinopolitani de iis, quæ Geographiæ debent adesse.
ADIVNCTA est & epistola IOANNIS de Regiomonte ad Reuerendissimum patrem & Dominum D. Bessarionem Cardinalem Nicenum, atq; patriarcham Constantinopolitanum, de compositione & vsu cuiusdam Meteoroscopii armillaris, Cui recens iam opera PETRI APIANI accessit Torquetum instrumentum pulcherrimũ sanè & vtilissimum.
INGOLSTADII. Cum Gratia & Priuilegio Imperiali. AN. M.D.XXXIII.

I. FIRST EDITION (in the later published title edition, the place of printing and the year are missing on the title page) of Peter Apian's introduction to practical geometry and computational astronomy, dedicated to Johann Wilhelm von Laubenberg. The book contains, besides Johannes Werner's notes and Apian's upon them, a Latin translation of the first book of Ptolemy's *Geography*, a letter of Regiomontanus, and descriptions of three instruments invented by Apian himself, namely the "Radius astronomicus", the "Quadrans novus" (a height quadrant with various auxiliary divisions) and the "Torquetum" ("Turkish instrument"). Apian was a student of Johannes Werner in theoretical cartography. Werner's treatises, contained in Johannes Stabius' collection of writings on geography (1514), were "included almost unchanged in Apian's *Introductio geographica* (1533); Apian even used the proof sheets from the beginning of "*In eundem primum librum…argumenta*" to the end of "*Joannis de Regiomonte epistola…de compositione et usu cuiusdam meteoroscopii*," and admits in several places in his writings how much he had learned from Werner." (DSB, on Werner).

Of peculiar interest is the early description of the calculation of a sine table. Apian's "*Introductio geographica* (1533) contains both a sine table . . . and a description. The *Instrumentum sinuum seu primi mobilis* also contains a small table of arc sines, the earliest such table of which I am aware with clearly trigonometric intent."

(G. van Brummelen, *The Doctrine of Triangles: A History of Modern Trigonometry*, Princeton University Press, 2021, p.12. "The first table of sines seems to have been printed in 1490, as part of Regiomontanus' *Tabulae directionum profectionumque*. It was only 30 pages long and gave the sines for every minute and to a radius of 60000. According to Folkerts, this table was probably computed before 1463–1464 [36, p. 234]. Most of the tables published during the 16th century are ultimately based on this table or on other tables constructed by Regiomontanus. Next came Peter Apian (1495–1552) who published his *Introductio geographica* in 1533." (D. Roegel, *A reconstruction of the tables of Rheticus' Canon doctrinæ triangulorum (1551)*. [Research Report] 2010. inria-00543931, p.3).

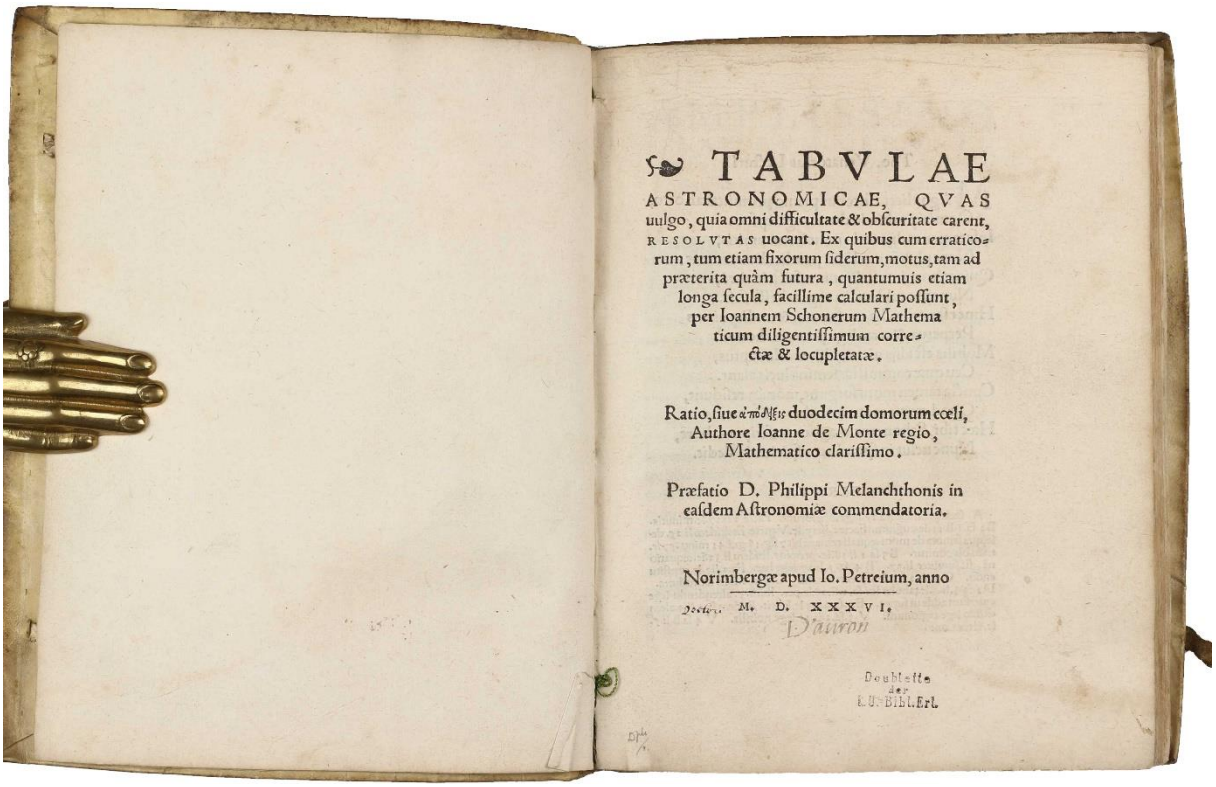
Further references: VD 16, A 3090; Adams A 1294; Dodgson II, 385.3; Gunther 27 ff.; van Ortroy 101; Schottenloher, *Apian* 33; Zinner 1516; R. Gebhardt, *Rechenmeister und Cossisten der frühen Neuzeit*. TU Bergakademie Freiberg. Freiberg 1996, p.139).

II. FIRST AND ONLY EDITION of this little treatise on Apian's "horoscope", "an instrument not for astrological purposes, but for geodatic and chronometric purposes, which can be seen as an improvement of Peurbach's 'geometric square'" (Gunther). Among the woodcuts there are also some astronomical representations and illustrations for finger arithmetic.

References: VD 16, A 3085; Adams A 1290; Gunther 40; van Ortroy 100; Dodgson II, 386.2; Schottenloher, *Apian* 37; Zinner 1512; Houzeau-L. I, 2395.

6 **SCHÖNER, Johannes**. *Tabulae astronomicae, quas vulgo, quia omni difficultate & obscuritate carent, resolutas vocant ... per Ioannem Schonerum ... correctae & locupletatae. Ratio, siue duodecim domorum coeli, authore Ioanne de Monte regio, ... praefatio D. Philippi Melanchthonis*. Nürnberg: Johann Petreius, 1536. 4to (207 x 159 mm). 94 unnumbered leaves. Signatures: [*]^6 A-V^4 X^6 [Y]^2. Contemporary limp vellum with 2 (of 4) ties still present, spine titled in manuscript (covers soiled and spotted, book block rehinged). Pages partially uncut. Text quite crisp and clean with only very minor occasional spotting, annotations in old hand to leaves T4r and V2r, the two final leaves of errata supplied (little frayed at outer margins and somewhat smaller in size). Provenance: D'Auron (faint ink inscription on title page); Erlangen Universitätsbibliothek (small duplicate stamp to title-page). Exceptionally well preserved and wide-margined copy in its original binding. (#003089) € 6500

Zinner 1647; VD16 S 3505; Adams p.684. - EXCEPTIONALLY RARE FIRST EDITION, FIRST ISSUE, of Schöner's *Astronomical Tables* intended for use by astronomers and students; a work well committed to the tradition of the Alphonsine Tables. A commendatory preface, addressed to Schöner, is a famous contribution by the leading Lutheran theologian and scholar Philipp Melanchthon in which he underlines once more the adherence to and importance of astrology and in which he praises the care of mathematics in Nuremberg, ranking it higher than Athens, Miletus and Alexandria and names Johannes Regiomontanus, Johannes Werner, Melchior Pfinzing, Willibald Pirckheimer and Christoph Coler. He also honors Schöner's educational and publishing work for the vital mathematics and thus his services to Nuremberg and the students. The book was published in Nuremberg by the celebrated printer Johannes Petreius, who had collaborated with Schöner as his editor on a number of mathematical works, including Regiomontanus' *De triangulis*, and who became immortal with the first publication of Copernicus' *De revolutionibus orbium coelestium* in 1543.


TABVLAE
ASTRONOMICAE, QVAS
uulgo, quia omni difficultate & obſcuritate carent,
RESOLVTAS uocant. Ex quibus cum erratico-
rum, tum etiam fixorum ſiderum, motus, tam ad
præterita quàm futura, quantumuis etiam
longa ſecula, facillime calculari poſſunt,
per Ioannem Schonerum Mathema
ticum diligentiſſimum corre-
ctæ & locupletatæ.

Ratio, ſiue Apodeixis duodecim domorum cœli,
Authore Ioanne de Monte regio,
Mathematico clariſſimo.

Præfatio D. Philippi Melanchthonis in
eaſdem Aſtronomiæ commendatoria.

Norimbergæ apud Io. Petreium, anno
M. D. XXXVI.
D'auron
Doublette
der
U. BIBL. Erl.

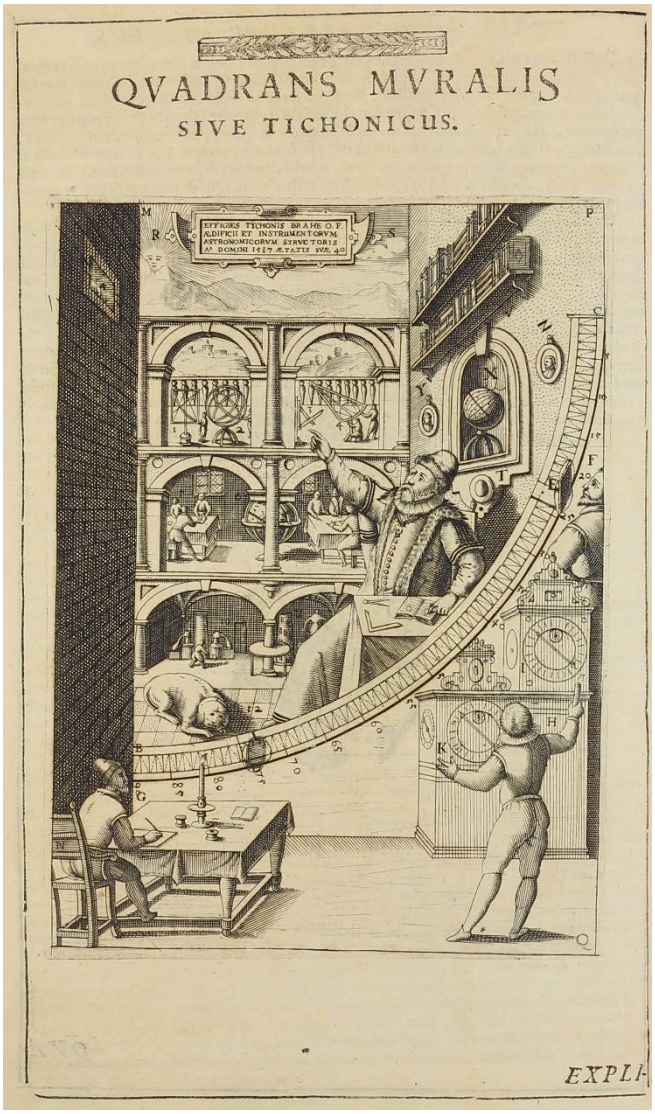
There are two issues of this work known: the first with large title vignette but without printer and year mentioned on the title-page, 86 numbered leaves and no errata, the second (our copy) with 94 unnumbered leaves including two final leaves of errata. The former issue appears to be of later date since the errors listed in the errata of our issue are corrected in the text and the entire text being completely reset. Our issue has on the title-page the mention of Regiomontanus "*Ratio, siue Apodeixis duodecim domorum coeli, authore Ioanne de Monte regio, mathematico clarissimo*" which is completely absent from the other issue's title-page.

7 **BRAHE, Tycho**. *Astronomiae instauratae mechanica*. Nürnberg: L. Hulsius, 1602. Folio (311 x 194 mm). 54 unnumbered leaves, title with engraved portrait of the author, 6 large engravings and 23 woodcut illustrations in text, woodcut initials and tailpieces. Signatures:)::(^{4} A-E^6 F^4 G-H^6 I^4. Contemporary blindstamped pigskin with stamped coat of arms monogrammed "H R" on both covers,

front cover with the coat of arms of the Landgrafschaft Hessen (leather rubbed and somewhat spotted, closing straps gone, corners bumped, inner front hinge partially cracked). Leaf G6r corrected with mounted word "Ingeniose." Text generally crisp and clean with just a little paper browning title and A4 a bit stronger), leaves A2 and A3 with light narrow waterstain at fore-margin. [Bound after:] **DÜRER, Albrecht**. *Opera Alberti Dureri. Das ist, alle Bücher des weitberhümbten und Künstreichen Mathematici und Mahlers Albrechten Durers von Nürenberg, so viel deren von ihm selbst in An. 1525 und 1528 kurtz vor und gleich nach seinem todt in Truck geben. . .* Arnhem: Johan Jansen, 1604-1603. Three parts. 2, 90, 26 (including 10 folding), 132 (including 4 folding) unnumbered leaves. With separate title to each part, Dürer's woodcut monogram on general title and on first two part-titles, woodcut intials and numerous text-illustrations and diagrams, many full-page, double-page or folding. Part I with 2 printed woodcut folding extension slips on P4v and Q1r, and final blank Q4; part II title with large woodcut coat of arms of Ferdinand I; part III with elegia by Willibald Pirckheimer on Z5 and final blank Z6. Signatures: [pi]^2, A-N^6 O-Q^4; A^6 [bifol. A4/5 fold.] B^4 [bifols. B1 and B3 folding] C-E^6 [bifols. C1, C3, D3/4, E1/6 and E3/4 folding] F^2 [bifols. F1 and F2 folding]; A-M^6 N^4 O-R^6 S^8 [bifols. O2/5, S4/5, S6/7 folding] T^4 V-Z^6 [bifol. Y3/4 folding]. Browning and minor spotting as usual. Provenance: Benjamin Bramer (signed and dated '1614' on title-page); D. Hutten (signed and dated '1717' on title-page). An exceptional copy in its first binding. (#003556) € 65,000

SECOND- AND FIRST TRADE- EDITION of Tycho Brahe's important astronomical work, first privately published in a very small print run of about 40 copies at Wandsbeck near Hamburg in 1598. "This work contains illustrations of Brahe's instruments and observatories . . . In this famous book Brahe described his fine instruments, which were either his own inventions or considerably improved versions of older ones. Brahe's accurate observations of the positions of the sun, moon, stars, and planets provided the basis for refinements of the Copernican doctrine. His work led to Kepler's reformation of astronomy." (L. A. Kenney, *Johann Kepler Bibliography: Holdings in the San Diego State College Library*, 28).

Newly set and corrected compared to the first edition of 1598. The illustrations come from the original plates and blocks, with the exception of the newly added portrait on the title and the engraved rather than cut armillar sphere on leaf C6v. - Tycho Brahe's most important astronomical work, providing an illustrated description of his astronomical instruments (sextants and quadrants) and of the Uraniborg and Stellaeborg observatories on the island of Hven. The work also contains a short autobiography and a summary of the principal results of Brahe's observations, and an appendix in which the construction of the observatories is shown. A copper shows Brahe in his study. It is little known that this book provides a source for Hamlet. As Strong has shown, it is most likely that Shakespeare took the names Rosenkranz and Guildenstern from the coat of arms around the portrait of Brahe on the title (cf. Weil).

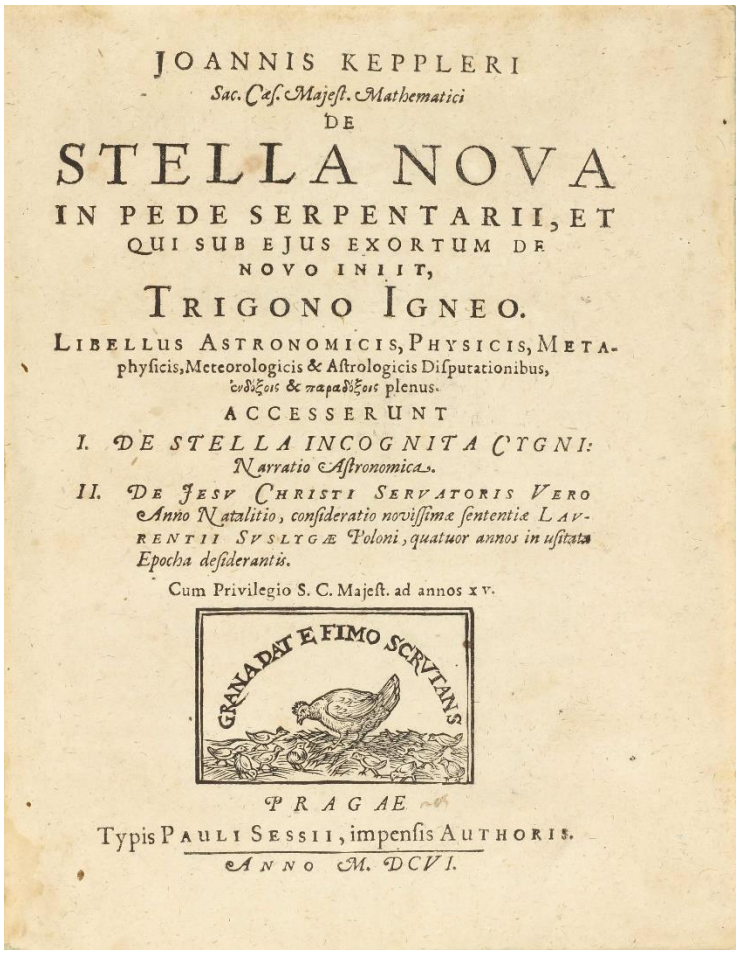


The Tychonic system is conceptually a geocentric model. Brahe admired aspects of Copernicus' heliocentric model, but felt that it had problems as concerned physics, astronomical observations of stars, and religion. He comments that "this innovation expertly and completely circumvents all that is superfluous or discordant in the system of Ptolemy. On no point does it offend the principle of mathematics. Yet it ascribes to the Earth, that hulking, lazy body, unfit for motion, a motion as quick as that of the aethereal torches, and a triple motion at that." (see Owen Gingerich, *The eye of heaven: Ptolemy, Copernicus, Kepler*, New York: American Institute of Physics, 1993, p.181). In regard to physics, Tycho held that the Earth was just too sluggish and heavy to be continuously in motion. According to the accepted Aristotelian physics of the time, the heavens (whose motions and cycles were continuous and unending) were made of 'Aether' or 'Quintessence'; this substance, not found on Earth, was light, strong, and unchanging, and its natural state was circular motion. By contrast, the Earth (where objects seem to have motion only when moved) and things on it were composed of substances that were heavy and whose natural state was rest. Consequently, the Earth was considered to be a 'lazy' body that was not readily moved. Thus while Tycho acknowledged that the daily rising and setting of the Sun and stars could be explained by the Earth's rotation, as Copernicus had said, still, such a fast motion could not belong to the earth, a body very heavy and dense and opaque, but rather belongs to the sky itself whose form and subtle and constant matter are better suited to a perpetual motion, however fast. (see Ann Blair, *Tycho Brahe's critique of Copernicus and the Copernican system*, Journal of the History of Ideas, 51, 1990, pp. 355–377).

Literature: Dibner 4; Zinner 3929; VD 17 23:270097W; STC B 1970; Zinner 3929. Houzeau/Lancaster I, 2703; Weil, Cat. XXVII, 48; Honeyman 490.

Kepler's important description of the supernova of 1604

8 **KEPLER, Johannes**. I. *De stella nova in pede serpentarii*. Prague: Typis Paulus Sessius, 1606. In two parts. II. *De stella tertii honoris in cygno, quae us que ad annum M.DC. fuit incognita*. Prague: Paulus Sessius, 1606. III. *Jesu Christi servatoris nostri vero anno natalitio*. Frankfurt: Wolfgang Richter, 1606. Four parts in one volume. 4to (205 x 160 mm). [12], 212; 35, [3] pp., including general title with woodcut printer's device and 3 separate title-pages, folding engraved plate, woodcut initials, woodcut illustrations and diagrams in text, with final blank E4. Signatures:)?(^{6} A-Cc^{4} Dd^{2}; A-E^{4}. Near contemporary vellum over boards, title gilt-lettered on spine, green-dyed edges (small wormholes at spine, wormtracks in pastedowns, light bumping of lower corners). Text browned as usual (12 gatherings more heavily), occasional minor spotting, larger ink smudge on p.60, a few smaller ink stains elsewhere, tiny single wormholes to title margins, small early paper repairs in leaf Dd2 just touching a letter (no loss), the folding plate with ink stain at top corner. A very good, complete copy. (#003736) € 60,000

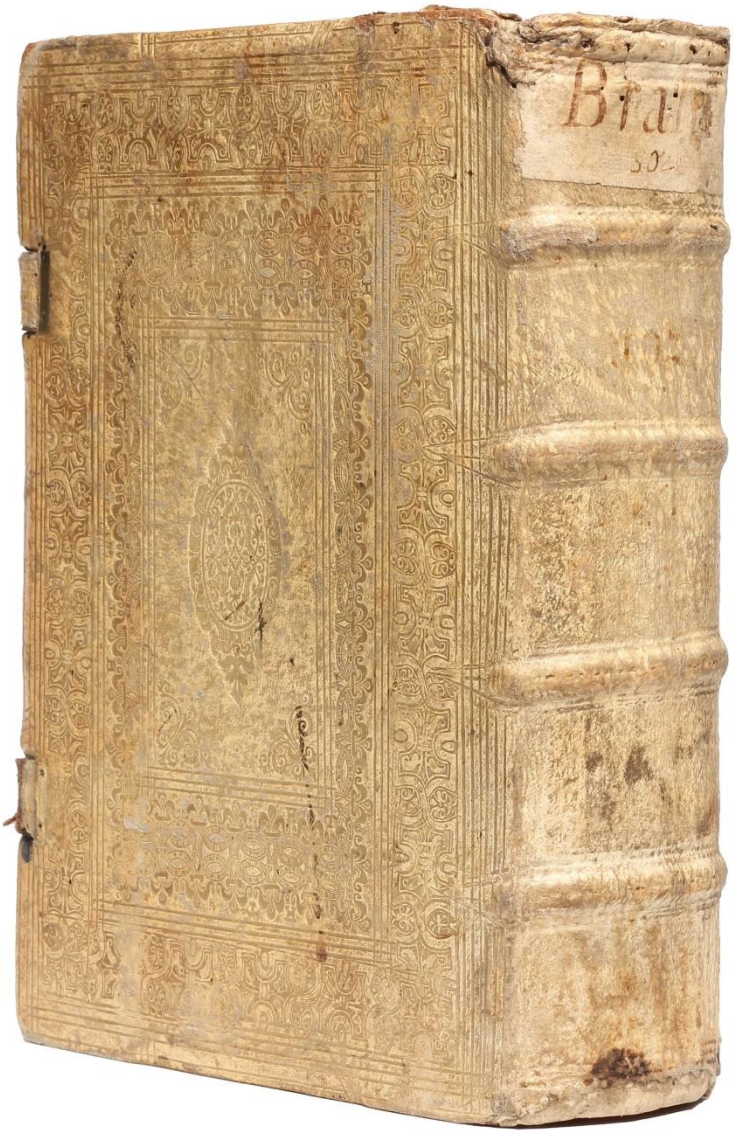

JOANNIS KEPPLERI
Sac. Cæs. Majest. Mathematici
DE
STELLA NOVA
IN PEDE SERPENTARII, ET
QUI SUB EJUS EXORTUM DE
NOVO INIIT,
TRIGONO IGNEO.
LIBELLUS ASTRONOMICIS, PHYSICIS, METAphysicis, Meteorologicis & Astrologicis Disputationibus,
ἐνδόξοις & παραδόξοις plenus.
ACCESSERUNT
I. DE STELLA INCOGNITA CYGNI:
Narratio Astronomica.
II. DE JESU CHRISTI SERVATORIS VERO
Anno Natalitio, consideratio novissimæ sententiæ LAURENTII SUSLYGÆ Poloni, quatuor annos in usitata
Epocha desiderantis.
Cum Privilegio S. C. Majest. ad annos XV.
GRANA DAT E FIMO SCRVTANS
PRAGAE
Typis PAULI SESSII, impensis AUTHORIS.
ANNO M. DCVI.

RARE FIRST EDITION of Johannes Kepler's detailed description of the supernova of October 1604, commissioned by the Emperor, observing the colour, brightness, distance to the earth and other phenomena of the 'new star'. The supernova suddenly appeared within a few degrees of Jupiter, Saturn and Mars, in the constellation of Serpentarius. Kepler first observed it on October 17th. Although he shared Tycho Brahe's opinion as to the origin of such bodies by condensation of nebulous matter from the Milky Way, Kepler attached mystical significance to the fact that the star appeared at the time of a triple conjunction of Mars, Jupiter and Saturn. "Kepler was of opinion that it was generated from an ethereal substance, not confined exclusively to the region of the Milky Way, as Tycho Brahe had supposed in the case of the star of 1572, but pervading all space" (Grant). The new star surpassed in brightness these planets, as well as stars of the first magnitude; it remained visible for 17 months.

Kepler's "extensive collection of observations and opinions appeared in a longer work . . . A subtitle announced it as: 'a book full of astronomical, physical, metaphysical, meteorological and astrological discussions, glorious and unusual.' That it was. Early chapters described the nova's appearance, astrological significance, and possible origin" (DSB). It discusses the central position of the sun in the universe and also calculates the size of the universe. The Nova was subsequently named Kepler's Nova or Kepler's star. The book was printed partly at Prague and partly at Frankfurt am Main. Two variants of the title-page of the first two parts are recorded, this one with the imprint: "Typis Pauli Sessii, impensis Authoris". No definitive priority has been established but correspondence by Kepler (quoted by Caspar) suggests that the present title-page is the second corrected version, which was Kepler's preferred issue and is much scarcer. In the last part of this work Kepler speculates on the true birthdate of Jesus, a study which increasingly interested him and which resulted in the publication of his chronological essays on this subject in 1615.

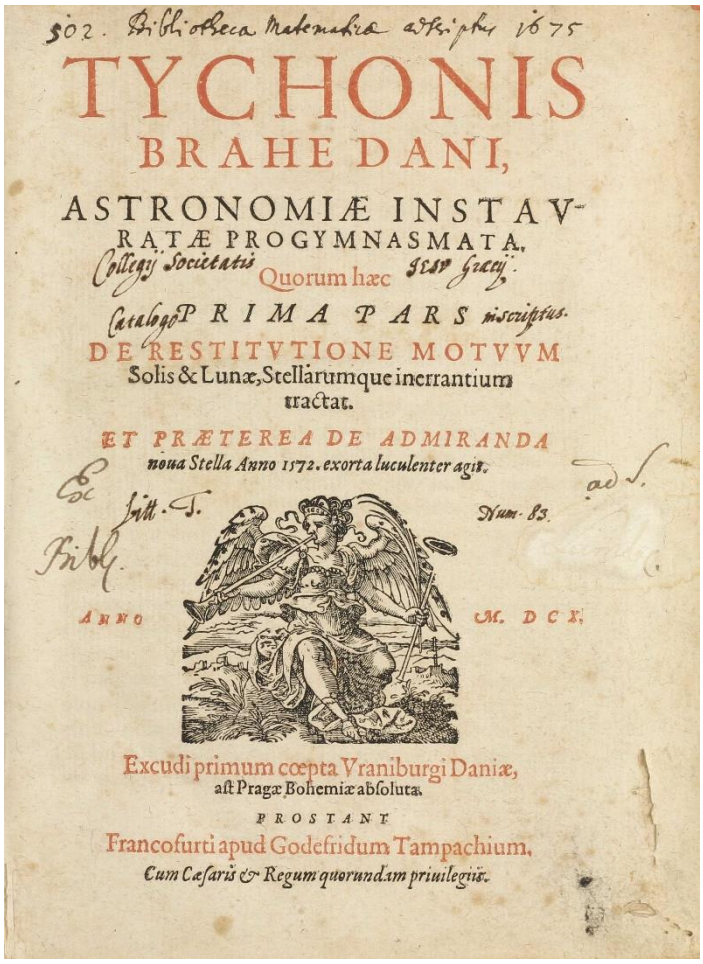
References: Caspar 27; Cinti 17; Houzeau & Lancaster 2843; DSB VII, p. 297; R.Grant, *History of Physical Astronomy, from the earliest ages to the middle of the nineteenth century, etc*., 1852, p.539.

9 **BRAHE, Tycho**. *Astronomiae instauratae progymnasmata, quorum haec prima pars de restitutione motuum solis & lunae, stellarumque inerrantium tractat, et praeterea de admiranda noua stella anno 1572 exorta luculenter agit. Excudi primum coepta Uraniburgi Daniae, ast Pragae Bohemiae absoluta*. Edited by Johann Kepler. Frankfurt: Gottfried Tampach, 1610. 4to (231 x 171 mm). [8], 112, 01-20, 022-028 [1], 112 (i.e. 113)-822, [12] pp. Title-page printed in red and black, numerous woodcut text illustrations and diagrams, woodcut initials and tailpieces, general index at end. Signatures:)(⁴ (:)⁴ B-O⁴ P-Q⁸ R¹⁰ S-Z⁴ AA-II⁴ KK-LL⁸ MM-ZZ⁴ AAA-ZZZ⁴ AAAA-ZZZZ⁴ Aaaaa-Mmmmm⁴. Leaves P1r-Q6r numbered 01-028 (partly corrected by hand), Q6v unnumbered, Q7r misnumbered 112, pp. 497-98 skipped in pagination. Contemporary richly blind-stamped pigskin over beveled wooden boards, spine with four raised bands and paper label lettered in ink, two brass catches preserved, red-dyed edges, original endpapers (foot of spine restored, upper spine with a few wormholes, occasional minor staining and discoloration of leather). Text somewhat browned throughout as usual (few pages stronger), some scattered spotting, lower corner of first four leaves with small worm tracks not affecting any text, ink smudges to fore-ege extending into blank margin of a few pages, last line of p. 619 weakly printed, some text corrections in contemporary hand. Provenance: title-page with partly erased old ownership entry (Lambi?), further inscribed on head "Bibliotheca Matematica" and dated 1675 and inbetween title "Collegij Societatis Jesu Graecij" (Jusuit convent Graz). Further illegible inscription on front pastedown and ink annotations on rear pastedown. Very good copy in a lovely and sturdy strictly contemporary binding. (#003670) € 35,000



RARE FIRST EDITION, title-issue, of Tycho Brahe's extremely influential last work, which was published posthumously and finished by Kepler, who wrote the final parts. Brahe's *Astronomiae instauratae progmnasmata* was produced in 1602 by the author's own press at Uraniborg. It contains important investigations on the new star of 1572 which Brahe had discovered in Cassiopeia. This discovery led to far-reaching consequences in the history of astronomy and this work became the foundation on which Kepler, and later Newton, built their astronomical systems" (Sparrow p. 12).

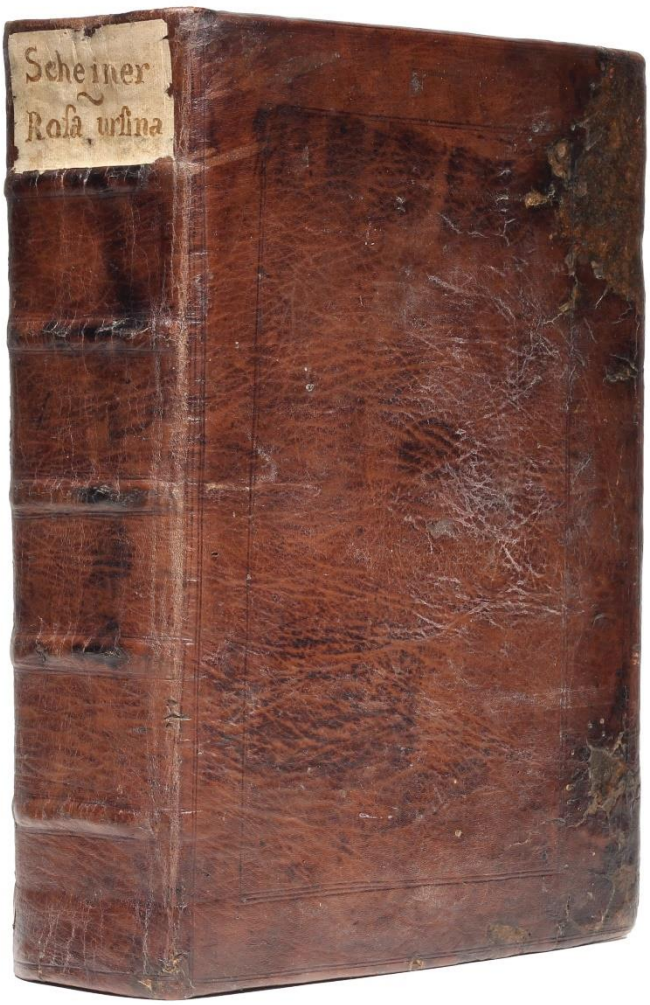
"Brahe's extremely influential *Progymnasmata* describes in great detail his observations on the supernova (the 'new star') in Cassiopeia of 1572-74 and his revisions of the theories of solar and lunar movement as well as his seminal catalogue of the positions of 777 fixed stars, which would eventually lead to Kepler's *Tabulae Rudolphinae*. After Brahe had left Hven for Wandsbeck (today a district of the city of Hamburg), where he published his seminal *Astronomiae Instauratae Mechanica*, he ventured on for Prague, where he had been summoned by Emperor Rudolf II. But on his way to Prague, he discovered that plague had broken out there, and decided to stay in Wittenberg for a while. He arrived here late 1598. By then he had already been working on his last great work, the *Progymnasmata*, and had printed parts of it while still on Hven. He hoped to have the book



finished before arriving in Prague, so that he could present it to the emperor. He thus decided to print the parts of the work that were not yet finished here, in Wittenberg. Having gone through the nuisance of not being able to find appropriate paper matching that from Hven, he finally received a shipment of his own paper, sent from Wandsbeck, and resumed printing of the parts on the moon. However, in January, he had observed a moon eclipse and had noticed some deviations from his calculations. Thus, he paused the printing in order to investigate the calculations before they were printed. Shortly after Easter, Brahe left Wittenberg, and the printing was abandoned. As soon as he had reached the castle near Prague that the emperor had left him at his disposal, he continued the process of finally finishing and publishing the almost finished parts of the work. By then, he still needed the new title-page he had decided upon, the *Conclusio*, and the part about the moon in the first chapter. The printers in Prague were not skilled enough to print the tables and the astronomical figures in the text, and he had been waiting for his own printing press to arrive from Magdeburg. He thought about having the final parts printed in Görlitz, but it came to nothing. Time passed, and the part about the moon was only finished in 1600, when Longomantanus arrived in Prague. By then, Brahe's printing press had also arrived, and the final parts of the book could finally be printed in the correct manner" (Lauritz Nielsen, *Tycho Brahes Bogtrykkeri*, 1946, pp. 62-65; transl. from the Danish by H. Lynge).

References: Dreyer, *Brahe*, p.368-69; Sparrow, *Milestones of Science*, 29; BL STC German B1971; VD17 14:074208U; Houzeau-Lancaster 2700; DSB II, p.412.

10 **SCHEINER, Christoph**. *Rosa ursina sive Sol ex admirando facularum & macularum suarum phoenomeno varius, ... a Christophoro Scheiner Germano Sueuo, e Societate Iesu. Ad Paulum Iordannum 2. Ursinum Bracciani ducem*. Bracciano: apud Andream Phaeum, 1626-1630. Folio (380 x 265 mm). [40], 124 pp; 125-149 [i.e. 160] leaves; [4], 149-784, [38] pp. Signatures: π^4 a-b^6 c^4 A-E^6 F^4 G-R^6 2a-2s^6 2t^4 2u-2x^6 2y^4 3A-4M^6 (F4, R6, 4I6 blank). Main text in double columns. Imprimatur dated 1630. Additional engraved title, letterpress title with printer's device by M. Greuter, half-title with dedication and engraved portrait of Paolo Giordano Orsini, Duke of Bracciano on verso; numerous engraved text illustrations and diagrams, several full-page, woodcut initials, head- and tailpieces, errata leaf at end. Errors in pagination and foliation. 12 leaves following f.148 are all foliated 149. Contemporary full calf over thick boards, spine with ink lettered paper label, boards ruled in blind, red-dyed edges (binding restored). Very little browning, occasional minor pale dampstaining at outer blank margins, letterpress title soiled, full-page engraving on p.63 closely trimmed at head touching frame, occasional finger soiling, a few marginal paper repairs, p.555 with some ink retracing of flawed letterpress, blank fore-margin of leaf 4M3 trimmed by about 25 mm (far away from text block). Provenance: illegible, partly erased, old ownership inscription on title. A very good, tall, crisp, clean and unpressed copy printed on very strong paper. (#003625) € 65,000



FIRST EDITION of this magnificient astronomical and optical work by Scheiner and the most sumptuously illustrated astronomical book of the first half of the 17th century, forming a summation of Scheiner's investigations of the sun. It was printed at the private press established by Paolo Giordano Orsini, Duke of Bracciano, and a patron of astronomy, at his castle. The fine copper engravings include images of sunspots, the first equatorially mounted telescope called a helioscope, and other optical instruments. The title, *Rosa Ursina*, honours Orsini's name, and bears are frequently incorporated into the book's decorative motifs.

In the *Rosa Ursina* Scheiner is expanding upon his researches into sunspots. In it he confirms his method and criticises Galileo for incorrectly calculating the inclination of the axis of rotation of the sunspots to the plane of the ecliptic. Scheiner first observed sunspots in March 1611 and had his discovery published pseudonymously the following year. This sparked a conflict with Galileo, who claimed priority of discovery when, in fact, their observations were made independently.

Rosa Ursina is devided into four books. The first discusses the priority question of the discovery of sunspots. Book two presents telescope designs, optical projection methods and the helioscope invented by Scheiner, and compares the optics of the telescope with that of the human eye. In the third book, Scheiner's sunspot observations are tabulated, enriched with 70 engraved illustrations by David Widemann. Book four is devided into two parts, the first deals with solar phenomena such as sunspots and protuberances, the tilt of the sun's axis and its period of revolution of 27 days. The second part is a collection of quotations and passages from the Scriptures, Church Fathers and philosophers, all in support of Scheiner's firm geocentric worldview conforming with the Catholic doctrine at that time. (see Daxecker).

"We have already seen Galileo used a telescope as a compound lens for the projection of the sun within a darkened chamber when he was recording the motions of the sunspots. His great rival Christopher Scheiner

devised a machina helioscopia according to the same principles for his own minutely detailed observations of sunspots. Scheiner's concern to understand the implications of such devises led him to make a telling series of comparison between the human eye (natura) and the camera obscura (arte) when coupled with various combinations of lenses (natura cum arte) to produce upright and inverted images" (Kemp).

Literature and reference: DeBacker-Sommervogel VII, 738.8; Daumas, pp. 726-728; Cinti 79; DSB XII, pp. 151-152; King, *The History of the Telescope*, pp. 40-45; Honeyman 2781; Roller-Goodman II, 404; F. Daxecker, *The Main Work of Astronomer Christoph Scheiner SJ "Rosa Ursina sive Sol" - A summary*. In: Ber. nat.-med. Verein Innsbruck, Suppl. 13, p. 1, 1996; M. Kemp, *The Science of Art - Optical Themes in Western Art from Brunelleschi To Seurat*, Yale Univ. Press, 1992, p. 192-93.

Includes the first map of the moon on a reasonably large scale

11 **SCHYRLEUS DE RHEITA, Anton Maria (SCHYRLAEUS).** *Oculus Enoch et Eliae, sive radius sidereomysticus pars prima ... Opus philosophis, astronomis, & rerum caelestium aequis aestimatoribus ... quo omnium planetarum veri motus, stationes & retrocessions ... tam in Theoria Tychonica, quam Copernicana ... demonstrantur exhibenturque (Pars altera sive theo-astronomia)*. Antwerp: Hieronymus Verdussen, 1645. Two parts in one volume. Folio (303 x 205 mm). [52], 356, [4, blank] pp., 10 engraved plates by Arnold Loemans including a lunar map; [16], 279 [1], [28, index] pp. Each part with separate title-page, first title-page printed in red and black, engraved frontispiece, woodcut device on recto of final leaf. Signatures: *-6*^{4}, 7*^{2}, A-Z^4, Aa-Vv^4, Xx^8; *-2*^{4}, A-Z^4, Aa-Mm^4, Nn^6 Oo-Pp^4. Contemporary full vellum, blue coloured edges (upper part of spine with unobtrusive repair, some soiling and staining, corners bumped). Text and plates generally crisp and clean, some gatherings and pages with light even browning, occasional very minor spotting, a few contemporary annotations in red and black ink, ink smudge to pp. p.154 and 147, a few smaller marginal waterstains and tears in places. Very good copy. (#002940) € 38,000

Ashworth, *The face of the moon,* Linda Hall 3; Whitaker, *Mapping and Naming the Moon*, p.47. First edition of this very rare and influential work in the history of the telescope. "This treatise on optics includes a map of the full moon - the first on a reasonably large scale. Rheita is noted in the history of optics for his invention of the erecting eyepiece. It is ironic that his lunar map is one of the first to have the south pole at the top, showing the moon inverted, as it appears through an astronomical telescope *without* his eyepiece ... Rheita's map has not been much appreciated, probably because it was so soon eclipsed by the more splendid efforts of Hevelius, Divini, and Grimaldi, but it captures the brilliant ray system of Tycho much better than any other illustration to that time, as well as the mountainous nature of the Apennines. The floors of the craters Plato and Grimaldi are properly depicted as black." (Ashworth, 3).

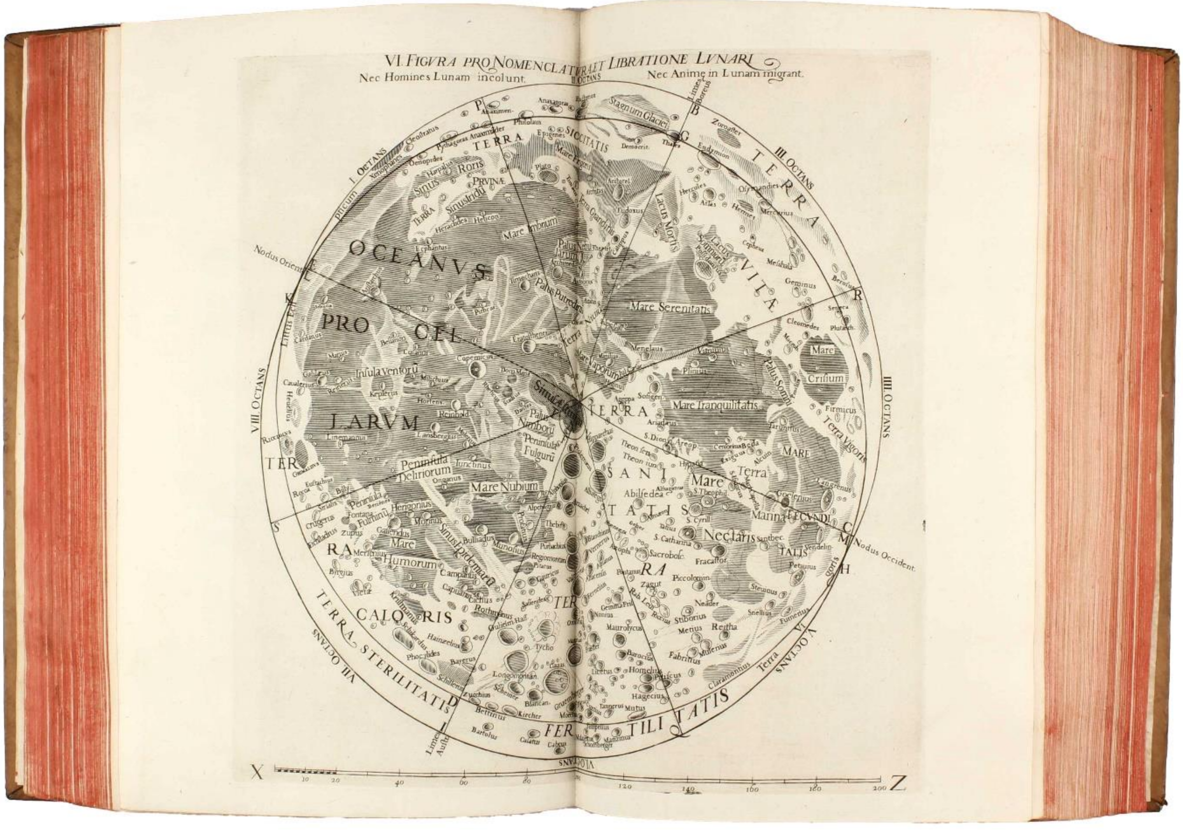
"Rheita actually introduced a number of crucial improvements in his work, leading to a real break-through in telescope design. First, Rheita suggested a new and much better method of polishing lenses, leading to a strong reduction of deviations; secondly (and even more importantly), he found that a compound ocular, composed of three or four lenses, resulted in a much better quality than using only a single (compound) ocular" (Van Helden, *The Origin of the Telescope*, p. 334).

"The map is a copperplate edition, diameter about 18.5 cm, of an original drawing made by Rheita. It is essentially a full-Moon image with a very few craters included from observations made at other phases. The ray systems emanating from Tycho and other craters are very stylistically drawn, and bear little resemblance to reality. Indeed, those lettered H and V are non-existent. The small bright spots are almost entirely randomly placed." (Whitaker, p.47).

The most important anti-Copernican work

12 **RICCIOLI, Giambattista**. *Almagestum novum astronomiam veterem novamque complectens observationibus aliorum et propriis.* Bologna: Heirs of V. Benatius, 1651. Volume one (all published) in 2 volumes, Folio (357 x 243 mm). [12], xlvii [1], 763 (i.e. 771) [1]; [6], xviii, 675 [1] pp. Engraved frontispiece by F. Curtus in each volume, engraved arms on dedication leaves, 2 fine engraved double-page lunar maps by Domenico Fontana after Francesco Maria Grimaldi, each mounted on a guard, numerous woodcut diagrams in text. Bound in uniform contemporary calf, spines with 5 raised bands, faint gilt-lettering and -tooling, boards with blind-tooled decorative border and ruling, red-dyed edges (hinges split but cords holding, some rubbing and light soiling). Text generally crisp and bright, very light dampstaining to blank margin of a few leaves, two clean tears in first frontispiece backed with paper on blank verso, worm-track in first 3 leaves of vol. II, brown stain at top inner margin of about a third of vol. II. Provenance: Peter and Margarete Braune (bookplate on front pastedown). A fine, clean copy. (#003207) € 24,000

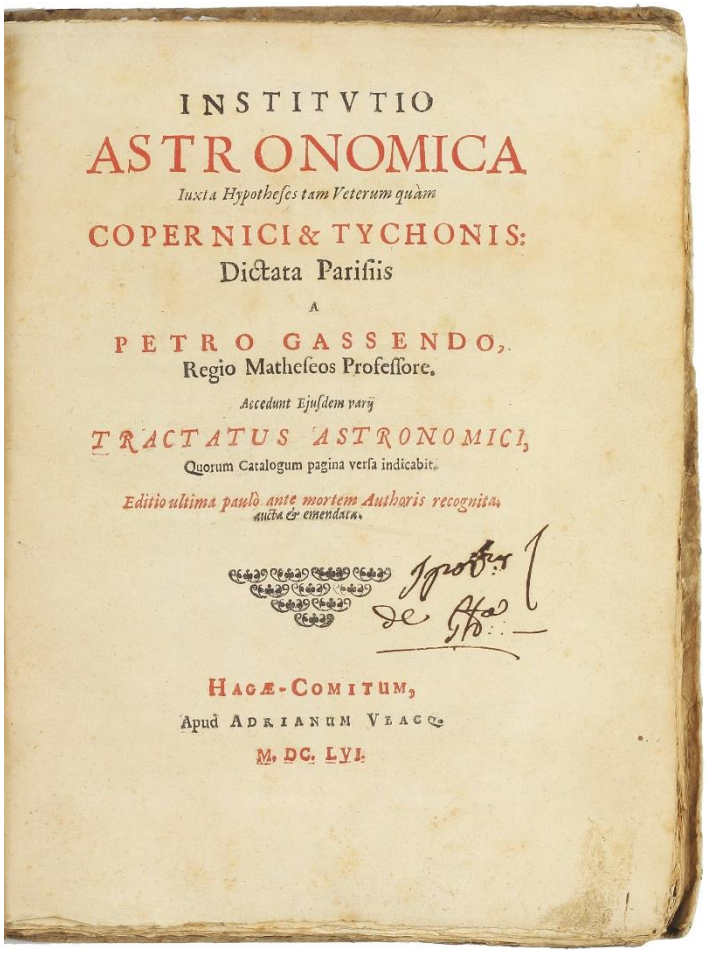
Linda Hall, The face of the moon, 7; Cinti 124; Riccardi I (2), 371; De Backer & Sommervogel VI:1798; Houzeau-L. 9223; Norman 1826. - FIRST EDITION of one of the most important anti-Copernican works: "Riccioli's scientific career epitomized the conflict between the old astronomy and the new: as a Jesuit committed to church doctrine, Riccioli was among the most vehement opponents of Copernican and Galilean theory, but as astronomer, Riccioli recognized that Copernican theory provided the simplest and best mathematical model of the solar system" (Norman). "Riccioli designed a series of experiments by which he hoped to disprove Galileo's conclusions, but instead he ratified them" (DSB).



This work was the first to state that no water existed on the moon. "The Riccioli moon map is historically of great importance, since it provided the basis for the system of lunar nomenclature still in use. It is more properly referred to as the Riccioli/Grimaldi map, since the Jesuit optician Francesco Grimaldi was apparently responsible for the map itself, while fellow-Jesuit Riccioli invented the names (and wrote the book in which the map appeared). Thus the Sea of Tranquility (Mare Tranquillitatis) traversed by the Apollo astronauts acquired its name here, as Mare Tranquillitatis, as did such prominent lunar craters as Plato, Ptolemaeus, and Tycho" (Linda Hall, The face of the moon, 7).

Uncut copy in contemporary binding

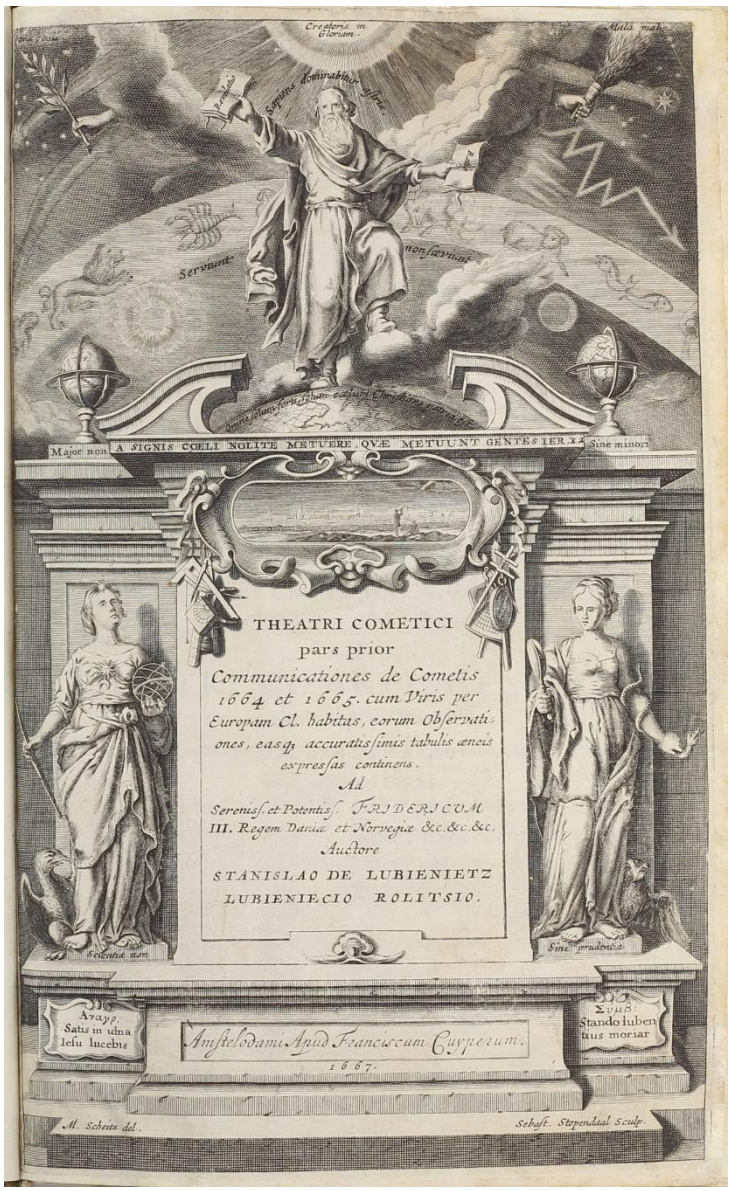
13 **GASSENDI, Pierre.** *Institutio astronomica iuxta Hypotheses tam veterum quam Copernici & Tychonis: dictata Parisiis a Petro Gassendo [...] accedunt ejusdem varij tractatus astronomici, quorum catalogum pagina versa indicabit. Editio ultima paulò ante mortem authoris recognita. Aucta & emendata*. The Hague: Adrian Vlacq, 1656. 4to (220 x 165 mm). [12], 328, [8] pp. Title printed in red and black, engraved author's portrait bound-in facing first text page, numerous woodcut text diagrams (several full page), woodcut initials and headpieces, section title pages within pagination. All pages uncut. Signatures: *6 A-Z^4 Aa-Tt^4. Contemporary carta rustica, hand-lettered spine label, untouched original endpapers (worming to upper spine affecting spine label, spotting and soiling). Text with even light browning, occasional minor spotting. Provenance: contemporary manuscript inscription to title and final leaf; Stephen White Collection. A fine, unsophisticated copy. (#003438) € 6500


INSTITVTIO
ASTRONOMICA
Iuxta Hypotheſes tam Veterum quàm
COPERNICI & TYCHONIS:
Dictata Pariſiis
A
PETRO GASSENDO,
Regio Matheſeos Profeſſore.
Accedunt Ejuſdem varij
TRACTATUS ASTRONOMICI,
Quorum Catalogum pagina verſa indicabit.
Editio ultima paulò ante mortem Authoris recognita,
aucta & emendata.
HAGÆ-COMITUM,
Apud ADRIANUM VLACQ.
M. DC. LVI.

Houzeau & Lancaster 9222. EXCEPTIONALLY RARE THIRD AND ENLARGED EDITION OF THIS IMPORTANT COLLECTION OF GASSENDI'S ASTRONOMICAL WRITINGS (second edition of the collection in this form and 3rd edition of the *Institutio Astronomica* overall). Gassendi's *Institutio astronomica*, first published in 1647, outlines the various competing models of the cosmos, notably the Ptolemaic, the Copernican, and the intermediate system invented by Tycho Brahe.

One of the most monumental work on comets ever published

14 **LUBIENIECKI, Stanislaw**. *Theatrum cometicum, duabus partibus constans, quarum altera frequenti senatu philosophico conspicua, cometas anni 1664 & 1665 variis virorum per Europam clariss / Historia cometarum, a diluvio usque ad praesentem annum vulgaris epoche a Christo nato 1665 decurrentem*. Amsterdam: F. Cuyper, 1666-68. Three parts in one volume including Appendix to part II. Folio (322 x 201 mm). [24], 1-888, [2], 889-966, [6]; [12], 464; [6], 78, [2] pp. With 3 engraved title pages, letterpress title with woodcut device to each part, half title to part II only as called for, engraved



portrait of the author by Visscher in part I, another of Johann Ernst Rautenstein (1623-1666) by Sommeren in part III; woodcut initials and tailpieces, 1 woodcut text diagram, 81 engraved plates, of which 5 folding, and 28 double-page and mounted on stubs (57 sheets of plates in part I and 24 in part II). Signatures: $*^6$ $**^4$ A-6F^4 6G-6H^2; A^4 (-A2 +*4) B-3H^4 3I^6 3K-3M^4; pi^2 A-K^4 $*^2$ (-*2). Unnumbered leaf *1 "Appendix Partis Posterioris" bound in front of engraved title of part III, blank leaf *2 not included, unnumbered and unsigned text leaf bound-in between p. 888 and 889 of part I; unnumbered leaf 6H2 "Addenda imperfecto errorum to part I bound at end of part I. Original contemporary blind-stamped and blind-ruled Dutch vellum (rebacked, boards sonewhat bowed, little soiled and spotted, ties mostly gone). Text and plates only very little browned, few pages with very light, small dampstain to blank upper margin, a few short tears well outside text area, single brown spot to p. 355 of part I. In all very crisp and clean throughout. Provenance: From the library of the Grafschaft von Velen at castle of Raesfeld, Westfalia (ink inscription on first letterpress title and dated October 6, 1717); Jerzy Leskowicz (bookplate to front pastedown and blind stamp to first letterpress title). Our copy conforms in collation with that in Koninklijke Bibliotheek in Amsterdam except for the inserted text leaf between p.888 and 889 which is missing in the copy in Amsterdam. (#003509) € 36,000

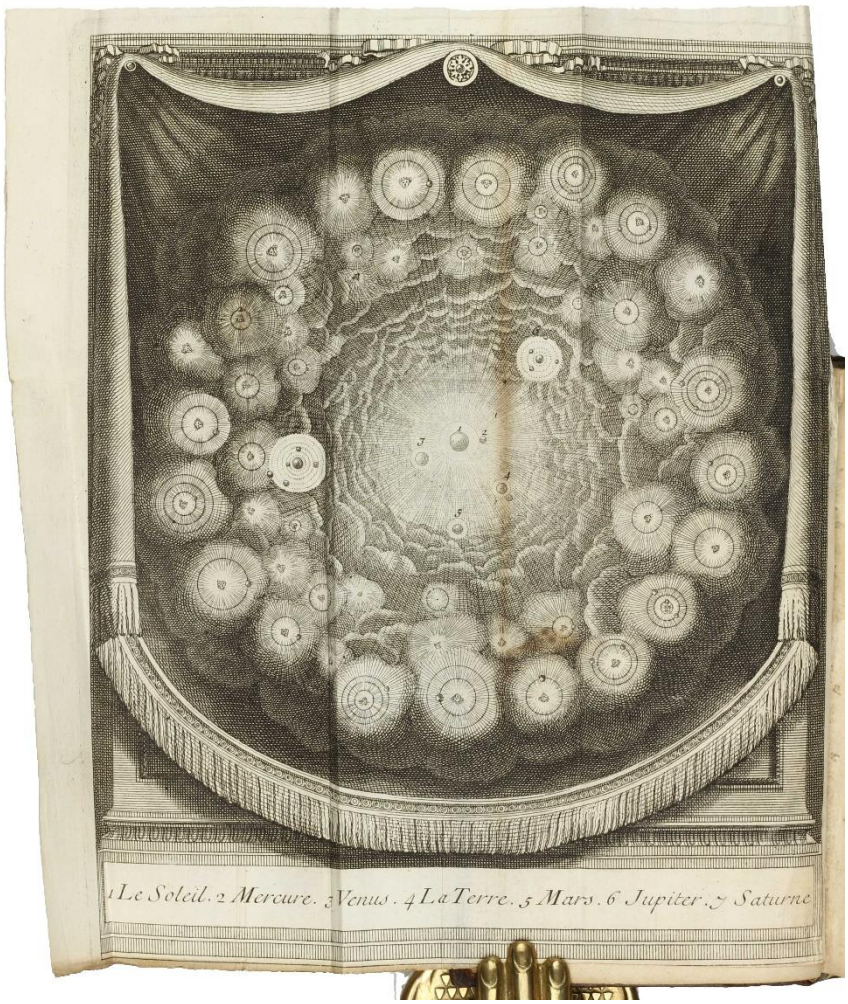
VERY RARE FIRST EDITION of this monumental work on comets and the observation of their trajectory, from the Flood to the year 1665. The first part contains a series of thirty-eight reports of observations on the trajectory of the famous comet of 1664-1665, based on the author's correspondence with Jan Heweliusz, Otto von Guericke, Gaspar Schott and several other European scholars. The second part offers a chronology of 415 observations of comets made between 2312 B.C and 1665 A.D. The third is an appendix devoted to the meaning of comets. The numerous illustrations includes a title-frontispiece engraved by Sebastiaen Stopendael after Matthias Scheits, which is repeated at the head of each volume, a portrait of the author engraved by Lambert Visscher, a portrait of Rautenstein by Matthias van Sommeren in the third part, and 83 astronomical diagrams and illustrations engraved on 81 plates by Stopendael, Gerritsz, Gerardi, Veenhuysen, etc. "Since each map represents the observation of a different astronomer, taken together they illustrate the variety of cartographic traditions popular during the 17th century" (Warner). Coming from a noble family in Raków, Stanisław Lubieniecki (1623-1675) was an astronomer, historian and pastor of the Socinian community of Czarkowy. After the Swedish

invasion of Poland, he was constantly under attack from the Lutheran clergy, as "Polish Brother", and had to place himself under the protection of Frederick III of Denmark, in Hamburg, where he remained until his death.

References: Brunet, III, 1194; Graesse, IV, 270; Honeyman 2052; Estreicher XXI, 433; Poggendorff I, 1508; Thorndike VIII, 336; Warner, *Sky explored* 164.

15 **FONTENELLE, Bernard le Bovier de**. *Entretiens sur la pluralité des mondes*. [Lyon]: Imprimé à Paris; et se vend a Lyon, chez T. Amaulry, 1686. 12mo (155 x 84 mm). [28], 359 (i.e. 361) [1] pp. Woodcut device on title, folding engraved plate by J. D'Olivar, woodcut initials, head- and tailpieces, pagination errors. Contemporary French mottled calf, spine with 5 raised bands gilt in compartments and with gilt-lettered red morocco label, original endpapers (joints, spine ends and corners repaired, spine leather slightly cracked, extremities rubbed). Text with minor even browning, occasional very minor spotting, two leaves with torn-off upper corner not affecting text, clean tear in p.269/70 without loss. Provenance: unidentified armorial bookplate to front pastedown. A very good, clean and tall copy with several leaves untrimmed at lower edge. (#003676) € 2400

RARE FIRST EDITION of Fontenelle's influential work of scientific popularisation, in which he expounded upon the works of Copernicus and Descartes "in terms that could be understood by an intelligent but untrained mind, [including] recent discoveries of the world of stars" (DSB), and speculations on the possibility of their being inhabited. "Le succès des 'Entretiens' fut exceptionnel: trente-trois éditions du vivant de Fontenelle ... Pour 'instruire tout ensemble' les 'Gens du monde', Fontenelle presenté les dernières découvertes astronomiques dans un dialogue galant" (En Français). According to the privilege, the publication was shared between T. Amaulry (Lyon) and la veuve Blageart (Paris) and printed without mentioning the author's name. The insertion of an extra leaf in gathering I leads to an error in paging.

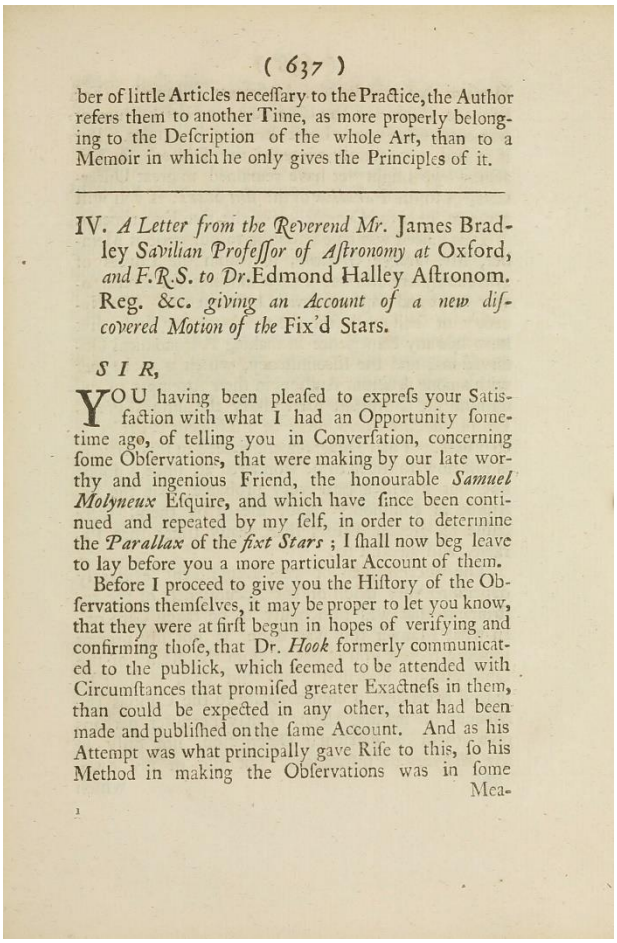


References and literature: DSB V, p.59; *En Français dans le Texte* 122; Cioranescu, 17me siècle 30742; Tchemerzine V, 321a.

16 **BRADLEY, James**. *A Letter from the Reverend Mr. James Bradley Savilian Professor of Astronomy at Oxford, and F.R.S. to Dr. Edmond Halley Astronom. Reg. &c. Giving an Account of a New Discovered Motion of the Fix'd Stars*. In: Philosophical Transactions of the Royal Society of London for 1727-28, vol. 35, no. 406, pp. 637-661. London: Printed for W. Innys, 1729. Entire volume offered: [6], 293-661 [1] pp., including general title, drop titles for individual numbers, content leaves outside pagination, and 14 engraved folding plates. Contemporary panelled calf (spine rebacked, extremities worn, corners heavily scuffed. Text and plates somewhat browned, dust-soiled (some pages stronger), occasional spotting, the general title creased, some creasing, dog-earing elsewhere, 2 leaves after title detached. Provenance: John Waterhouse Halifax, Halifax Literary & Philosophical Society (bookplates to front pastedown). (#003426) € 6500

Sparrow 28; Evans 21. FIRST EDITION of the letter by James Bradley about the discovery of the aberration of light. "The explanation of the phenomenon placed Bradly among the great astronomers of the 18th century" (Evans). Bradly is best known for two fundamental discoveries in astronomy, the aberration of light, and the nutation of the Earth's axis. Delambre says: "It is to these two discoveries by Bradley that we owe the exactness of modern astronomy. ... This double service assures to their discoverer the most distinguished place (after Hipparchus and Kepler) above the greatest astronomers of all ages and all countries." (J.B.J. Delambre *Histoire de l'astronomie au dix-huitième siècle*, 1827, p. 413).

Bradley worked with Samuel Molyneux until Molyneux's death in 1728, trying to measure the parallax of Gamma Draconis. "If the Copernican theory was correct it ought to be possible to observe an annual parallax of the stars. In fact within the last three decades of the seventeenth century a number of striking observations had revived the interest in parallaxes. At the time of [Bradley's] voyage to Uraniborg (begun in 1671) Jean Picard noticed annual variations in the position of the polar star extending to nearly 40", but - and this is very remarkable - after having studied them he concluded that they could not be explained either by refraction or by parallax. A few years later, in 1674, Robert Hooke made similar observations and lacking Picard's prudence and method, he thought they were parallactic effects. Flamsteed made many observations between 1689 and 1697, and explained them in the same way as Hooke. However in 1699, J. Cassini proved that the parallax would produce very different effects. A similar demonstration was given by E. Manfredi, but neither of them suggested the true explanation. Bradley's success was due not only to his excellent instrumental means, to his own perfect experimental technique, but as well to his thoroughness and persistence. In that he was almost the opposite of Hooke [. . .] who took part in almost every scientific controversy of his time but hardly ever succeeded in achieving anything of great importance because he did not carry his investigations deeply enough and never reached the bedrock of any problem. Bradley is one of the best examples of the 'classical' type of scientists as opposed to the 'romantic' type. His thoughts were deep rather than brilliant and they matured but very slowly; he was anxious to improve his observations to the limit of his experimental possibilities and he succeeded in doing so; moreover he was all the time trying to improve the instruments themselves and to detect and measure their errors. Being inhibited by an extraordinary fear of error he published very little. [. . .] With regard to the aberration, [. . .] Bradley did not simply discover it but that his determination of it was, considering his instrumental means, extremely accurate. He concluded that the maximum aberration was included between 40" or 41" [. . .]; the value of the constant of aberration accepted to-day is 20" 47 (that is 40" 94 for the whole axis). He deduced from this value the speed of light, and found that the sunlight would reach us in 8 m. 13 sec. (our present estimate is 8 m. 19 sec.)" (Bradley, James, Edmond Halley, and George Sarton. *Discovery of the Aberration of Light*. In: Isis 16, no. 2 (1931), pp. 233–65).



(637)

ber of little Articles neceſſary to the Practice, the Author refers them to another Time, as more properly belonging to the Deſcription of the whole Art, than to a Memoir in which he only gives the Principles of it.

IV. *A Letter from the Reverend Mr.* James Bradley *Savilian Profeſſor of Aſtronomy at* Oxford, *and F.R.S. to Dr.* Edmond Halley Aſtronom. Reg. &c. *giving an Account of a new diſcovered Motion of the* Fix'd Stars.

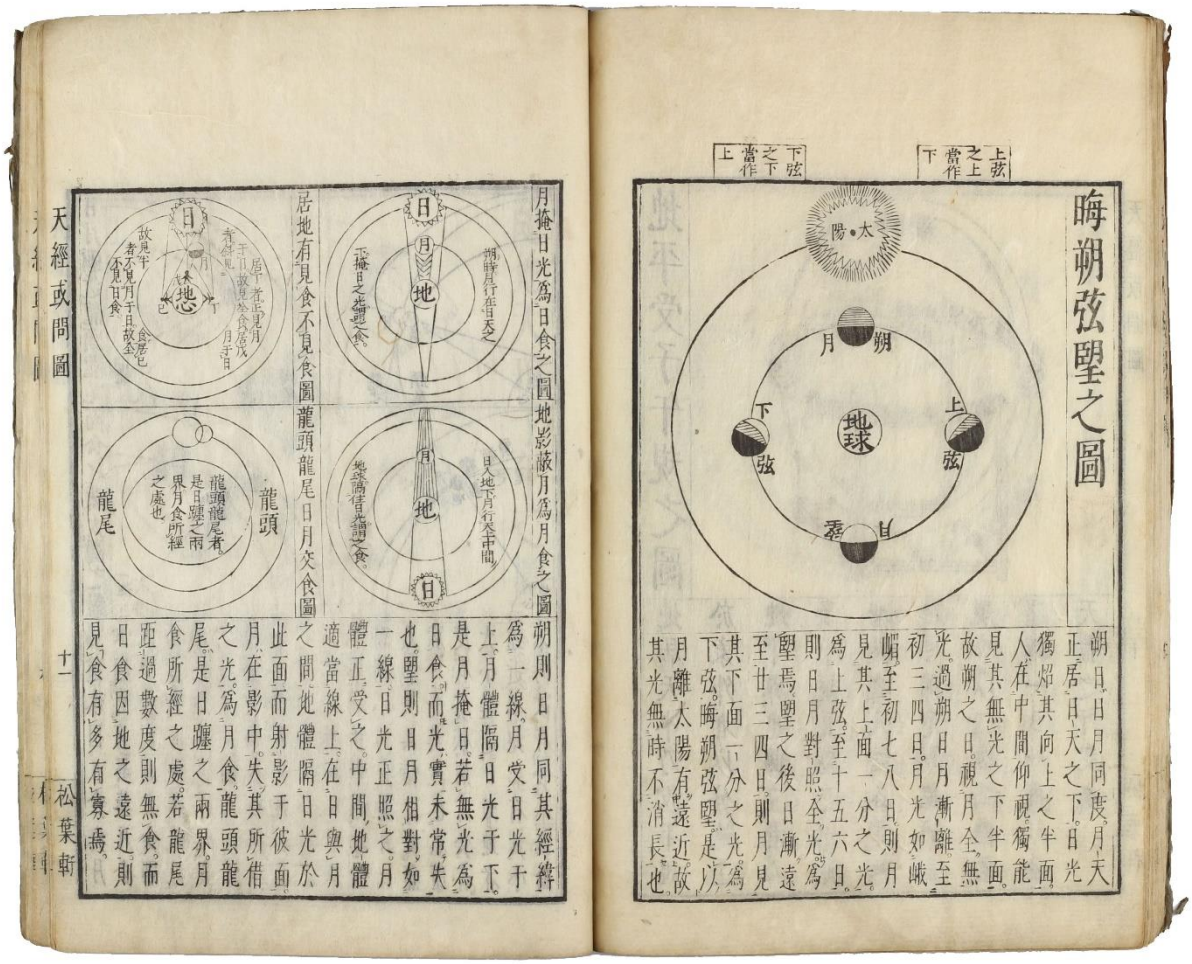
SIR,

YOU having been pleaſed to expreſs your Satisfaction with what I had an Opportunity ſometime ago, of telling you in Converſation, concerning ſome Obſervations, that were making by our late worthy and ingenious Friend, the honourable *Samuel Molyneux* Eſquire, and which have ſince been continued and repeated by my ſelf, in order to determine the *Parallax* of the *fixt Stars*; I ſhall now beg leave to lay before you a more particular Account of them.

Before I proceed to give you the Hiſtory of the Obſervations themſelves, it may be proper to let you know, that they were at firſt begun in hopes of verifying and confirming thoſe, that Dr. *Hook* formerly communicated to the publick, which ſeemed to be attended with Circumſtances that promiſed greater Exactneſs in them, than could be expected in any other, that had been made and publiſhed on the ſame Account. And as his Attempt was what principally gave Riſe to this, ſo his Method in making the Obſervations was in ſome Mea-

17 **YOU YI.** 天經或問. *Tenkei wakumon* [Chinese: *Tianjing huowen = Some questions about Astronomy*]. 3 volumes in classical Chinese (方密之先生鑑定 / 閩中游子六輯著 / 天経或問 / 書林大集堂梓) and 1 Appendix volume by **Nishikawa SEIKYU** in Japanese. 大略天學名目鈔 : 天經或問附録 . Tairyaku tengaku myōmokushō. Tenkei wakumon furoku. Mixed edition: Vol. 2 and 3: Nihonbashi, Edo Shōyōken, Yorozuya Seibē, Kyōhō 15 [1730]; Vol. 1: Edo Sūzanbō, Kobayashi (Suharaya) Shinbē, Kyōhō 15 [1730]; Dates, locations and printer's names from colophon for the first 3 vols. Vol. 2 and 3: single-line border on all four sides, no vertical guide lines, no 'fishtails' at the center of the folio; 9 columns of 24 characters each per page. Book size ca. 265-275 x 175 mm. Xylographically printed on folded sheets of native paper, with 19 (10 double-page) astronomical illustrations and maps. Original brown wrappers with 3 (of 4; 1 chipped with loss) xylographic title-slips (some worming, staining and soiling, stronger to appendix, partly reinforced, stitching renewed). Printed paper with minor browning and some spotting or minor waterstaining in places, some marginal worming, occasionally affecting the text and causing some loss at inner margins of first few leaves. Provenance: red seal to mikaeshi or first leaves. (#003600) € 20,000

EXCEEDINGLY RARE FIRST EDITION, first issue of vols. 2 and 3, third issue of vol. 1, of the classical Chinese textbook of astronomy printed in Japan. No copy of the Chinese original edition of c.1672 has obviously survived. According to Hiraoka, vol. 2 and 3 belong to designated Group A, vol. 1 to group C. The Appendix vol. 4 cannot be assigned to any of the yet known groups A to H (Hiraoka, p. 97). Of the first issue (Qing printed edition, group A) only two copies (referred to as the 'Dajitang edition' after the publisher shown inside the cover) are known to exist in Japanese libraries, one (defective with missing parts) in the Cabinet Library of the National Archives of Japan and the other in the Library of the Faculty of Education, Shiga University).



The work was edited and supplemented by an extensive appendix with explanations in Japanese by Nishikawa Seikyū (1693-1756). In his presentation, You already takes into account the Western astronomy brought to China by Matteo Ricci, Adam Schall von Bell, Ferdinand Verbiest and other Jesuits, which came to Japan for the first time this way. His work had a significant influence on the development of Japanese astronomy, particularly Shibukawa Harumi. "In his references to Western theory, Harumi based his information exclusively on *T'ien-ching*

huo-wen, by Yu I . . . Harumi was especially impressed by its clear explanation, using a geometrical model of eclipses, which he had never found in Chinese calendrical writings" (DSB). The many illustrations in this work include celestial maps, a simplified version of the famous world map by Matteo Ricci and a beautiful double-page map of China at the beginning of the Qing Dynasty.

"*Tianjing huowen* was first printed in Edo in 1730 by the publisher Shōyōken Yorozuya Seibē 松葉軒萬屋清兵衛 with Nishikawa Seikyū, a Japanese astronomer, editing the text and supplying kunten. Scholars have previously noted four different variants of this book, each with a different colophon, but all are considered part of the same edition. [Hiraoka] [. . .] has identified four more versions of the printed text with hitherto unreported colophons, necessitating a comparison of the eight versions to establish their order of appearance. [He] divides the 67 printed copies of this work now preserved in Japan, China and South Korea into eight groups labelled A to H in presumed printing order." [. . .] All of the copies [. . .] were printed from the Shōyōken's original blocks. All have the name 'Shōyōken' in their block center, and it is unlikely that the publisher name would have been retained if new blocks had been created using kabusebori or similar techniques. Even more important evidence is provided by the gaps in the outside borders [. . .] Comparing these gaps is known to be an effective way of distinguishing whether similar-looking editions were printed from the same blocks or not. These gaps result from damage to the blocks themselves, meaning that copies with the same gaps are from the same edition, and the more gaps a copy has, the later in the printing run it was produced. In early modern Japan, gaps in the text itself were amended with techniques like ireki 入□木□ in which a smaller piece of wood was embedded in the original block, but gaps in the outer border did not affect the legibility of the text and were therefore often left unamended [. . .] Group A's colophon and inside cover note states that the book was printed in 1730 by Shōyōken Yorozuya Seibē. Given that the 'Shōyōken' in the block center survives in all other copies, this group must have been the original (first) Japanese printed edition. The colophon information and border gaps evolve steadily through the series of groups, from A to B to C and so on; note in particular that gaps observed in an earlier group are never absent from later groups." (Hiraoka, p. 98). Vol. 1 of this set belong to designated group C. "Published by Sūzanbō Kobayashi (Suharaya) Shinbē 嵩山房小林新兵衛, also based in Nihonbashi. The inside cover and colophon are the same as Group B, except with the publisher name updated. Many copies have covers of thin, plain light brown paper. It seems that Sūzanbō obtained the blocks for Tianjing huowen from Wakanaya along with the blocks for Irie's commentary: Sūzanbō also printed Irie□s commentary, and its colophon is the same as the Wakanaya printing with the publisher name recarved to 'Rights purchased by Sūzanbō Kobayashi Shinbē' (嵩山房 / 小林新兵衛求版)."

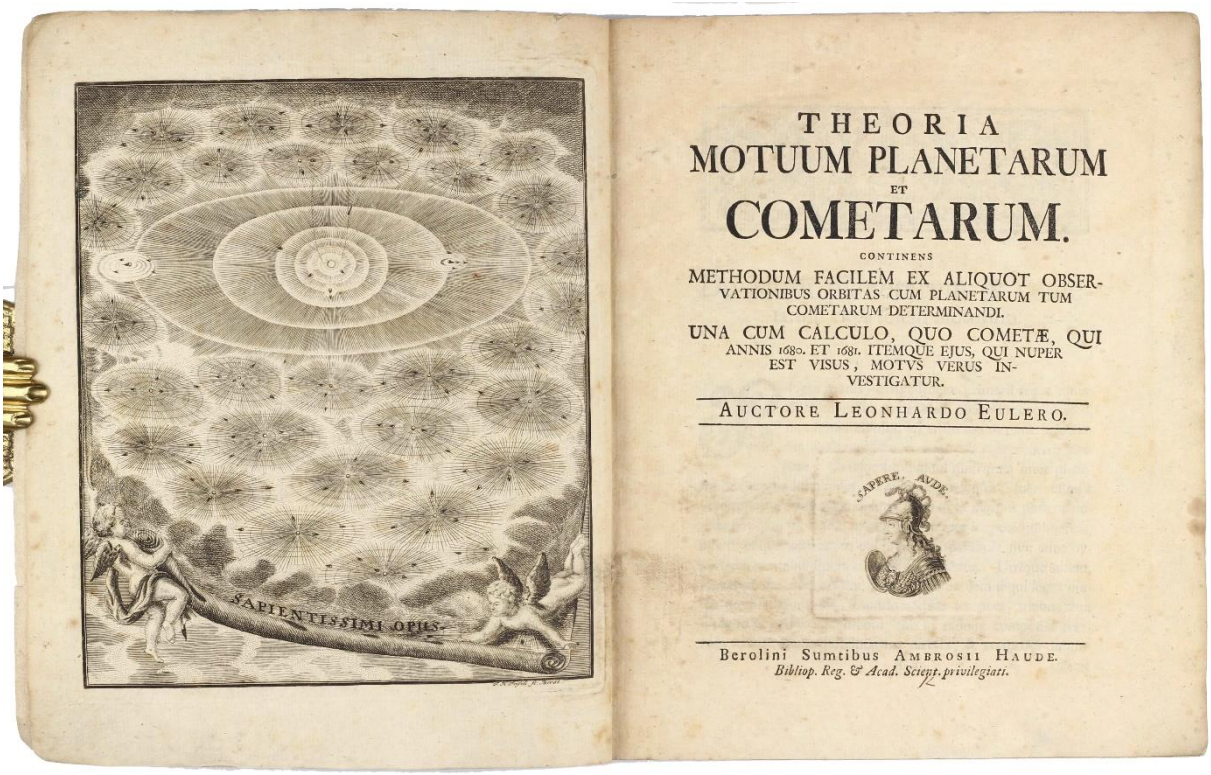
"The *Tianjing huowen* brought to Japan about 1672-79, combined ancient Chinese theories of the natural philosopher Zhu Xi (1130-1200), and the recent philosophical opinions of Fang Yizhi (1611-71) with knowledge that had been obtained from the Jesuits [. . .] Of particular importance was its illustration of the stars around the South Pole, which had not been shown on previous celestial maps; the book therefore provided the Japanese with their first knowledge of such stars" (Miyajima p. 585). The original Chinese first edition of c. 1672 does not seem to have survived, with the earliest extant Japanese edition of 1730 surviving in only a few copies. The work escaped censorship and was allowed to be imported into Japan "because of its purely astronomical nature [. . .] During the Tokugawa period everyone with an interest in astronomy read it" (Nakayama p. 101). The highly influential Jesuits, Matteo Ricci and Ferdinand Verbiest, who introduced western knowledge of cartography and astronomy to China, are specifically mentioned in the text and the maps in the present example are entirely based on their work. The terrestrial maps are of particular interest: four separate maps form a double-hemisphere world map, including a southern hemisphere with a very distinctively-shaped Australia joined to a southern continent.

Literature: Miyajima Kazuhiko, *Japanese Celestial Cartography before the Meiji Period'*, p. 584 ff. (in: *History of Cartography*, vol. 2, no. 2); DSB XII, 404 & XV, 733; Nakayama, *A history of Japanese astronomy* (Cambridge MA, 1969), pp. 101-104. FUNG, KW. *You Yi and his Tianjing huowen Qian hou ji.* In: The 7th International Conference on the History of Science in China, Shenzhen University, Shenzhen, China, 16-20 January 1996, 15 pp.; HIRAOKA, Ryuji. *Printed Editions and Manuscripts of Tianjing Huowen*. In: Historia Scientiarum, Vol. 29-1, 2019.

A fundamental work on calculation of orbits

18 **EULER, Leonhard.** *Theoria motuum planetarum et cometarum. Continens methodum facilem... orbitas cum planetarum cum cometarum determinandi, una cum calculo, quo cometae, qui annis 1680 et 1681... motus verus investigatur*. Berlin: Ambrosius Haude, 1744. 4to (228 x 188 mm). [3] 4-187 (i.e. 186) pp., engraved frontispiece by F.H. Fritsch, engraved device on title, woodcut head- and tailpieces, 4 folding engraved plates bound at end; bound without the cancel leaf A4 as in most copies. 18th century marbled paper wrappers (minor rubbind to extremities, short tear at head of lower wrapper). Minor mostly marginal spotting and browning. Very good, wide-margined copy. (#003340) € 3000

FIRST EDITION OF EULER'S FIRST TREATISE ON ASTRONOMY and "a fundamental work on calculation of orbits" (DSB). Leonhard Euler (1707-1783) drew up lunar tables in 1744, clearly already studying gravitational attraction in the Earth, Moon and Sun system. In his "*Theoria*" he calculates the orbits of planets and comets, later refined by Lagrange. "With regard to the theory of perturbed motion of celestial bodies, Euler formulated the perturbation theory in general terms so that it can be used to solve the mathematical problem of dynamic models and particular problems of theoretical astronomy . . .

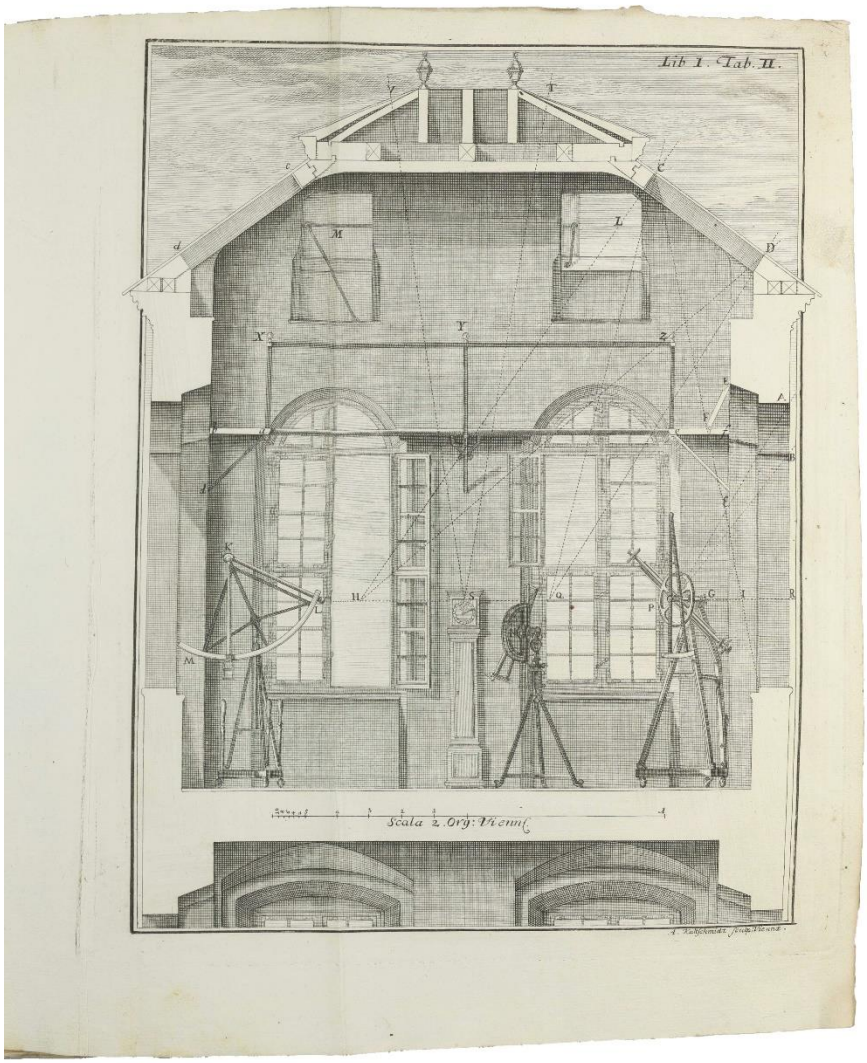


He gave an extensive mathematical treatment of the problem of improving approximations of orbits within the framework of the two-body problem and taking perturbations into account. In his *Theoria motuum planetarum et cometarum* . . . Euler gave a complete mathematical treatment of the two-body problem consisting of a planet and the Sun." (Debnath). References: Houzeau/Lancaster 11948; Honeyman 1063; Enestrom "Euler" 66; DSB IV, p.471; Roller-G. I, 375; Debnath, *The Legacy of Leonhard Euler*, p.364.

One of the most exquisitely illustrated astronomical works ever printed

19 **MARINONI, Giovanni Jacopo de**. *De astronomica specula domestica et organico apparatu astronomico libro duo*. Vienna: Leopold Joann Kaliwoda, 1745. Six parts in one volume. Folio (349 x 253 mm). [25], 2-170, [2], 171-172, [2], 173-174, [2], 175-176, [2], 177-210, [2] pp., engraved frontispiece by A.D. Bertoli and J.J. Sedelmayr, letterpress title printed in red and black and with a vignette (plan od Vienna) by Jo. Christ. Winnckler, engraved headpiece, engraved and woodcut initials and tailpieces, errata on final leaf, 43 engraved folding plates (including one smaller size bound after p.194), 9 engraved illustrations in text (one full size on p. [179]). Unpaginated 4 leaves between pp. 170-171, 172-173, 174-175 and 176-177 are double-sided plates, but part of the signature. Signatures: $[a]^2$ b-d^2)(-2)(^{2} A-3I^2. Bound in contemporary full vellum, spine with gilt-lettered red morocco label, blue-sprinkled edges, original endpapers (vellum soiled and spotted, old repair to head of spine, corners bumped, first flyleaf torn). Text crisp and bright throughout, occasional minor finger-soiling (stronger on lower corner of engr. frontispiece); several plates with mis-folds and creases; a few plates spotted or soiled; p. 113/4 with lower blank corner repaired; plate 3 of pt. 1 with short clean tear at foot, plate 1 of pt. 3 facing p. 64 torn at lower corner with slight loss of image (restored), plates 7 and 8 of pt. 5 with cut-outs at foot (slightly affecting image of plate 7); wear and soiling of plate 6 of pt. 6 causing smaller holes near fold (not affecting image); calculations in ink on final page. Provenance: from a private Italian collection with valid export license from Italian government. Good copy on thick, unpressed paper, collated and complete. (#003749) € 8500

FIRST EDITION of this luxuriously printed work, which describes and illustrates the astronomical instruments in the private observatory of Marinoni, mathematician and astronomer to the Imperial Court of Austria and geodetic surveyor. Like the private observatories of Tycho Brahe and Hevelius in the two preceding centuries, Marinoni's observatory was one of the most beautiful and best equipped in Europe in his time. He built his own instruments and those illustrated here include quadrants, telescopes, micrometers, an improved Graham pendulum, and a camera obscura. Marinoni left all the instruments to the Empress Maria Theresa, to whom he dedicated this work. Especially remarkable astronomical instruments are a double telescope, the so-called *Culminatorium*, for the observation of the meridian passages, Marinoni's wall quadrant, the *Quadrans ampliatus*, the position micrometer with its screws, a camera obscura, and pendulum clocks ("for his observations he used 5 pendulum clocks; two he had obtained from G. Graham and then had 2 similar clocks built in Vienna. The 5th clock had been built by Faucheuer in Paris in 1736 and had been provided with a dial to indicate the mean time and the equation of time", see Zinner).



Giovanni Giacomo Marinoni (Johannes Jacobus Marinonius), born in Udine, Italy in 1676, studied in Vienna and became imperial court mathematician, also "teacher of Empress Maria Theresa in astronomy" (see Wurzbach XVI, 448), director of the Academy of War Science in Vienna in 1726 and died there in 1755. He surveyed the Duchy of Milan

and built on his house in Vienna "at his own expense an observatory, which was considered one of the most beautiful existing at his time" (see Wurzbach XVI, 447).

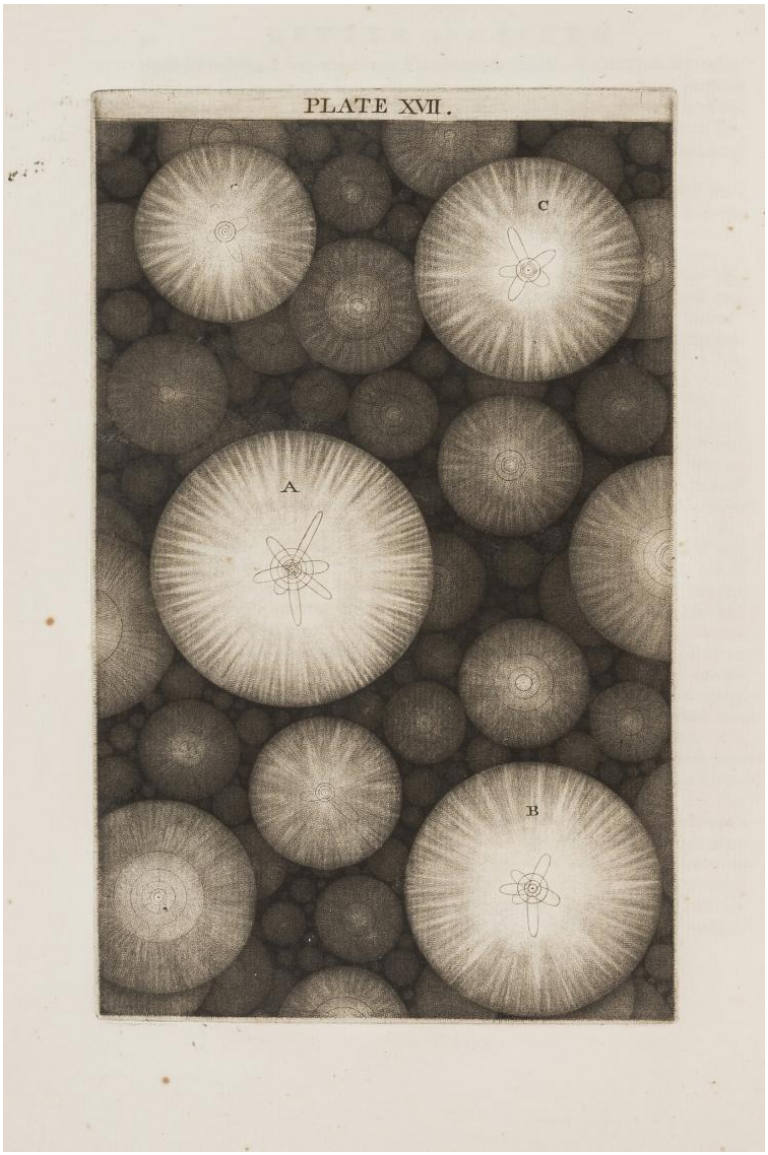
"A magnificent work with very beautiful copper engravings" (Mayer).

"One of the most exquisitely illustrated astronomical works ever printed" (Kenney).

Bibliography: Tomash & Williams M37; Poggendorff II, 53; Kenney, *Catalogue of Rare Astronomical Books* 115; Riccardi II, 119, "Bellissima ediz."]; Zinner, *Astronomische Instrumente* p. 436f; Mayer II, 27.

Foundation work on cosmogony

20 **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.* London: Printed for the Author, and sold by H. Chapelle, 1750. 4to (286 x 226 mm). viii, [4], 84 pp. Engraved portrait frontispiece* of the author by Fourdrinier after G. Allen, title printed in red and black, 32 engraved plates (2 folding, 8 in mezzotint), wood-engraved initials, head- and tailpieces, with the errata- and list of subscribers leaves, without the final blank. Contemporary mottled calf, spine with 5 raised bands richly gilt in compartments and with gilt-lettered morocco label in first compartment (boards and extremities rubbed, corners bumped and scuffed). Internally very little age-toned, minor spotting to a few leaves only, light offsetting from frontispiece on title-page, tiny hole in plate 28 from paper flaw not affecting image. Provenance: inscribed monogram L.C.B. to front pastedown. An outstanding, bright and crisp copy with very broad margins. (#002600) € 32,000

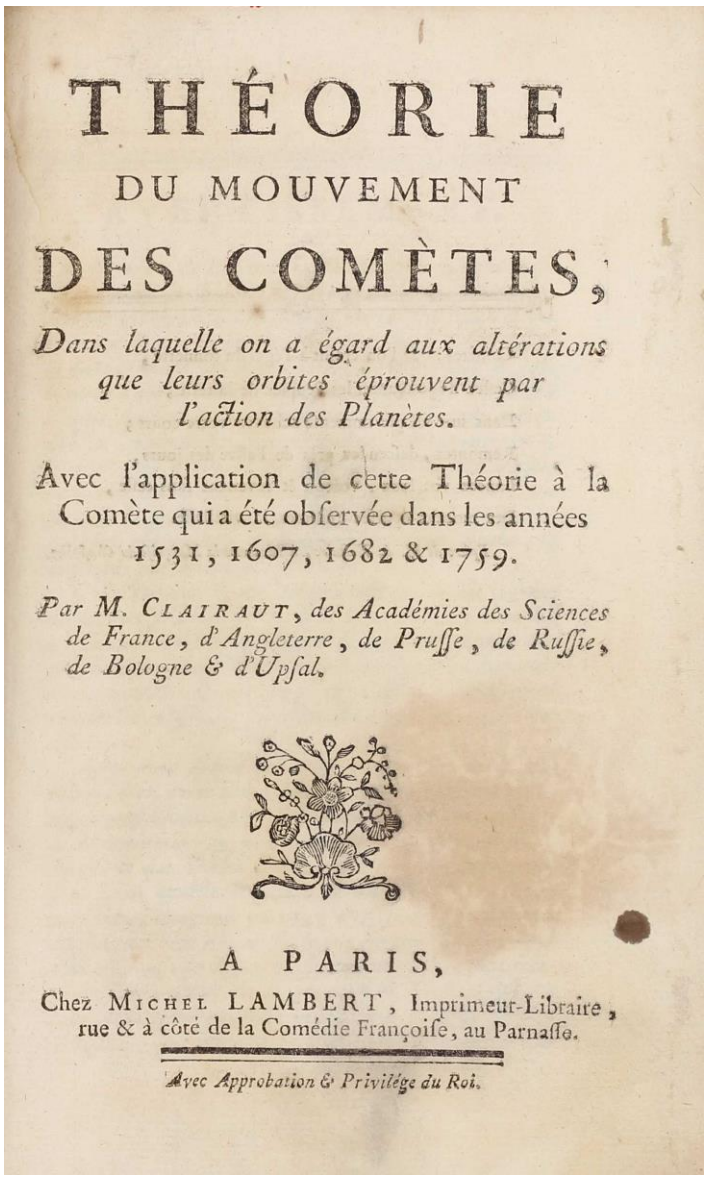


Norman 2265; DSB XIV, p.518-9; Honeyman 3143; Gingerich, *Rara Astronomica* 53; Hoskin, *J. for the History of Astronomy*, 1, pp.44-52. RARE FIRST EDITION of this attempt at reconciling religion and science and establishing an understanding of the Milky Way. A book of considerable importance in the history of science. Wright first explained the Milky Way and the nebulae as external galaxies and provided the basis for the theories on the universe by Kant, Herschel and Laplace.

Wright, a teacher of navigation and a land surveyor by profession, "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 engraved portrait frontispiece is not called for in this work, but is part of Wright's earlier work *Clavis coelestis* (London, 1742).

21 **CLAIRAUT, Alexis Claude.** *Théorie du mouvement des comètes, dans laquelle on a égard aux altérations que leurs orbites éprouvent par l'action des planètes. Avec l'application de cette théorie à la comète qui a été observée dans les années 1531, 1607, 1682 & 1759*. Paris: Chez Michel Lambert, [1760]. 8vo (196 x 125 mm). [2] i-xiv, [1] 2-247 [1] pp. Woodcut device on title, letterpress tables, 2 folding engraved plates bound at the end. Contemporary French mottled calf, spine with 5 raised bands, gilt decoration and gilt-lettered red morocco label, red-dyed edges, marbled endpapers (joints partially split, some worming to spine, foot of spine scuffed, extremities rubbed, marinal browning of flyleaves from binders glue). Text little browned, occasional minor spotting, small ink spot and light brown stain to title-page). Provenance: Giancarlo Beltrame Library. All in all a very good copy. (#002922) € 5500



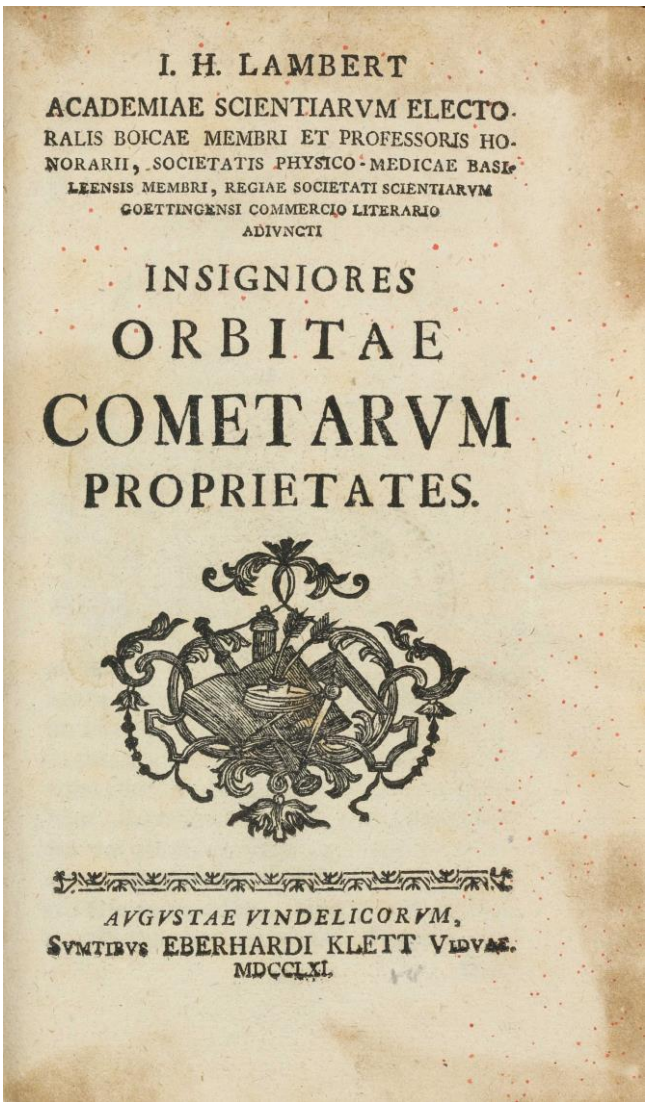
THÉORIE
DU MOUVEMENT
DES COMÈTES,
Dans laquelle on a égard aux altérations que leurs orbites éprouvent par l'action des Planètes.
Avec l'application de cette Théorie à la Comète qui a été obſervée dans les années 1531, 1607, 1682 & 1759.
Par M. Clairaut, des Académies des Sciences de France, d'Angleterre, de Pruſſe, de Ruſſie, de Bologne & d'Upſal.
A PARIS,
Chez Michel LAMBERT, Imprimeur-Libraire, rue & à côté de la Comédie Françoiſe, au Parnaſſe.
Avec Approbation & Privilége du Roi.

Norman 487; Freitag 483; DSB III, p.283. - FIRST EDITION, AND OF EXCEPTIONAL RARITY, especially with the folding plates. In the work 'Théorie du mouvement des comètes' ('Theory on the Movement of Comets') Clairaut predicted the date that Halley's comet would be nearest the sun, was April 13, 1759. The actual date was March 13, just within the allowed-for margins of error. There was a suggestion that Halley's Comet be renamed for Clairaut and he was hailed as the "new Thales."

"In the 1740s Clairaut became the first to find an approximate resolution of the three-body problem when he calculated the movement of the moon's apogee using an augmented version of Newton's law of attraction. In the 1750s he turned his attention to the movement of comets, inspired by Halley's prediction of 1705 that the comet last observed in 1682 would appear in 1758 or 1759. Halley had attributed the variations in the comet's period of appearance to pertubations caused by Jupiter and Saturn, and Clairaut, armed with his solution to the three-body problem, set out to calculate these pertubations in order to predict the exact time of the comet's passage to perihelion. In November 1758, he announced that the passage would occur around 15 Aril 1759; the actual passage took place on 13 March. Clairaut afterward refined his calculations to arrive at the date 4 April, and later, by use of different method, the last day of March - a calculation which no one at the time could have bettered." (Norman 487).

Lambert's very rare monograph on comets

22 **LAMBERT, Johann Heinrich.** *Insigniores orbitae cometarum proprietates*. Augsburg: Eberhard Klett, 1761. 8vo (180 x 110 mm). [8], 128, [4] pp., woodcut device to title, woodcut initials, head- and tailpieces; 2 unnumbered leaves with letterpress tables and 2 engraved folding plates bound at end. Signatures:)(^{4}, A-H^8, [chi]^2. Contemporary half calf and sprinkled paper-coated boards, spine with gilt-lettered label, black-sprinkled edges, original endpapers (spine ends scuffed, corners worn and bumpled, boards and extremities rubbed). Outer margins of endpapers, title and final plate a bit browned from binder's glue; light even age-toning throughout. Provenance: Luigi Gabba (inscribed on first flyleaf), bibliotheque P. G. Phelip (engraved bookplate mounted on verso of title). A very good copy in untouched binding of the time. (#003773) € 7800


I. H. LAMBERT
ACADEMIAE SCIENTIARVM ELECTO-
RALIS BOICAE MEMBRI ET PROFESSORIS HO-
NORARII, SOCIETATIS PHYSICO-MEDICAE BASI-
LEENSIS MEMBRI, REGIAE SOCIETATI SCIENTIARVM
GOETTINGENSI COMMERCIO LITERARIO
ADIVNCTI
INSIGNIORES
ORBITAE
COMETARVM
PROPRIETATES.
AVGVSTAE VINDELICORVM,
SVMTIBVS EBERHARDI KLETT VIDVAE.
MDCCLXI.

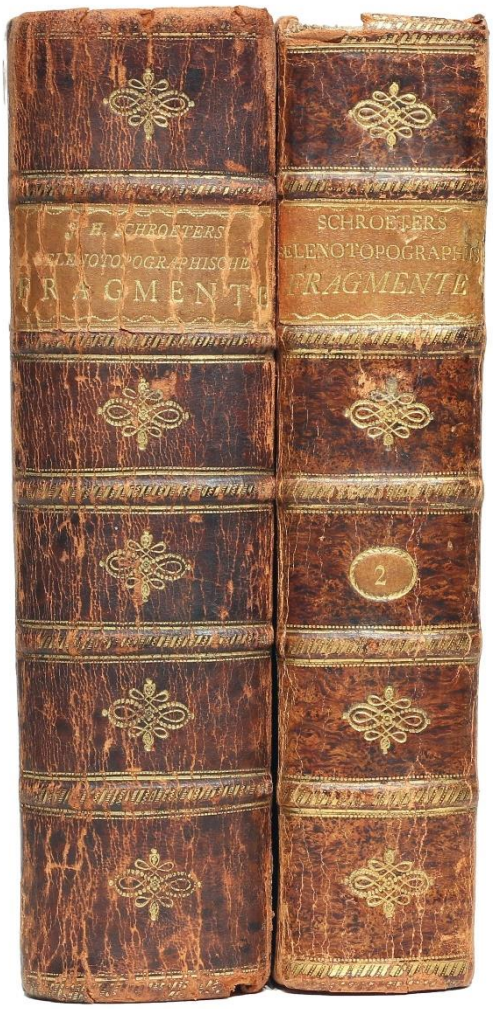
EXCEPTIONALLY RARE FIRST EDITION of Lambert's theory describing the movement of comets for the area of a focal sector of a conic in terms of the chord and bounding radii.

In the *Insigniores* Lambert introduces the method for the determination of the orbit of comets for the case of parabolic orbits on the basis of three astronomical observations. This method was brought into its final form by Wilhelm Olbers in 1797. In the first part, Lambert states general theorems about the parabola; in the second part, on the "principal properties of the parabolic motion of comets," he demonstrates the four laws of motion of celestial bodies moving around the Sun, including planets and comets. The fourth part is about the nature of elliptical orbits of comets and planets and leads to the general Lambert theorem. Lagrange later wrote: "C'est ce que Lambert a fait dans son beau Traité 'De orbitis cometarum', ou il est parvenu a un des theoremes les plus elegantes et les plus utiles, qui aient ete trouve jusqu'ici sur ce subject, et qui a en meme temps l'avantage de s'appliquer aussi aux orbites elliptiques" (Oeuvres IV, 444).

References and literature: Houzeau & Lancaster 11955; Sotheran I 2400; Brüning 1773; Brunet III, 11; Hind 215; Struve 52. O. Volk, Johann Heinrich Lambert and the Determination of Orbits for Planets and Comets, in: *Celestial Mechanics*, 21 (1980), pp. 237-250; Bauschinger in: Ostwald's Klassiker d. exakten Wiss. No. 133.

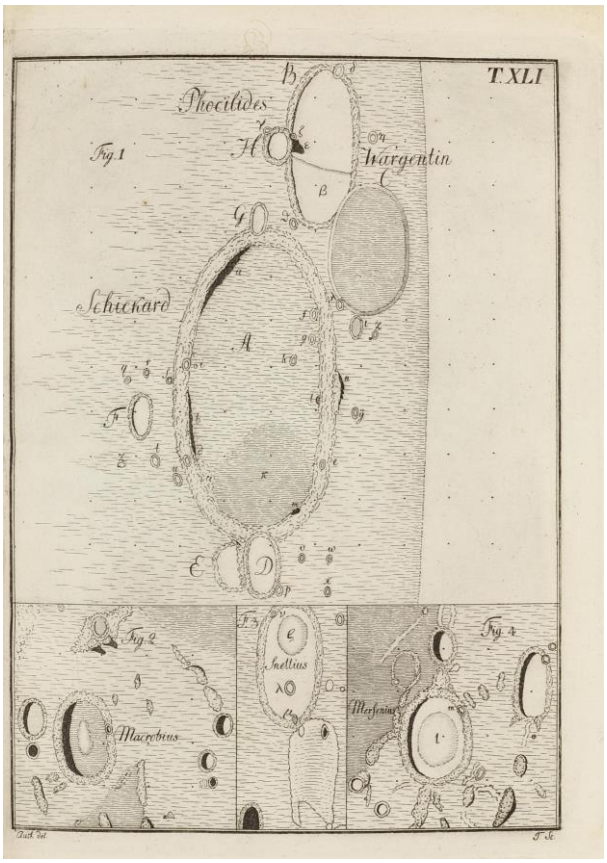
The masterpiece by the first really great lunar observer; Edmund Weiss' copy

23 **SCHRÖTER, Johann Hieronymus.** *Selenotopographische Fragmente zur genauern Kenntniss der Mondfläche, ihrer erlittenen Veränderungen und Atmosphäre, sammt den dazu gehörigen Specialcharten und Zeichnungen.* Lilienthal and Göttingen: Auf Kosten des Verfassers, 1791-1802. Two volumes, 4to (256 x 206 mm). pp. [12], xx, 676, [1, "Verbesserungen"], [1, blank]; [8], xxii, 565, [1, colophon], [2, "Druckverbesserungen"]. Vol. I with 43 engraved plates and vol. II with 32 engraved plates, engraved devices on title-pages. Bound with the list of subscribers in vol. I. Contemporary full calf, spines gilt, red-dyed edges (boards slightly soiled and leather slightly abraded and cracky). Very minor browning of text and plates only, occasional minor spotting, first title and following leaves with light waterstain marks. Provenance: Austrian astronomer Edmund Weiss, director of the Vienna observatory, with his ownership inscription on first free endpaper of vol. I, shelf mark and (erased) ink stamps elsewhere, old paper over paste on signature of first title. A fine copy of an important and rare astronomical work, with notably clean and bright plates. Collated complete. (#002212) € 26,000



Ashworth, The face of the moon, Linda Hall 14; Whitaker, Mapping and Naming the Moon, p. 98-109. - FIRST AND ONLY EDITION, AND OF GREAT RARITY. Although somewhat limited by the technology available at the time, Schröter is recognized by astronomers for his perseverance, scrupulous observations, and fastidious measurements. The excellent plates in Selenotopographische Fragmente, in addition to being remarkably faithful renderings of lunar topography, also represent the first systematic maps of the surface of the Moon.

German astronomer Johann Hieronymus Schröter (1745-1816) was trained as a lawyer but became interested in astronomy after meeting the brothers of British astronomer William Herschel at the Royal Chamber of George III in Hanover, where Schröter had been appointed secretary in 1777. From 1779 to 1786, he purchased increasingly powerful telescopes to observe the Sun, Moon, Venus, Mars, Jupiter, and Saturn, and soon became known in astronomical circles for his contributions to scientific journals. In 1791, he published the seminal Selenotopographische Fragmente, the work for which he is most well-known, and which represents the first accurate mapping of the Moon's surface. For his contributions to astronomy, and in particular to the science of selenography, the Moon's Schröter Crater and Vallis Schröteri are named in his honor.



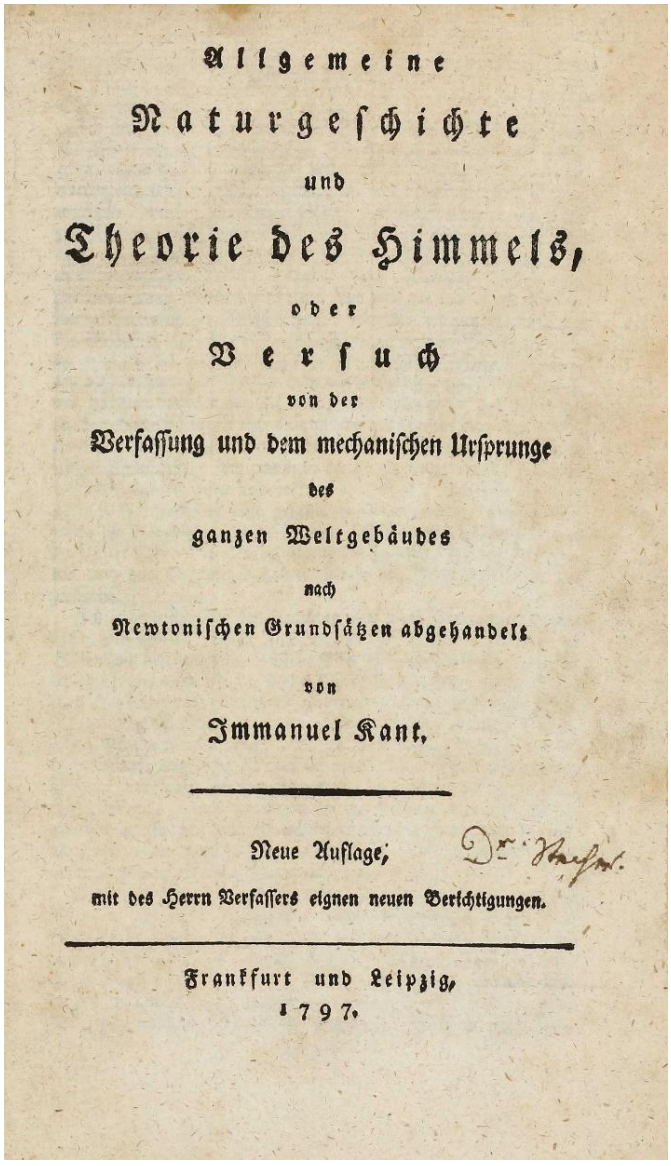
"The 75 engraved plates published in the two volumes include anything from whole-page drawings of larger areas to groups of twelve or more sketches of specific small details. Examination shows that while a few drawings appear quite amateurish ... others are reasonably accurate in their portrayal. Schröter consistently gives the rims of craters the appearance of an overhead view of a ring of closely spaced trees ...

even though many of those craters display sharp rims as viewed in the telescope. Nevertheless, comparing the many drawings with modern photos shows that they include virtually all of the more important details of each region except in only one or two rare cases where he apparently became confused by what he observed. Whatever criticisms may be leveled against Schröter's work. it can fairly be said that he pioneered the science of detailed and comprehensive selenography which, with Mayer's pioneering attention to positional accuracy, laid the ground for an unprecedened burst of lunar observation and cartography in Germany." (Whitaker, p.107-9)

Selenotopographische Fragmente, especially the volume 2 (most of this edition was lost in a fire), is a very rare book; indeed, just fifty years after the publication of the second volume, John Russell Hind observed that "This work has become somewhat rare" (The Solar System (New York: Putnam); p. 79). Worldcat reports just four copies in institutional libraries.

Kant's nebular hypothesis of solar system formation

24 **KANT, Immanuel.** *Allgemeine Naturgeschichte und Theorie des Himmels, oder Versuch von der Verfassung und dem mechanischen Ursprunge des ganzen Weltgebäudes nach Newtonischen Grundsätzen abgehandelt*. Frankfurt, Leipzig: [publisher unknown], 1797. 8vo (200 x 120 mm). [20], 130 pp. Later cardboard (slightly stained towards lower spine, corners little bumped), red-dyed edges. Text little evenly browned, brown spot to upper blank margin of 3 leaves, otherwise pretty clean and virtually unfoxed. Provenance: Illegible ownership inscription on title, a few text annotations in pencil. Near fine copy. (#003177) € 3000



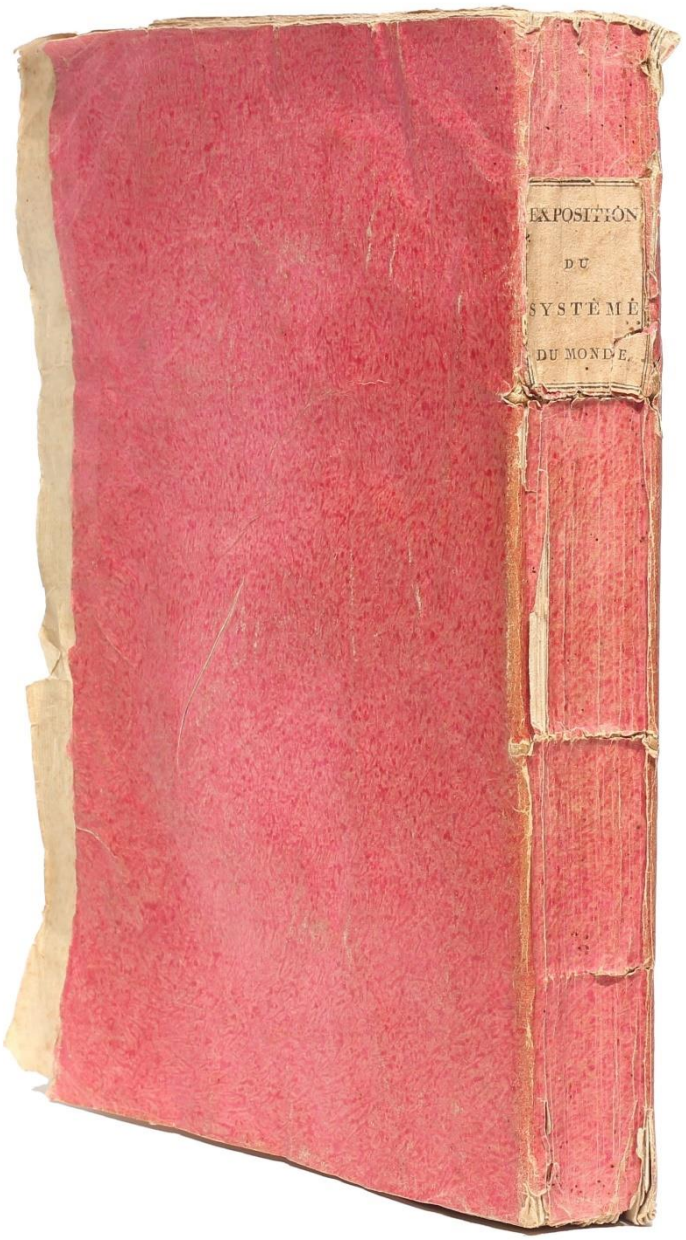
Allgemeine
Naturgeſchichte
und
Theorie des Himmels,
oder
Verſuch
von der
Verfaſſung und dem mechaniſchen Urſprunge
des
ganzen Weltgebäudes
nach
Newtoniſchen Grundſätzen abgehandelt
von
Immanuel Kant.

Neue Auflage,
mit des Herrn Verfaſſers eignen neuen Berichtigungen.

Frankfurt und Leipzig,
1797.

D.S.B VII, p.231; Warda 6. - Scarce second edition of Kant's third work, first printed in 1755. An "Auszug", i.e only part of the Naturgeschichte, was printed in 1791, but no other editions or part of the work appeared between 1755 and 1797, though a third and fourth edition appeared in 1798 and 1808. All editions of this work are of great rarity.
In his youth Kant was a great admirerer of Newton, and in this work he bases his theories on him, but at the same time goes far beyond him. Kant describes how the solar system originated, and does this on the basis of his own mechanical principles. "In his "Theory of the heavens", Kant, by a series of bold strokes, anticipated astronomical facts that were later confirmed by very powerful observational techniques and with the help of relativistic cosmological theory. He conjectured that our solar system is a part of a vast system of stars making up a single galaxy, that the so-called nebolous-stars are galactic systems external to but similar to our own galaxy (a fact that was not confirmed until the twentieth century), and that there are many such galaxies making up the universe as a whole." (D.S.B.)

25 **LAPLACE, Pierre Simon.** *Exposition du Systeme du Monde*. Paris: Imprimerie de Crapelet, An VII [1799]. 4to (270 x 215 mm). [i-vi] vii-viii, 351 [1] pp. including half title. Preserved in the original pink mottled wrappers with original printed spine label, all pages uncut (minor chipping and fraying of paper over spine. Text light even browning, a few small brown spots in places, but in all very crisp and clean. Provenance: from a French private collection. A fine, unsophisticated copy. (#003347) € 1200

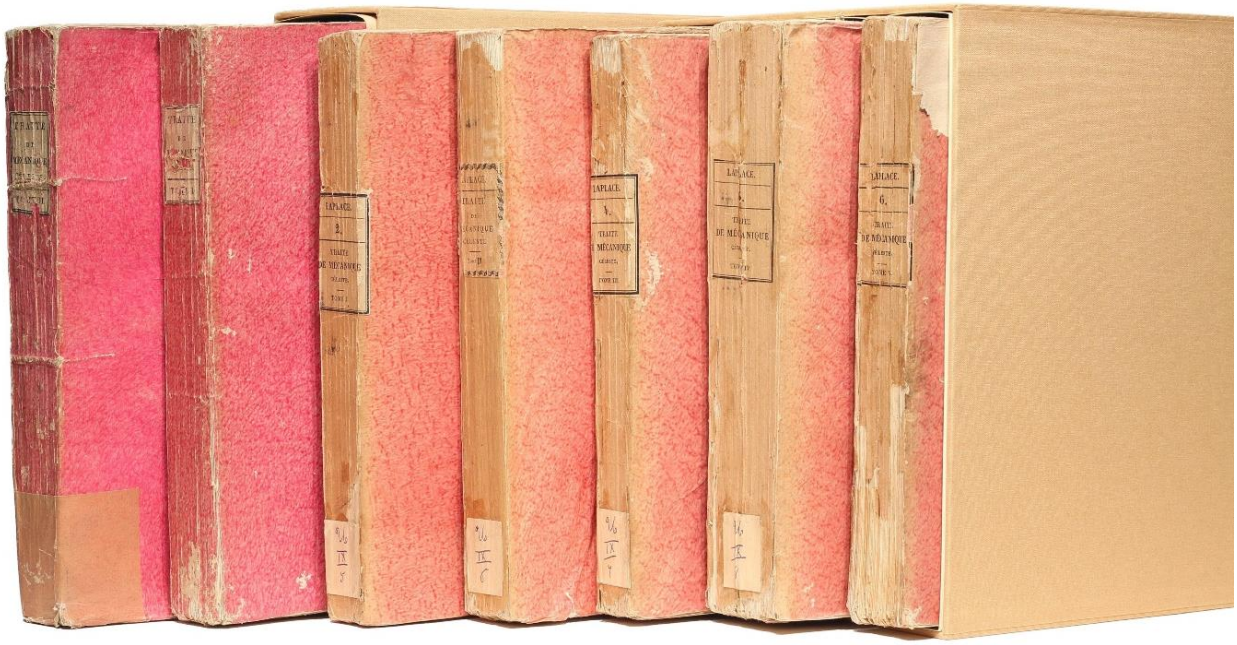


Sparrow 123; Houzeau & Lancaster 8940 - SECOND EDITION, revised and enlarged by the author, of one of the most brilliant and successful popularizations of science ever composed. "In the sixth, and last, chapter of Book V, Laplace introduced a speculation on the origin of the solar system and another on the nature of the universe beyond its confines... The former speculation, which has quite generally come to be misnamed the nebulous hypothesis, was presented with the "misgivings" [défiance] that anything should arouse that is in no way the product of observation or calculation... If we were to find a phrase that would characterize what Laplace had in mind... it would not be 'nebular hypothesis'. It would be 'atmospheric hypothesis'. And if, further, we were to identify the context in which he raised the question at all, it would not be the evolution of history of nature. It would be the probability of cause" (DSB Suppl. I, 344). Laplace merits one of the longest articles in DSB and a 5-page section in it devoted to *The System of the World* was specially commissioned from Dr C.A. Whitney.

The complete set in the rare original wrappers

26 **LAPLACE, Pierre Simon.** *Traité de mécanique céleste*. 5 volumes and 4 supplements of the first edition plus 2 volumes of the second edition of part 1 and 2, all in the original wrappers as issued. Paris: Crapelet for Duprat, An VII [1799] (vol. I-II), Crapelet for Duprat, An XI-1802 (vol. III), Courcier, An XIII-1805 (vol. IV), Bachelier, 1825 (i.e., 1823-1827) (vol. V). Bachelier, 1829 (2nd edition, vol. I-II). 4to (270 x 215 mm). Half-title to each volume, vol. III with "*Supplément au Traité de mécanique céleste …présenté au Bureau des Longitudes, le 17 août 1808*" (pp. 1-24) bound at end; vol. IV with folding engraved plate and two supplements, "*Supplément au dixième livre du Traité de mécanique céleste. Sur l'action capillaire"* (pp. [2], 1-65); and *Supplément à la théorie de l'action capillaire* (pp. 1-78), one unnumbered leaf with "*Table des matières*" on recto and the "*errata*" on verso bound at end; vol. V with "*Supplément au 5e volume du Traité de mécanique céleste. . .*" dated 1827 (pp. [2], 1-35) bound at end. Vol. V without the section titles as usual (not included in this issue). All volumes in the original pink mottled wrappers with original printed spine labels (additional hand-lettered shelf-mark labels to vols. III-V), all pages uncut, vols. I and II of first edition mostly unopened, housed in a custom-made slip-case (spines mostly sun-faded, chipping and wear to spines, spine ends and extremities, wrappers partially torn with some loss). A few pages in vols. III-V little browned, occasional minor spotting, light occasional dampstaining mostly to blank margin of few gatherings, but in all very crisp and clean. Provenance: from a French private collection. A very fine set in original condition, rarely found that complete as here with all the supplements present. (#003346) € 18,000

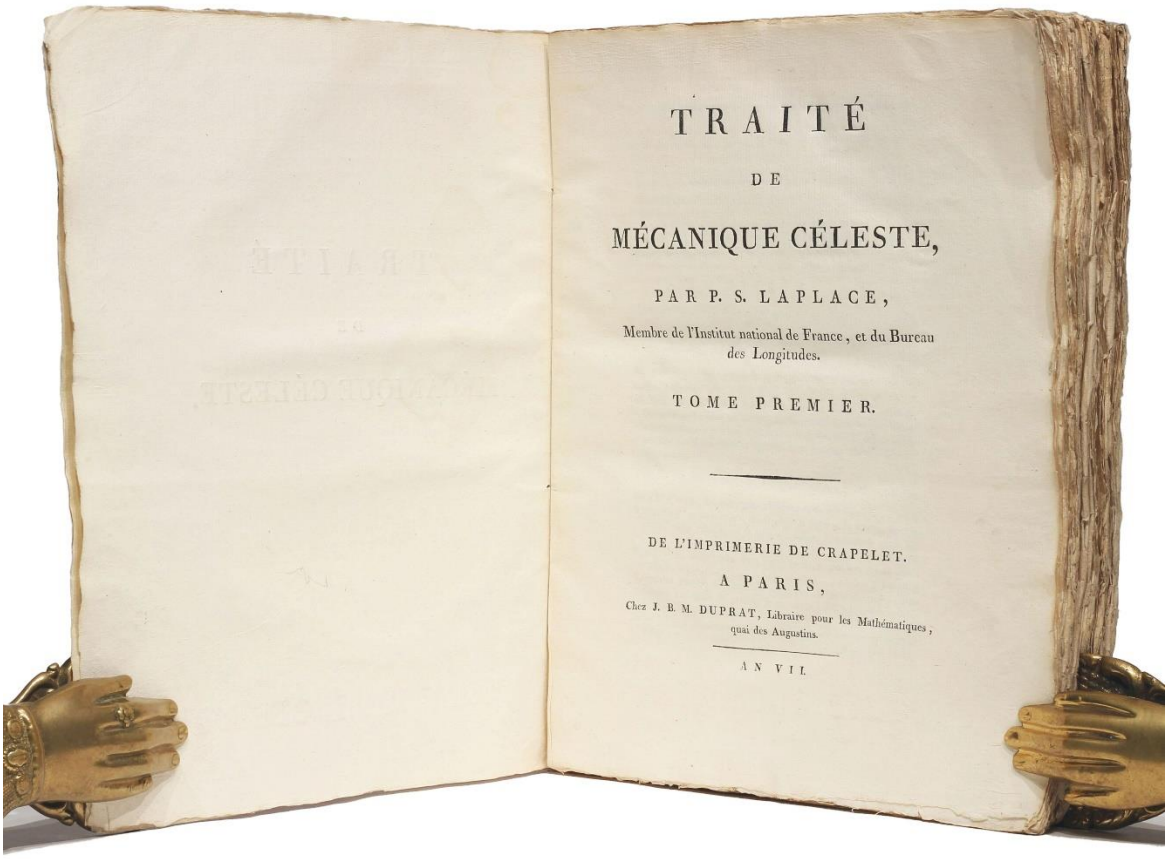
Dibner, Heralds of Science 14; Grolier/Horblit 63; PMM 252; Sparrow, Milestones of Science 125; Norman 1277; Roberts-Trent, p.197. LAPLACE'S FUNDAMENTAL WORK ON CELESTIAL MECHANICS. FIRST EDITIONS OF ALL PARTS, with the first two volumes I and II in FIRST STATE (without the added Berlin imprint). Also included here is the second edition of volumes I and II, which are reprints of the first edition shortly issued after the final vol. V appeared. With these, all French separate editions of the *Traité* are represented in our set in unsophisticated state.



Published over a period of 27 years, Laplace's monumental work codified and developed the theories and achievements of Newton, Euler, d'Alembert and his contemporary Lagrange. In the tradition of Newton's *Principia*, Laplace "applied his analytical mathematical theories to celestial bodies and concluded that the apparent changes in the motion of planets and their satellites are changes of long periods, and that the solar system is in all probability very stable" (Dibner 14). Newton remained uncertain with respect to the continuity of our solar system. In this work, Laplace also offered explanations unsolved by his predecessors and contemporaries. He "offered a brilliant explanation of the secular inequalities of the mean motion of the moon about the earth - a problem which Euler and Lagrange had failed to solve. He proved that these irregularities are connected with certain solar actions 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" (PMM 252). The first four volumes of the work appeared from 1799 through 1805, and contain the laws of mechanics for their application to the motions and figures of the heavenly bodies. The final parts of the fourth volume and the entire fifth volume really constitute a separate work and contain important material on physics not already included in the original sequence.

Only few volumes of the *traité* have survived in original wrappers and complete sets are of utmost rarity. The Haskell Norman set for example had the first 4 volumes in original wrappers but vol. V rebound in modern quarter morocco (see his sale at Christie's 1998, lot 597, sold at $16,100).



TRAITÉ

DE

MÉCANIQUE CÉLESTE,

PAR P. S. LAPLACE,

Membre de l'Institut national de France, et du Bureau des Longitudes.

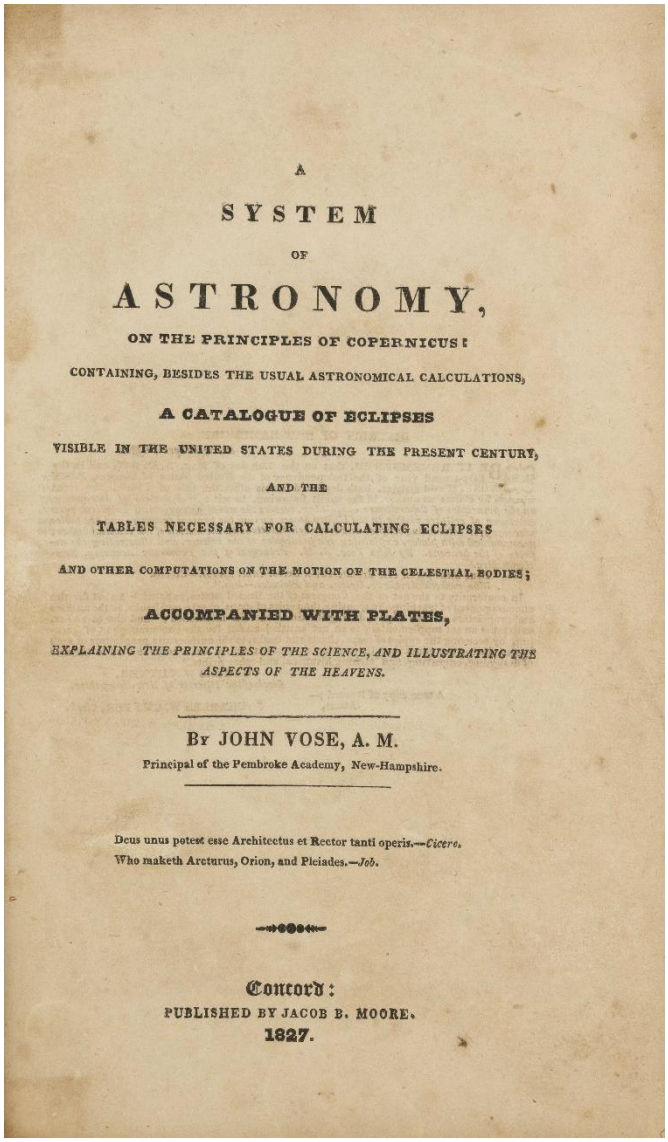
TOME PREMIER.

DE L'IMPRIMERIE DE CRAPELET.

A PARIS,

Chez J. B. M. DUPRAT, Libraire pour les Mathématiques, quai des Augustins.

AN VII.



A

SYSTEM

OF

ASTRONOMY,

ON THE PRINCIPLES OF COPERNICUS:

CONTAINING, BESIDES THE USUAL ASTRONOMICAL CALCULATIONS,

A CATALOGUE OF ECLIPSES

VISIBLE IN THE UNITED STATES DURING THE PRESENT CENTURY,

AND THE

TABLES NECESSARY FOR CALCULATING ECLIPSES

AND OTHER COMPUTATIONS ON THE MOTION OF THE CELESTIAL BODIES;

ACCOMPANIED WITH PLATES,

EXPLAINING THE PRINCIPLES OF THE SCIENCE, AND ILLUSTRATING THE ASPECTS OF THE HEAVENS.

By JOHN VOSE, A. M.

Principal of the Pembroke Academy, New-Hampshire.

Deus unus potest esse Architectus et Rector tanti operis.—*Cicero.*

Who maketh Arcturus, Orion, and Pleiades.—*Job.*

Concord:

PUBLISHED BY JACOB B. MOORE.

1827.

27 **VOSE, John.** *A System of Astronomy, on the Principles of Copernicus; containing, besides the usual astronomical calculations, a catalogue of eclipses visible in the United States during the present century, and the tables necessary for calculating eclipses and other computations on the motion of the celestial bodies; accompanied with plates, explaining the principles of the science, and illustrating the aspects of the heavens*. Concord [N.H.]: Jacob B. Moore, 1827. 8vo (219 x 134 mm). xvi, [17]-252 pp. Bound in contemporary half-sheepskin and marbled boards (rubbing, wear to extremities). Bound without the 11 numbered plates. Text somewhat browned and with some scattered foxing throughout, p. 85/86 with torn lower blank corner. Provenance: G.R.S. Library (inscription on front pastedown also dated 1837, March 31). (#003747) € 550

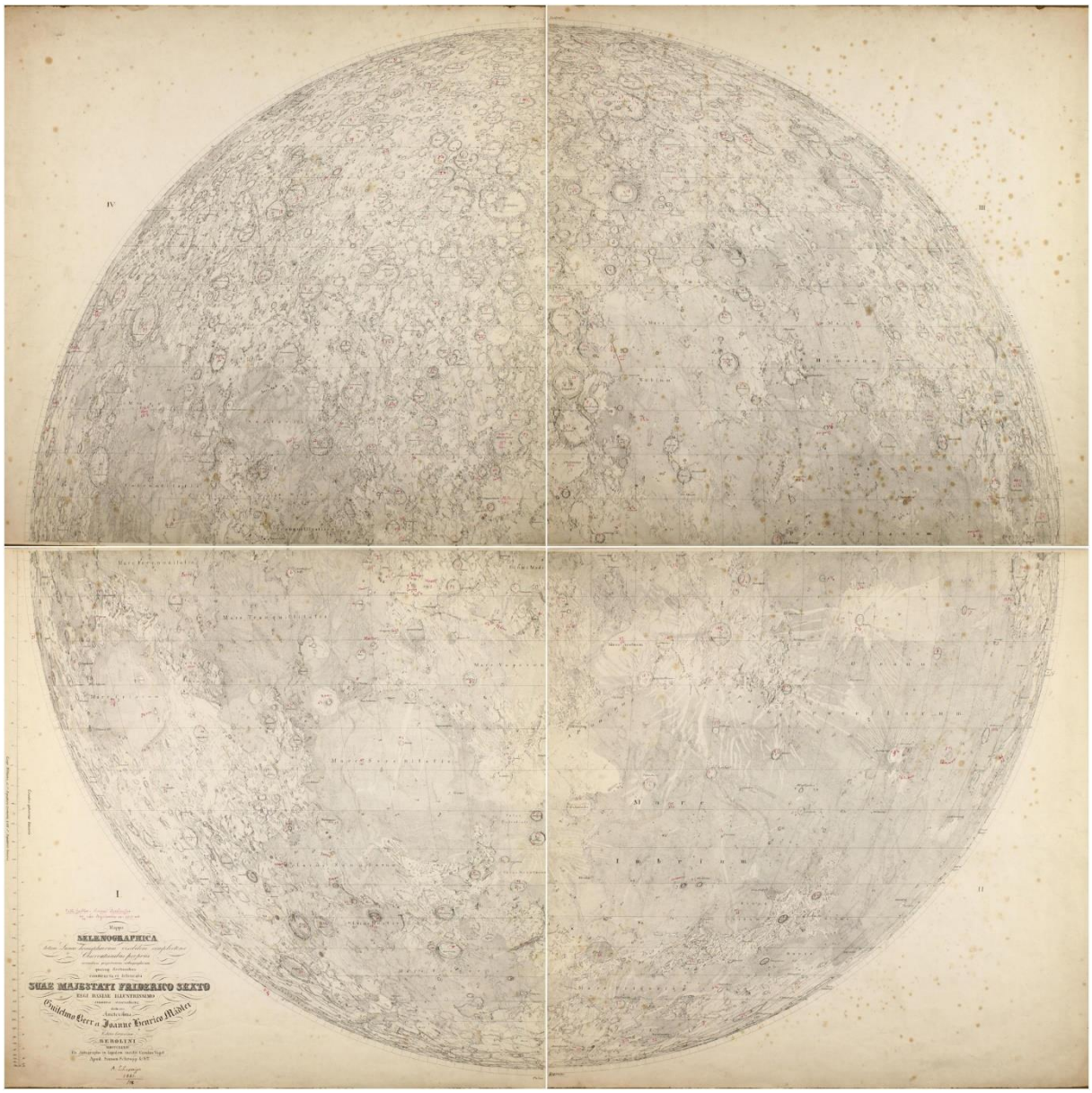
RARE FIRST AND ONLY EDITION of what seems to be the first American book of astronomy based on Copernical principles. The title page calls for plates, but most recorded copies are lacking these, including the Library of Congress copy. The plates have likely been printed and published separately. The author was principal of Pembroke Academy in New Hampshire.

Bibliography: Shoemaker, *Checklist of American imprints for 1820-1829*, 31636; OCLC 78302237.

The most detailed lunar map of its time

28 **BEER, Wilhelm & MÄDLER, Johann Heinrich**. *Mappa selenographica totam Lunae hemisphaeram visibilem complectens Observationibus propriis (...)* Lithographed lunar map by C. VOGEL after W. BEER and J.H. MÄDLER. 4 sections, mounted on a single sheet of brown linen and folding, 95 x 99 cm (total size). Berlin: Simon Schropp & Soc., 1834. Slightly foxed, with owner's entry of A. SCHWEIZER dated 1881, and with num. small annotations in pen and red ink probably by Schweizer, mainly concerning crater sizes. (#002177) € 7500

Ashworth, *The face of the moon*, Linda Hall 16; Honeyman 267; Baldwin, The Face of the Moon 1949, 8--9; Pannekoek, History of Astronomy 1961, 372--3. EXCEEDINGLY RARE. 'This map… constitutes a milestone in the development of selenographical literature'---DSB. 'In 1837 (sic) Beer and Mädler gave to the world the results of seven years' study. Their book, Der Mond and its chart 'Mappa Selenographica' contained an almost unbelievable amount of information . . . they named nearly 150 new formations, using principally the names of prominent scientists'---Baldwin.



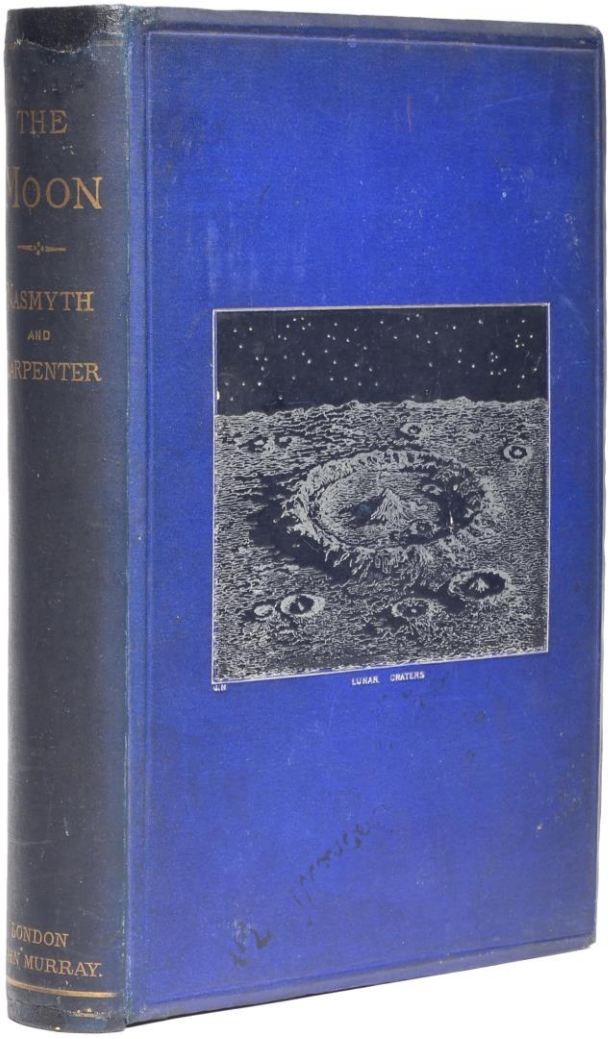
"Because Lohrmann's map did not appear in full until 1878, the Beer and Mädler map has the honor of being the first large-scale moon map to be based on precise micrometric measurements. Beer was a banker and amateur lunar observer, possessing a fine Fraunhofer refractor. Mädler, the major figure in the enterprise, was an astronomer who teamed with Beer to measure the position of every lunar feature from a large number of fundamental control points. The resulting map, the result of four years of effort, is in four sections and is on a scale of just over 38 inches to the moon's diameter, the same as Lohrmann's. It was followed by an accompanying text volume in 1837. The map was without question the most influential lunar publication of the century, and

formed the basis for later maps by T.W. Webb and Edmund Neison ... It is also the earliest, and still the finest, lithographed lunar map" (Ashworth, 16)

J. Norman Lockyer's copy, presented by the publisher John Murray

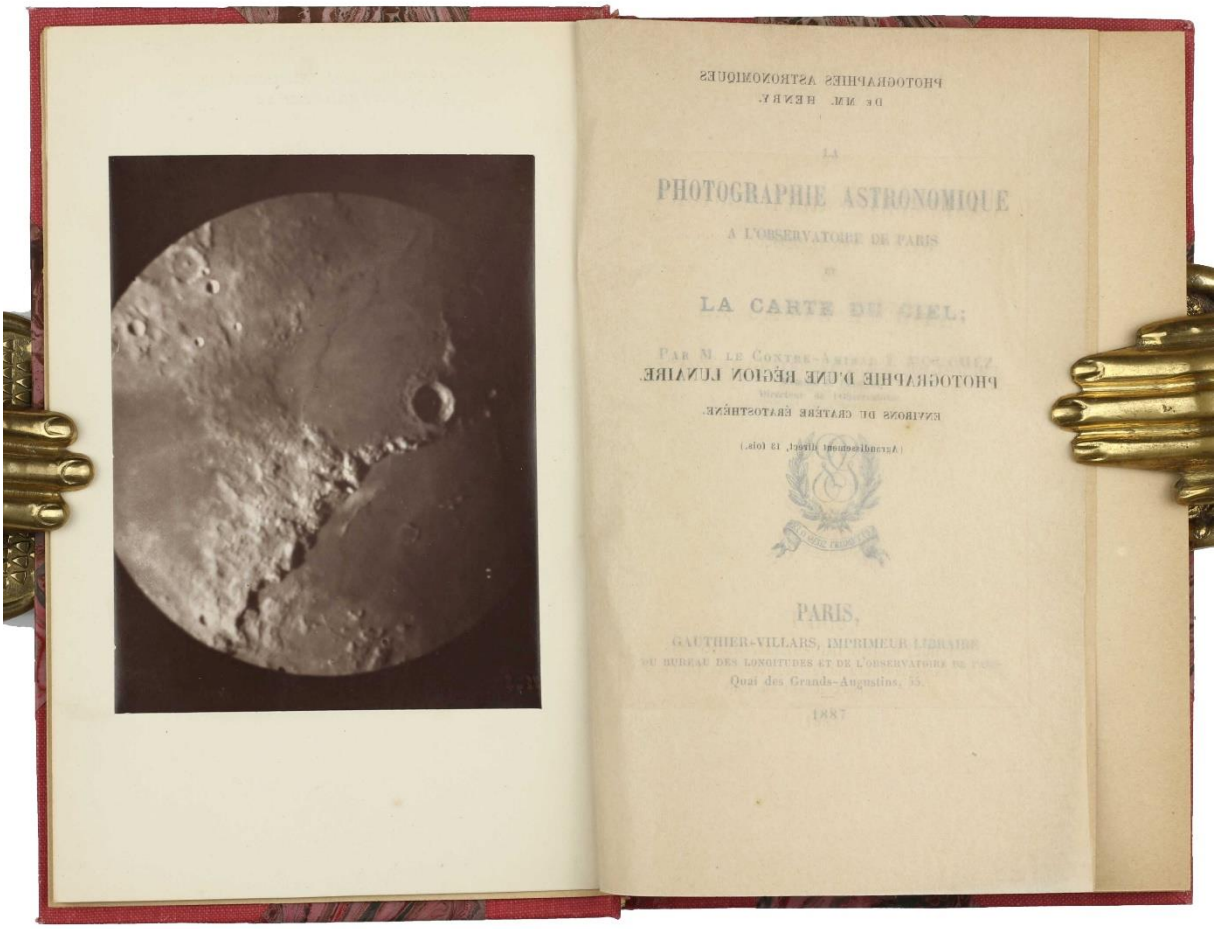
29 **NASMYTH, James Hall & CARPENTER, James.** *The Moon: Considered as a Planet, a World, and a Satellite.* London: John Murray, 1885. 4to (224 x 162 mm). xvi, 213 [1] pp., including half-title, Woodburytype frontispiece, 46 text illustrations, and 24 mounted Woodburytypes and one chromolithograph. Pages uncut and largely unopened. Original Publishers silver-pictorial cloth with depiction of lunar craters on front cover (soiling of boards, spine ends repaired). Text with light browning and occasional minor spotting and dust-soiling, the plates with some foxing in margins. Provenance: J. Norman Lockyer*, ink stamps to frontispice verso and title-page, presented by the publisher John Murray (ink stamp "with Mr. Murray's compliments" to title-page; Nature publishing house (ink stamp to title-page "Nature / Bedford Street / 8 Nov 1885"). Interesting association copy. (#002773) € 3500

The Photobook, p.51; Ashworth, *The face of the moon*, Linda Hall, 20. - THIRD EDITION. Compared to the previous editions, considerable smaller in size. “Photographers sometimes adopted realism over naturalism in order to render motifs more literally. On occasion, however, the reverse was true: photographers attempted to deceive through extremely literal treatment. The artist Les Levine once claimed iconoclastically that the folksaying “the camera never lies” is a lie. Nasmyth and Carpenter’s The Moon presents an elaborately devised model photographed with the clarity of a subject at an arm’s distance. The deception was necessary because successful astronomical photographs of sharp definition and good contrast were not possible until the twentieth century with the advent of sensitive films and efficient lenses. The Woodburytypes proved to be exceptionally effective illustrations and, doubtless, many readers were misled to think that they were seeing the face of the moon itself.” -- Truthful Lens, p. 38. This work is also notable for its original publisher’s decorated cloth binding; it is reproduced in The Truthful Lens as fig. 6. (Ashworth 20).



*Joseph Norman Lockyer was born in Rugby in Warwickshire on 17 May 1836. "A clerk in the UK government's War Office by day, Lockyer was a keen and talented young amateur astronomer by night - he was later to discover the element helium in the corona of the Sun by using a spectroscope. He shared a train carriage to London each day with John Ludlow and David Masson, both friends of Alexander Macmillan, and they asked him to be the science editor of their proposed new weekly, *The Reader*, which was to cover the arts, literature and science. *The Reader* was in many ways an early forerunner to *Nature* - thirty-eight people who supplied reviews to *The Reader* all later contributed to *Nature*... It's not clear who proposed the title "Nature", but a letter in July 1869 from Huxley to Lockyer reveals that Macmillan made the final decision. (source: Springer Nature website).

30 **MOUCHEZ, Ernest**. *La Photographie astronomique a l'Observatoire de Paris et la carte du ciel*. Paris: Gauthier-Villars, 1887. 8vo (184 x 115 mm). 107 [3] pp., including half-title, 7 plates (1 folding), of which 4 with original photographs tipped to mounts (one bound as frontispiece), each with printed tissue guard, 3 text illustrations, final leaf blank. 20th century three-quarter red cloth and marbled boards, spine with hand-lettered paper label (light sunning of spine). Text somewhat browned, first gathering starting. (#003671) € 1600

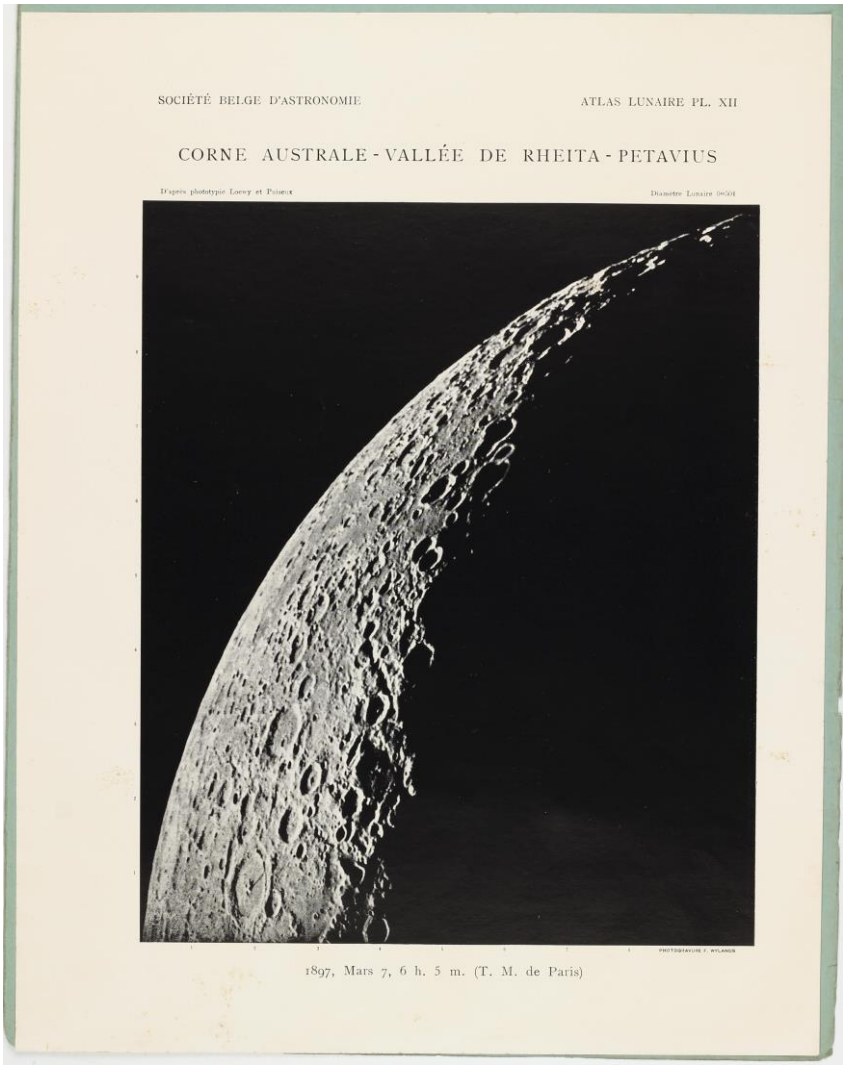


FIRST EDITION. Extracted in part from the Bureau des Longitudes' *Annuaire pour l'an 1887*. Mouchez, an astronomer and cartographer, launched a plan to compile a photographic map of the sky, enlisting the help of over a dozen observatories using the photographic telescope of Paul and Prosper Henry of the Paris Observatory. The present work describes this plan and includes four striking original photographs of the moon, Saturn and Jupiter. Mouchez, who became director of the Paris Observatory in 1888, expected that a complete photographic star map would be produced by 1891; however, the project still remains incomplete and may never be realized. See Frizel, ed., *A New History of Photography*, pp 278-79; illustrating one of the plates from this book on p 273.

The famous photographic atlas of the moon in reduced scale

31 **LOEWY, Maurice & PUISEUX, Henri**. *Atlas lunaire; reproduisant à une échelle réduite aux 2/5 les agrandissements photographiques; Atlas photographique de la lune*. Bruxelles: Société Royale Belge d'Astronomie, de Météorologie et de Physique du Globe, 1899. Fascicule 1-12 (all published). Folio (330 x 250 mm). 2 sheets of text and 71 half-tone prints after photographs by Loewy and Puiseux. Each photographic plate accompanied by a printed overlay, with principal features named and highlighted. 12 fascicles in original green printed wrappers, preserved in clamshell box. Little age-toning to overlays, occasional very minor spotting of plates, most wrappers split at fold ends but holding (split fold of wrapper to fasc. 1 repaired with tape), short closed tear to plate XXXI overlay, wrapper to fasc. 12 creased, with closed tear (residue of former tape) and torn lower corner at fold. An outstanding copy in unusual fine condition. (#002122) € 45,000

THE RARE REDUCED-FORMAT EDITION, REPRODUCING ALL OF LOEWY AND PUISEUX'S FAMOUS PHOTOGRAPHS at a more portable 2/5 scale, and issued in parts at roughly the same time as the first edition of 1896-1910. Loewy and Puiseux's was the first large-scale photographic atlas of the moon, and "the ultimate achievement of nineteenth-century astronomical photography" (The Photobook). It was only in the 1960s that images substantially better than those of Loewy and Puiseux were obtained (NASA's Lunar Ranger missions). Because perfect weather conditions were needed, the project took 14 years to complete. During this period only 50 or 60 nights per year exhibited the ideal weather conditions, and from those nights only 4 or 5 usable negatives could be produced. Like the large-format edition, this edition comprises 71 plates (The Photobook I, pp. 54-55).



Exceedingly rare (much rarer than the large-size edition) especially as with the original printed wrappers. Copies catalogued on OCLC/WorldCat appear mainly incomplete, with between 35 and 65 plates only. Only 3 libraries could be identified holding complete copies (Paris Observatory, Linda Hall Library, and Univ. Ramon Lull, Spain). One copy only of this edition appear to have come on the market in the past 50 years (bound up, heavily trimmed and lacking most original wrappers as well as the two text leaves; Bonhams sale 2013).

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