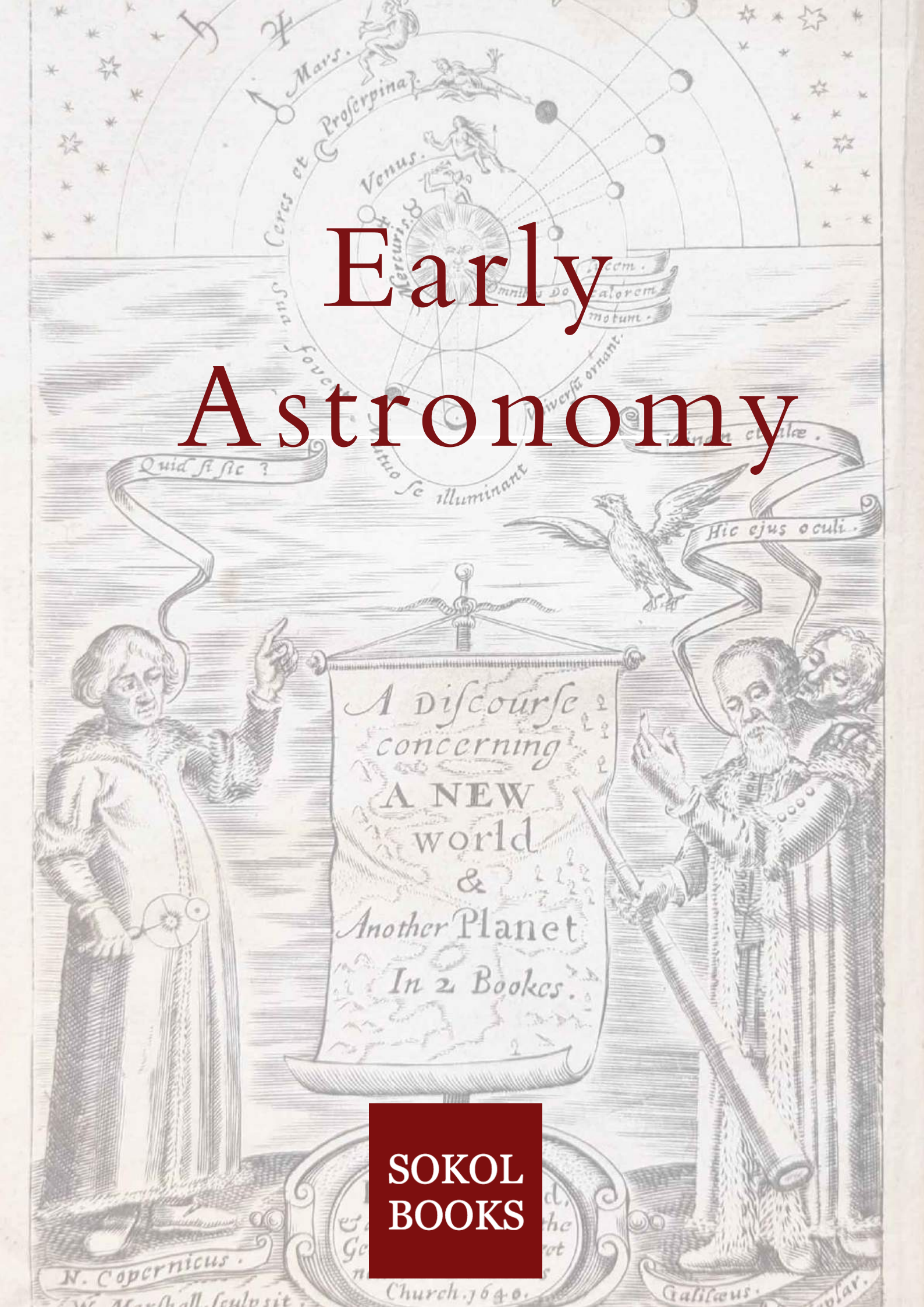

Early Astronomy

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SOKOL BOOKS

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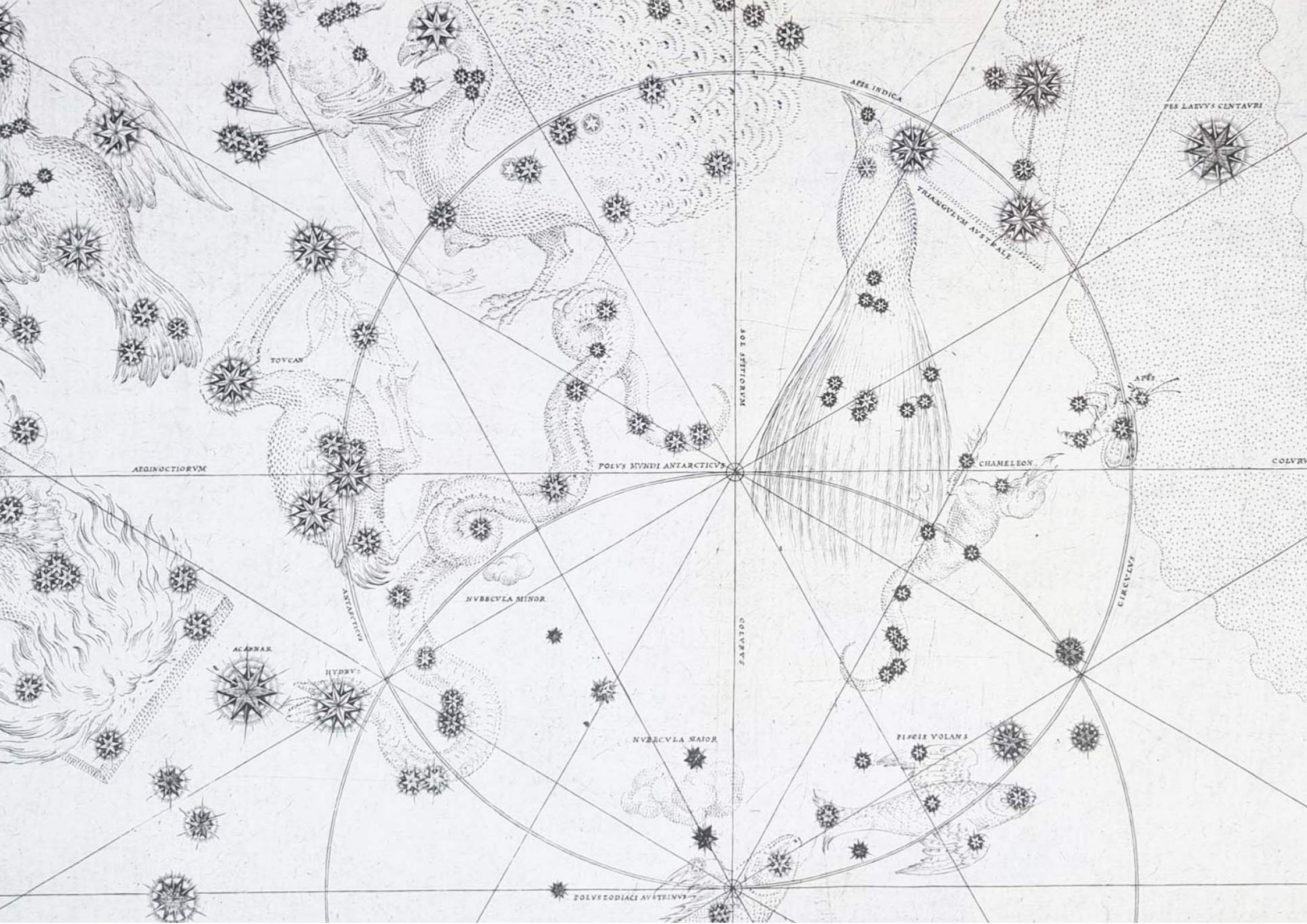

APIS INDICA
PES LAEVVS CENTAVRI
TRIANGVLVM AVSTRALE
TOVCAN
APES
AEQVINOCTIORVM
POLVS MVNDI ANTARCTICVS
CHAMELEON
COLVRVS
SOL STITIORVM
ANTARCTICVS
NVBECVLA MINOR
CIRCVLVS
COLVRVS
ACHERNAR
HYDRVS
NVBECVLA MAIOR
PISCIS VOLANS
POLVS ZODIACI AVSTRINVS

1

IMPORTANT SOURCE FOR THE YOUNG COPERNICUS

ALFONSO X, King of Castile and Leon. *Tabule & Theoremata.*

Venice, Lucantonio Giunta, 1524, November.

£4,950

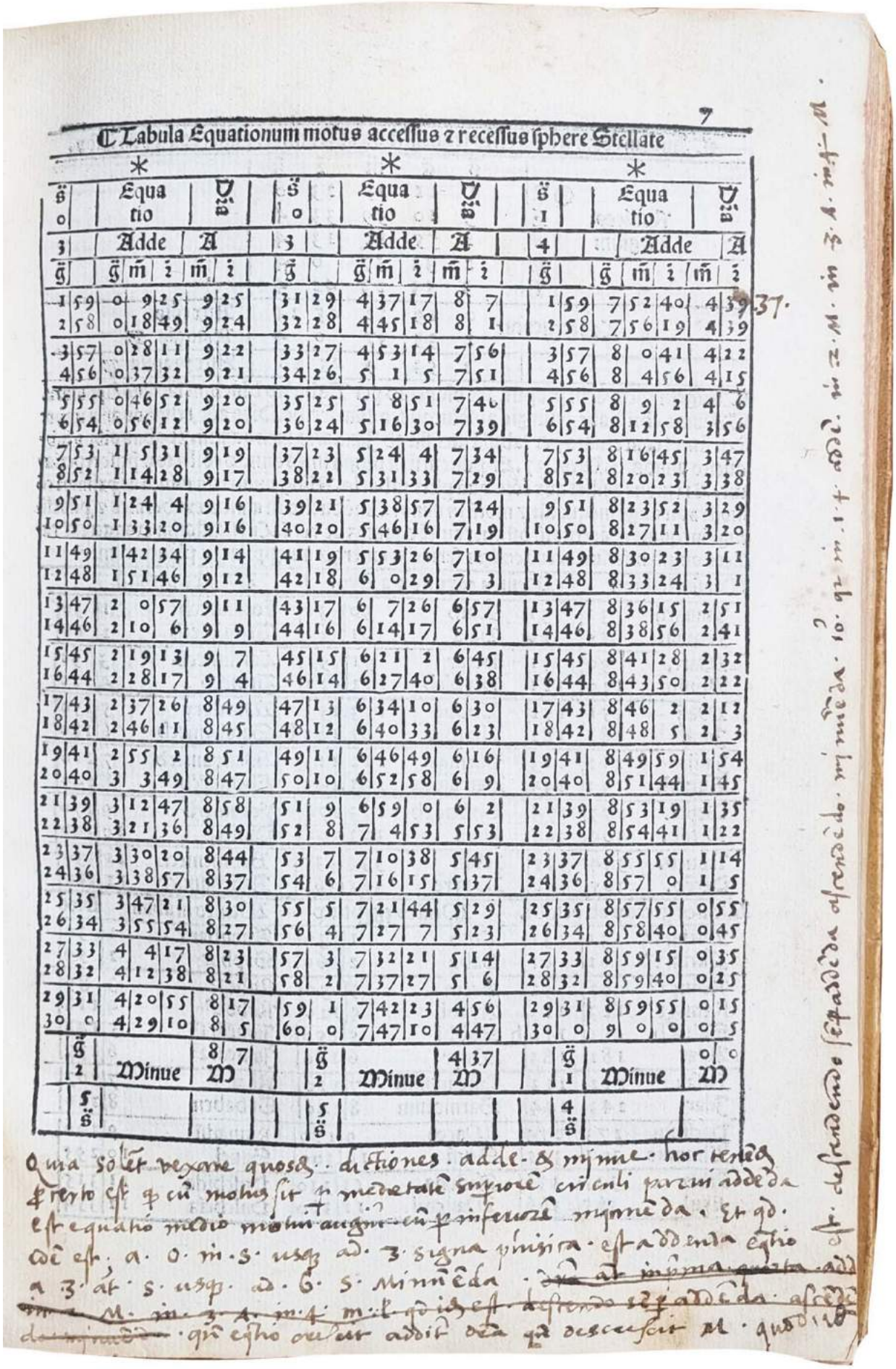
FIRST EDITION thus. 4to. 2 parts in one. ff. 123, (i) 27, (i). Roman letter. Title page in red and black, Giunta's small fleur de lys device in red on first t-p, repeated in black on recto of last leaf of first part, and on second part title, small woodcut initials, woodcut tables throughout, two large circular woodcut diagrams depicting the solar cycle, contemporary detailed marginal annotations in places, armorial bookplate "Mannington Hall" (seat of Lord Walpole) surmounted by an earl's crown with motto "Fari quae sentiat" on front paste-down. Light age yellowing, occasional light water stain, the odd mark or spot. A good copy, crisp and clean in contemporary limp vellum, pig skin ties and ball catches.

An attractive copy, beautifully printed by Lucantonio Giunta, of the work which underpins Alfonso X's "lasting scientific fame" (DSB); the first edition with an additional table by the astronomer and mathematician Luca Gaurico, perhaps best known for the first published Latin translations of Archimedes' works 'De Mensura Circuli' and 'De Quadratura Parabolae'. Astrologer and mathematician, Luca Gaurico was appointed professor of mathematics at Ferrara, in 1531 where Scaliger was one of his pupils. Gaurico may have met Copernicus at Padua, as they were both at the university in the early years of the 16th century, and would have shared a common interest in Ptolemy and Archimedes.

Alfonso X ('The Wise', 1221 – 1284), was an enthusiastic sponsor of the translation of Arabic works, especially, astronomy, into Latin and Castilian. The commission of the present work was his most enduring achievement, it became known as the Tablas alfonsinas and was widely popular throughout the Middle Ages, the Spanish text from which it was translated having been lost. The tables were not widely known, however, until a Latin version was prepared in Paris in the 1320s. Copies rapidly spread throughout Europe, and for more than two centuries they were the best astronomical tables available. First printed in 1483, the Alfonsine Tables were an important source of information for the young Nicolaus Copernicus before his own work superseded them in the 1550s. A theoretical text for astronomers, the tables were used to predict the motions of the planets and stars (cf. Kenney, no. 3). By following the rules of calculation, in principle the user could derive the positions of the planets for any given time or place. Astronomical tables were also used to determine lunar phases, eclipses and calendrical information. Essentially, the work was a translation of the Toledan Tablets of the Cordoban astronomer al-Zarqali (Archazel, c. 1029 – c. 1087), with some new observations made in the years 1262-1272. It followed the general format of al-Zarqali's earlier compilation and, with only minor qualifications, retained the Ptolemaic system for explaining celestial motion. The first printed edition was Ratdolt's in Venice, in 1483, and there were nine subsequent editions (the last one in 1649). The Alphonsine Tables, as they became known, were a standard work of reference for astronomers, cosmographers, astrologers and navigators for nearly five hundred years. A very good unsophisticated copy.

Not in BMC STC It. C16th. Brunet I, p.199. Cantamessa I p. 77. Graesse I 86. Houzeau & Lancaster 12487.

L1712



1. ALFONSO X, King of Castile and Leon. *Tabule & Theoremata*.
Venice, Lucantonio Giunta, 1524, November.

2

FIRST MODERN STAR ATLAS

BAYER, Johann. *Uranometria.*

Ulm, Johann Görlin, 1639.

£29,500

Large folio, ff. 52, including 51 full-page engraved celestial plates. Roman and Greek letter. Handsome engraved architectural t-p, depicting the standing figures of Atlas ("the earliest teacher of astronomy") and Hercules ("the earliest student of astronomy") on pedestals to the sides, gods Apollo (the sun), Cybele, and Diana (the moon) at head, a Capricorn and a view of Augsburg at foot, with printer's device and monogram AMF, for "Alexander Mair fecit". Very minor foxing and finger-marks to a few outer blank margins. A very good copy, crisp and clean, in contemporary vellum, covers triple blind ruled. C19 bookplate of 'M.A. Colson' to front pastedown, contemporary ms. note concerning Bayer's 'Explicatio characterum' (1624) and ex libris "Sam. Eglingeri D. Anno MDCLXVII" to verso of fly, calligraphic signature "C. ab Hettlingen" to verso of last.

An excellent copy, the plates in clean, clear impression, of the second edition of Bayer's stunning and most influential star atlas, comprising 51 engraved celestial plates. First printed in 1603, this is considered the most complete catalogue of pre-telescopic astronomy.

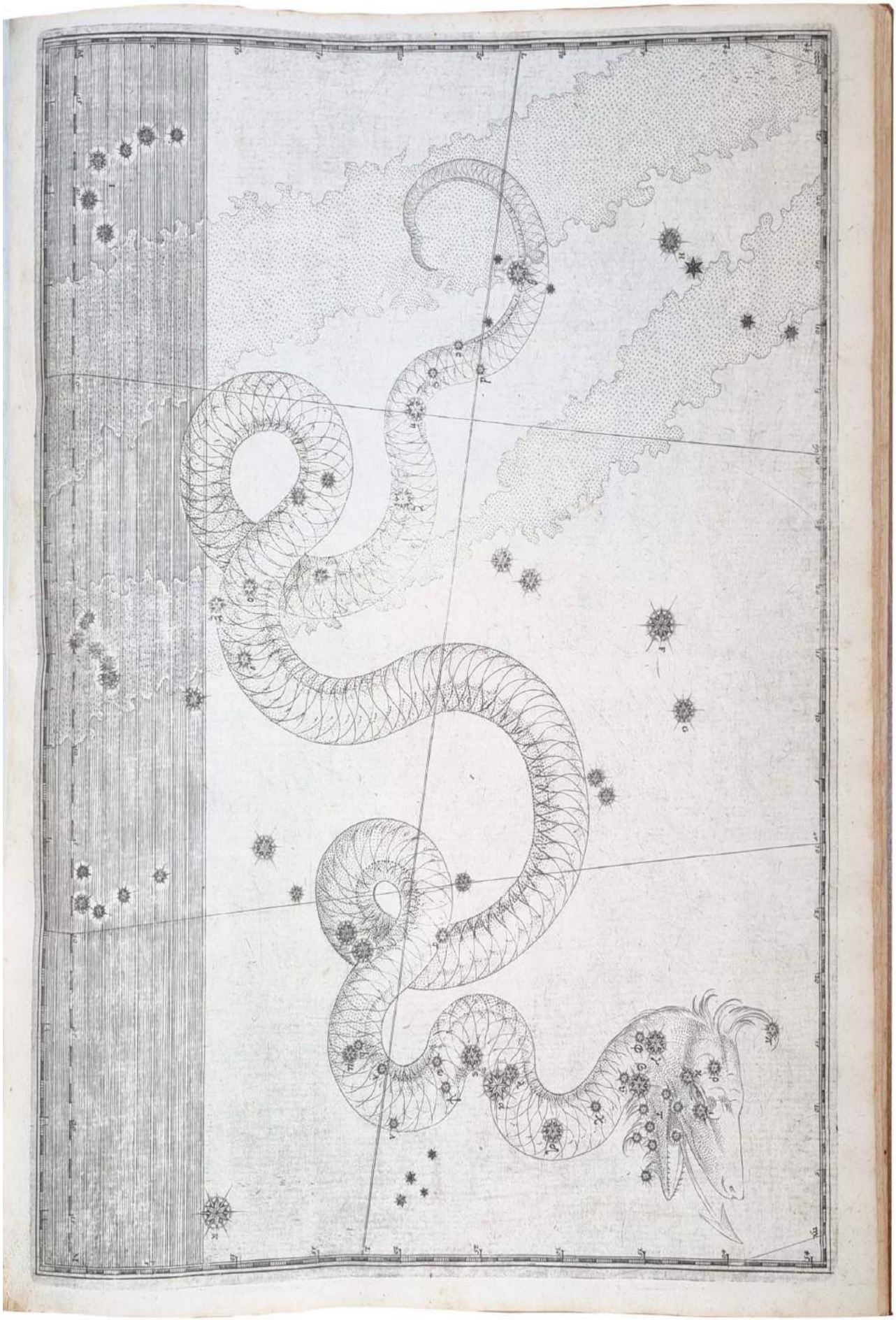
Johann Bayer (1572-1625) was a German lawyer of Rain (Bavaria), who graduated at Ingolstadt and became legal adviser to the city council of Augsburg. Among his many interests were archaeology and mathematics, but his true passion was astronomy and particularly studying the location of stars in the sky. Bayer is today most known for his activity as uranographer (celestial cartographer) and for his "Uranometria" (here). This work illustrates over 2,000 stars, many more than any previously published atlas. The main source of data regarding the stars' position was a recently published catalogue by the Danish astronomer Tycho Brahe (1546-1601), to which Bayer added c.1000 stars from the Almagest and his own observations. Remarkably, here Bayer "introduced the convention of labelling bright stars by Greek letters, a system that astronomers still use. They are now commonly termed Bayer letters. For example, on this scheme the bright star Betelgeuse is also known as Alpha Orionis, meaning Alpha of Orion […]. Contrary to popular belief Bayer did not letter the stars in strict order of brightness – in fact, magnitude estimates at that time were not good enough for this to have been possible. What he actually did was to group the stars into magnitude classes, from first to sixth, then allocated letters to the members of each class as he saw fit." (Ridpath).

The exquisitely engraved plates were realised by the German engraver Alexander Mair (c.1559-c.1620) on the basis of drawings made by the Dutch painter Jacob de Gheyn (1565-1629); they have been defined "a true work of art" (Ridpath). There are 48 plates depicting Ptolemaic constellations, followed by, in pl. 49, the first representation of the southern sky, depicting 12 new constellations first observed by Dutch navigators P. Keyser and F. de Houtman during a voyage to the East Indies in 1595. Constellations are always presented with the traditional mythologic outlines, but they are also placed in a carefully engraved coordinate system grid of longitude and latitude. The two final charts are planispheres, respectively illustrating the northern and southern celestial hemispheres. Due to its completeness and artistic quality, Bayer's atlas became highly popular. It was reprinted eight times between 1648 and 1689. A remarkable feature of this second ed. is the improved readability of the plates. In the first, tables of the stars were printed on the back of each chart, but the lettering showed through the page spoiling the beauty of the illustrations. For this reason, the tables were removed from all subsequent editions and printed as a separate star catalogue titled 'Explicatio characterum aeneis Uranometrias' (1624).

The ex-libris likely belongs to Samuel Eglinger (1638-73), a mathematician and doctor active in Basle and author of a few medical works.

VD19 29:735361S. This ed not in USTC, BM STC Ger. 17th century, Shirley. Not in Houzeau and Lancaster or Graesse. I. Ridpath, Star Tales (2018).

L3802



2. BAYER, Johann. *Uranometria*.
Ulm, Johann Görlin, 1639.

3

LIVES AND WORKS OF THE GREAT ASTRONOMERS

GASSENDI, Pierre. *Tychonis Brahei […] vita. Accessit Nicolai Copernici, Georgii Puerbachii, & Joannis Regiomontani, astronomorum celebrium, vita.*

The Hague, A. Vlacq, 1655.

£3,250

4to. 2 parts in 1, half-4to. 2 parts in 1, half-title to second, pp. [4], lx, 373, [11]. Title in red and black, engraved frontispieces with Tycho Brahe portrait within arch decorated with his family's armorial shields, and oval portrait of Copernicus, 2 woodcut diagrams, decorated initials and ornaments. Occasional very light yellowing, first frontispiece and title a bit soiled from printer's offsetting, paper flaw to upper outer corner of I3. A very good copy in late C17 English calf, double blind ruled, blind-stamped fleurons to corners, raised bands, spine gilt and gilt-lettered, outer edges gilt, two corners and spine a bit rubbed, covers a trifle faded, Earls of Macclesfield armorial bookplate (North Library, 1860) and earlier ms shelfmark to front pastedown, Macclesfield's blind stamp at head of frontispiece, title and following leaf, early ms price(?) at foot of title.

A very good copy, of illustrious English provenance, of the second edition of this most successful biography of great early modern astronomers, first published in 1654 – an early example of science presented to a popular audience. Pierre Gassendi (1592-1655) was a French Jesuit, philosopher and mathematician, an opponent of Descartes's rationalism, and a follower of empiricism against Aristotelianism. His important experiments spanned astronomy (he was the first to observe the transit of Mercury across the Sun), the measurement of the speed of sound, and the use of camera obscura to measure the diameter of the moon. 'Privately he was in favour of Copernicanism, but as a Jesuit priest in Catholic France, he found it unwise to make his sympathy publicly known. He therefore supported the Tychonian world system as a compromise approved by the Church, if only as a substitute of the heliocentric system he believed in' (Kragh, p.124).

The present work is mostly devoted to the Danish astronomer Tycho Brahe (1546-1601), handsomely portrayed on the engraved frontispiece; to his biography, in six parts, are appended those of Copernicus, Peuerbach and Regiomontanus, added at the publisher's request. Gassendi focused, in non-judgemental manner, mainly on his life and work, including excursions into his side-interests in alchemy, astrology and Neo-Latin poetry, and his family history. Brahe theorized the 'geo-heliocentric' system – here illustrated with a woodcut diagram – in which the Sun and Moon orbited the Earth, whilst the other planets orbited the Sun. However, Gassendi's biography discussed mostly Brahe's talent for empirical astronomical observations, organized chronologically and described in detail, from the instruments he used. Anecdotes revealing Brahe's known eccentricities include how he lost his nose in an argument in 1566, often wearing a prosthesis in later years, and how he owned a trained pet elk who died falling from the stairs, after drinking beer. The last three, much shorter biographies discuss in similar fashion the life and observations of Copernicus (1473-1543), with a diagram illustrating his heliocentric theory (with a woodcut); the Austrian astronomer Georg von Peuerbach (1423-61), a supporter of the Ptolemaic model and author of 'Theoricae Novae Planetarum' (1472), the standard astronomy text for several decades; and the German astronomer Regiomontanus (1436-76), whose discoveries provided the basis for Copernicanism. Lord Macclesfield's was the great English scientific library of his day. He was a pall-bearer at Newton's funeral.

Houzeau-Lancaster I, 6190. Not in Graesse.

L4093

3. GASSENDI, Pierre. *Tychonis Brahei […] vita.*
The Hague, A. Vlacq, 1655.

4

THE ONLY EARLY EDITION

HOOD, Thomas. *The Use of the Celestial Globe in Plano.*

London, [By John VVindet] for Tobie Cooke, 1590.

£7,950

FIRST EDITION. Small 4to, ff. (iv), 43, (lacking final blank). Roman and Black letter. Woodcut printer's device on t-p (McKerrow 237), large floriated and historiated woodcut initials, woodcut head and tail pieces, "Willaim Rose his book 1735" on pastedown, "Moses Roses book" on verso of A4, "Moses Rose his book November 20 1797" on recto of E1, ms. account notes on pastedown and verso of title bleeding through onto recto, similar notes on rear fly leaves, occasional note in margins of text. T-p and verso of last dusty, t-p fore-edge slightly frayed, occasional light marginal waterstaining in upper and lower margins, the odd thumb mark and oil splash, small tear in lower blank margin of E3. A good copy, stab bound in contemporary limp vellum, vellum stubbs, binding agreeably soiled and creased.

VERY RARE, only early edition of this work on the use of celestial globes. The text is a dialogue between a Scholar and Master and was intended to aid the student astronomer/ cosmographer/ navigator to recognize the stars and their constellations. It contains a table of stars listing their longitude, latitude, magnitude and constellation. There is also a description of the nova that appeared in Cassiopeia in 1572-4. It was witnessed across Europe and attracted the attention of the best astronomers of the day, among them Tycho Brahe, who published his account in 1575. This new star initially reached the brightness of Venus. Hood recounts the various theories regarding this phenomenon (that it was one of the stars of Cassiopeia or a comet) with much of the argument centering on whether this new light moved or not. By showing that it remained fixed, Brahe proved that it was not an atmospheric disturbance, but a new star. While Brahe himself was not a supporter of Copernicus' theory, that the sun not the earth is at rest at the centre of the universe, his discoveries in relation to the nova made this theory easier to accept.

Hood (fl. 1582-98), a graduate of Cambridge, held the first English lectureship in mathematics and was one of the first popularisers of the 'new learning'. This appointment was initiated and financed in 1582 by Thomas Smith, to whom this work is dedicated. Smith was the first Governor of the East India Company, Governor of the Muscovy Company, Treasurer of the Virginia Company and a patron of science, trade and exploration. Hood's publications, which ranged from an English translation of Ramus' 'Elements of Geometrie' to a guide for mariners, as well as his inventions of mathematical instruments, show the wide scope of mathematics as a discipline in the late C16. He also lectured on geography and navigation. He is credited with popularising astronomy and the Copernican theory in England. This is the first of his two works on the celestial globe; the second was published in 1592. In 1589 Hood was, with Hakluyt, one of the subscribers to Raleigh's Virigina Company; he invented a sector, ancestor of the slide rule and the calculating machine in 1598, the same year as Galileo.

According to the present t-p, one could also buy from Mr Hood himself at his house in Abchurch Lane 'two hemispheres' (22 inch square) to use with the present text. They illustrate the various constellations and stars by human and animal figures. Regrettably however they were very rarely united with the book and where they have survived they have generally done so separately. 'There is a copy in the British Museum, the text (without the plates) being in the Library, and coloured impressions of the two planispheres in the Map Department. This is the only copy noted in the STC. Bishop adds three further copies in America, i.e. Washington, New York P.L., and Charlotesville, and of these Charlottesville alone has any plate, and only the South Polar Region' (Hind I, p.142).

STC 13697 (4 libs. + Kraus in US) 'Tp has advt. for the sale of the hemispheres at the author's house in Abchurch Lane. They are eng. by A. Ryther and lacking in most copies'. ESTC s118875. Hind I, p.139. Houzeau and Lancaster 2785. Taylor 'Late Stuart and Early Tudor Geography', 346. Not in Honeyman.

L1174

Ma. You muſt imagine that through euerie degree of the ecliptike, and through euerie point thereof, there paſſeth a line of longitude, which if they had bene all expreſſed, would haue greatly defaced the worke.

Sch. **How ſhall thoſe that are wanting be ſupplied? and how ſhall I find the longitude of all thoſe ſtarres which are not preciſely vnder ſome one of theſe lines?**

Ma. Faſten a ſilke threed to the Center of each Hemiſphere, and vpon the threed put a ſmall bead which maie ride vp and downe the threed at your pleaſure.

Sch. **How ſhall I vſe the threed?**

Ma. You muſt note this, that either you make choiſe of ſome ſtarre, and would find out the longitude, or elſe you know the longitude, and would finde out the ſtarre. If you chuſe the ſtarre in either of the Hemiſpheres, & would find out the longitude thereof, ſtretch forth the threed ouer the ſtar vntill it touch the vttermoſt circle of the Hemiſphere, ſo ſhall you finde out the longitude of the ſtarre propounded, according to the degree vppon which the threede lighteth.

Sch. **But there are three circles diſtinguiſhed into degrees, in which of them muſt the longitude be taken?**

Ma. In which you pleaſe: for all of them ſhew the longitude, but diuerſly. For this you are to note, that the longitude of the ſtarres is reckoned three manner of wayes. Firſt, from the vernall equinoctiall point, that is, from the head of that ſigne which is called Aries: this longitude is called *Longitudo vera*, the true longitude, and conteyneth as you ſee, 360. degrees, the which degrees are the innermoſt, next to the center of the Hemiſphere. Secondly, the longitude of the ſtarres, is counted from the firſt ſtarre in the Ramme, which is that ſtarre that is in his horne next aboue his eare: the which kinde of account *Copernicus* doth follow, and *Clauius* after him, the degrees of this longitude are in the middeſt. Thirdly, the longitude of the ſtarres

ſtarres is counted from the head of *Aries*, but not by continuall ſucceſsion of degrees from 1. to 360, but according to the ſignes of the Zodiacke: ſo that in this reſpect, if we be demaunded of the longitude of any ſtarre, as for example of the *Lions heart*, we doe not ſay as *Ptolomie* vſeth to ſpeake, that it is in the 143. degree, and 43. minute of longitude, or as *Copernicus* would anſwere in the 115. degree, and 50. minute, but we ſay it is in the 23. degree, and 43. minute of *Leo*. Theſe degrees of longitude are the vttermoſt, and vnder them are ſet the names and characters of the twelue ſignes.

Sch. **I pray you what is the reaſon why *Copernicus* did not beginne to count the longitude at the ſame place where *Ptolomie* began?**

Ma. It may be he affected a certaine ſingularitie, that as he had diſagreed from other Aſtronomers in the order of the celeſtiall orbes, ſo in this account alſo he would differ from them. Or elſe he might haue this reaſon: He ſaw that the fixed ſtarres had alwayes one and the ſame diſtance or longitude from the firſt ſtarre in the *Ramme*, but not from the vernal equinoctiall point, and this alſo hee found to be true, that their latitude did neuer alter: therefore inſomuch as he deſired to haue the longitude of the ſtarres as certaine as the latitude, hee began rather at the firſt ſtarre in the *Ramme*, then at the foreſayde vernall point.

Sch. **Why is that ſame ſtarre placed ſo farre off from the head of Aries? me thinketh it were good to keepe the figure and the ſigne togither.**

Ma. That cannot be; for the ſtarres mouing continually from the weſt toward the eaſt, cannot keepe one and the ſame diſtance from the vernall equinoctiall point, but are caried on forward continually, ſo that the ſtarres which are nowe in the ſigne *Aries*, will bee hereafter in *Taurus*, and from thence will come into *Gemini*, &c.

4. HOOD, Thomas. *The Use of the Celestial Globe in Plano.* London, [By John VVindet] for Tobie Cooke, 1590.

5

GROUND-BREAKING THEORY OF COMETS

KEPLER, Johannes. *De cometis.*

Augsburg, Andreas Aperger, 1619.

£45,000

FIRST EDITION thus. Small 4to. 3 parts in 1, continuous pagination, separate titles, pp. [4], 138 + 5 folding plates, lacking final blank. Roman letter, little Italic or Greek. 2 folding woodcut astrological diagrams, 3 folding woodcut tables, 5 small text woodcut diagrams, decorated initials and ornaments. Slight browning (poor paper), occasional minor marginal foxing, first gathering slightly trimmed at lower margin with marginal repair, ancient at blank foot of last leaf. A good copy in contemporary vellum, lower compartment of spine repaired.

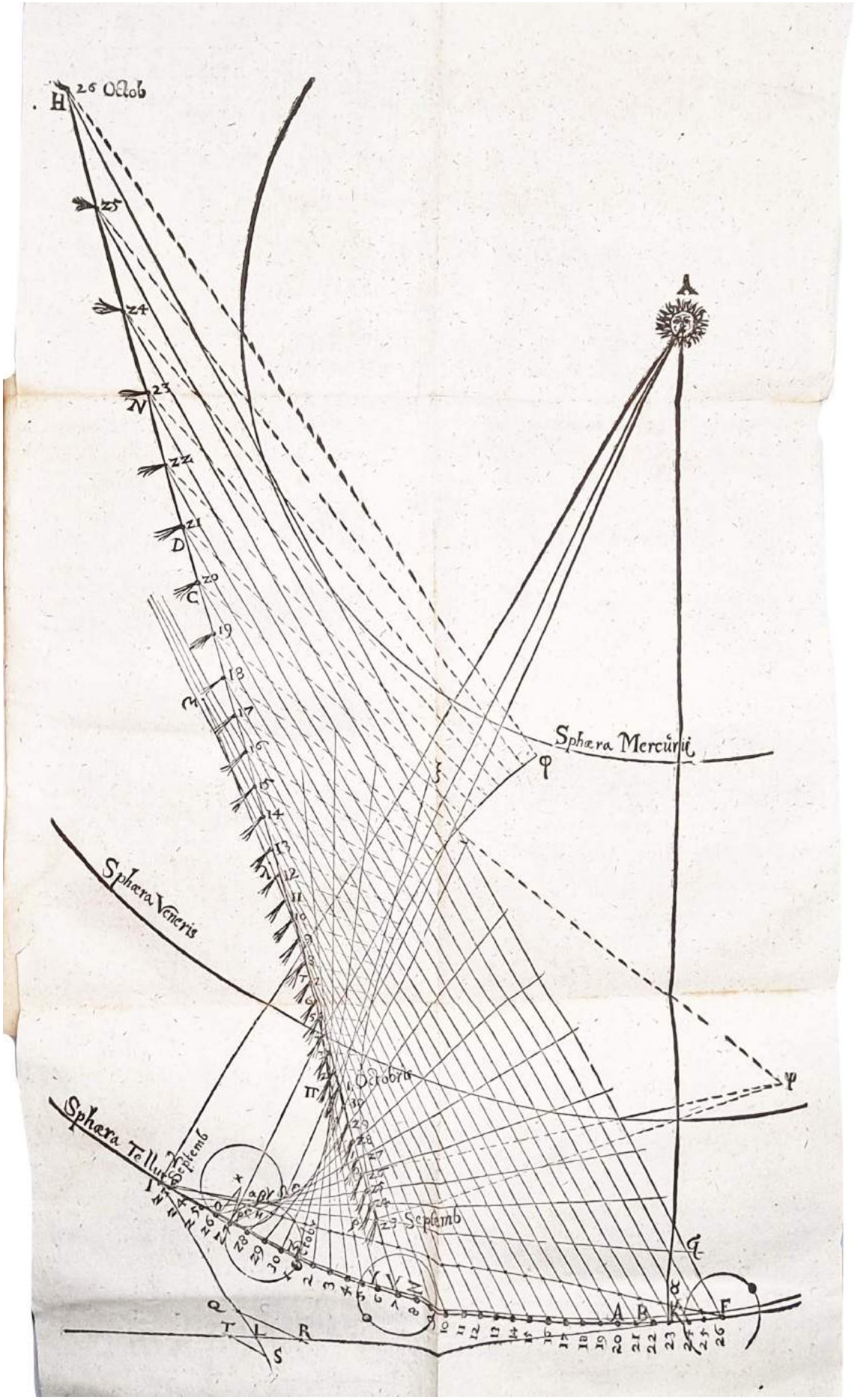
First collected edition – a comprehensive version of Johannes Kepler's theory of comets. It gathers three astronomical works, revised, translated or enlarged from the original, based on his research for the comets of 1607 (i.e., later Halley's, very bright and with a double tail) and 1618 (which he was the first to see through a telescope). The German astronomer Kepler (1571-1630) was assistant of Tycho Brahe at Prague and the mathematician to three Holy Roman Emperors.

He famously adapted the Copernican theory by suggesting planets had orbits that were elliptical, nor circular, with the Sun, and he explained the speed by which planets move around the ellipsis. In 'De cometis', Kepler sought, following Brahe, to overcome the Aristotelian theory by which comets were not considered 'heavenly bodies' but phenomena caused by changes in the weather (Cantamessa).

Kepler and Galileo were united in continuing the work of Copernicus, Galileo by astronomical observation and Kepler by development of Copernican ideas. In 1610 their connection was close as Kepler helped Galileo in his struggle for 'Sidereus Nuncius'. Eight years later they famously differed on the origin of comets – the case of the three comets discussed here. Galileo defended their earthly origin, Kepler maintained their origin as cosmic and of course was right. In fact, he thought comets as 'spherical transparent objects refracting the sun's rays' (Heidarzadeh, p.65). The collection begins with 'Astronomicus', on theorems of the movement and trajectory of comets, and a discussion on their aspect (including tails) and height. The folding diagram detailing the trajectory of the Halley comet shows how he sought to map its route through the heavens, making its trajectory a straight line. Part II, 'Physicus', focuses on the physiology of comets, i.e., their nature and formation, and the composition of their tails. Part III, 'Astrologicus', discusses the interpretation or meaning of the 1607 comet, originally published in German, with an added section on the comet of 1618. By applying the rules of judicial astrology, which he criticised without rejecting completely, Kepler examined the influence of comets from the present and the past, connecting, for instance, the 1607 comet to the fatal illness of Empress Anne. A most important work.

Graesse IV, 12; Gardner 615; Thorndike VII, p.23; Cantamessa 4056. Not in Houzeau-Lancaster. T. Heidarzadeh, *A History of Physical Theories of Comets* (2008); M. Beech, *The Wayward Comet* (2016).

L4066



5. KEPLER, Johannes. *De cometis.*
Augsburg, Andreas Aperger, 1619.

6

TERRESTRIAL AND CELESTIAL GLOBES

METIUS, Adrian. *De genuino usu utriusque globi tractatus.*

Franeker, Ulderich Balck, 1624.

£2,750

4to. Two works in one. pp. (viii) 210 (ii) 84. Roman and Italic letter, sep. t-p with printer's large woodcut device to each work, very numerous printed and woodcut scientific diagrams of astronomical and navigational instruments, star and sea charts and geometrical computations. General age yellowing, first t-p with two very old repairs, feint early collegiate ex libris at head, small waterstain to lower inner corner of some ll. A good copy in fine contemp. Dutch morocco, border of gilt flowers within double ruled lines to covers, quadruple blind rules with gilt cornerpieces within, gilt floral ornament within lozenge in centre of both, spine in four compartments each with gilt floret and divided by gilt rules; a.e.g. with the floral border repeated on paper edges nearest corner.

Metius, son of the distinguished cartographer and military engineer to the Dutch States, was born in Alkmaar and studied at the University of Franeker in Frisia and at Leiden under Snellius and Van Ceulen. He worked under Tycho Brahe at his observatory at Hven, moving to Rostock and Jena where he gave his first, and very successful, astronomy lectures. In 1600 he was appointed professor of mathematics, surveying, navigation, military engineering and astronomy at Franeker, a position he held until his death.

He was an acquirer of mathematical and astronomical instruments, observed sunspots, and was familiar with the telescope, of which his brother Jacob was co-inventor.

His lectures were well attended by an international audience including, in 1629, Descartes. Metius wrote extensively (though there is no satisfactory bibliography) and his books were widely used. In astronomy he followed Tycho Brahe's theory of the solar system but also showed respect for the Copernican system.

The present works (2nd. edns. completely revised and enlarged) concern principally the understanding and use of globes, terrestrial and celestial, in particular for the purposes of marine navigation. The proper use of other instruments such as azimuths, quadrants, compasses and astrolabes is also treated in some detail, as well as the principles of astronomy and relevant mathematical propositions, such as the computation of longitude and latitude and of position from the height of the sun, are carefully explained and illustrated with worked examples. In the first half of the C17th the Dutch were probably the foremost seagoing nation and the present work must have had considerable value in training navigators and sea captains and as a practical reference work on their monumental voyages. There are scattered references to Brazil and the Americas.

Graesse IV p. 507 (1st work, earliest edn.). No edn. in Simoni, Alden, J.F.B. cat., Kenney or Honeyman. Houzeau and Lancaster 2820 (1st work only).

L105

Nomina Locor.		Tempus H.	M	Longit. G.	M.	Latitud. G.	M.
Solotium	S	0	22	31	5	47	8
Spira	S	0	18	32	15	49	10
Stienviga	S	0	30	29	15	52	45
Studgardium	S	0	14	33	5	48	39
Spandaw	A	0	5	37	50	52	30
Sivertslaw	S	0	17	32	25	56	2
Swinfurd	S	0	9	34	20	50	3
Syracusa	A	0	23	42	30	38	31
Tyro	S	0	6	35	10	46	28
Tholcha	S	0	59	21	55	43	10
Thorn	A	0	31	44	25	52	34
Toletum	S	1	16	17	40	40	10
Torga	A	0	3	37	30	51	33
Trien	S	0	27	30	0	49	50
Tubinga	S	0	15	32	55	48	24
Valentia	S	0	58	22	5	39	55
Venetia	A	0	6	37	15	45	18
Verona	S	0	5	35	20	44	51
Vienna Austria	A	0	19	41	30	48	28
Ulm	S	0	10	34	5	48	23
Ulisippo	S	1	39	11	55	38	50
Vramburgū Hua.	A	0	9 1/2	36	45	55	54
Wenimar	S	0	4	35	40	51	8
Wesel	S	0	27	29	50	51	34
Wismar	S	0	4	35	40	53	54
Wittenberga	A	0	2	37	15	51	52
Wirtzburg	S	0	11	33	55	49	44
Wolffenbuttel	S	0	7	34	55	52	25
Wolmerstat	S	0	3	36	0	52	19
Wormbs	S	0	14	32	5	49	33
Wiburgum Cimb.	S	0	12	33	35	56	30
Zettz	S	0	1	36	20	51	0
Zerveſta	SO	0	0	36	35	52	0
Zerxze	S	0	39	26	55	51	40
Zurick	S	0	17	32	20	47	9
Zyges	A	0	30	44	15	46	34

7. De apparentiis in latitudine terræ conſiderandis.

Ex rotunditate terreſtris globi quæ à meridie verſus ſeptentrionem extenditur, conſequitur regiones verſus ſeptentrionem ſitas, habere Zenith ab Æquinoctiali remotius verſus Polum Arcticum, polumque magis ſupra Horizontem elevatum, ita ut poſsimus tamdiu proficiſci verſus Polum Arcticum, donec Polus noſtro vertici immineat, & Polus Antarcticus fiet nobis in *Nadir*.

Contra quæ verſus auſtrum conſtitutæ, Zenith ipſarum proximius eſt æquinoctiali, neque polus in tantum elevatus: Tam prope quoque verſus auſtrum poſſumus promoveri, donec Zenith ſit in æquinoctiali, & uterque Polus Horizonti immineat: Hinc verſus Meridiem proficiſcentibus nobis, elevatur Polus Antarcticus, & Arcticus ſub eo deprimitur.

8. De Sphæra recta.

Cum uterque Polus Horizonti incumbit, ita ut Zenith ſit in Æquinoctiali dicitur conſtitutio Sphæræ rectæ, nam æquator Horizontem interſecat ad angulos rectos.

In hiſce regionibus, quæ hanc Sphæræ conſtitutionem habent, ut S. Thomæ & aliis locis perpetuum eſt æquinoctium, & omnes ſtellæ oriuntur & occidunt, tam eæ quæ prope polos, quam quæ ab iis longè remotæ, ſuntque 12 hor. ſupra Horizontem, 12 infra: ob hanc rationem: quia circuli motu primi mobilis deſcripti, ab Horizonte in duas æquales partes diſſecantur.

Quotquot ſtellæ ſimul ſupra Horizontem elevantur, etiam ſimul ad Meridianum perveniunt & etiam ſimul occidunt.

9. Sphæra obliqua.

Quando unus Polorum ſupra Horizontem elevatus, alterq; infra eum depreſſus eſt, dicitur conſtitutio Sphæræ obliquæ: hinc enim Æquinoctialis Horizontem ad angulos obliquos ſecat.

In hiſce locis quæ hac conſtitutione cœli fruuntur, aliquæ ſtellæ ſunt perpetuæ apparitionis nec Horizontem ſubeunt, ſuntque eæ quæ prope Polum extantem exiſtunt: At ſtellæ quæ prope Polum latentem locum habent, nunquam appa-

6. METIUS, Adrian. *De genuino usu utriusque globi tractatus.*
Franeker, Ulderich Balck, 1624.

7

FIRST TREATISE ON ASTRONOMY IN FRENCH

PEURBACH, Georg von. FINE, Oronce.
La Théorique des cielz.

Paris, Simon du Bois , 31 August 1528

£9,500

FIRST EDITION thus. Folio. ff. xlv [i]. [a-g6, h4. (h4 blank)] Lettre bâtard. "Title in large Gothic letter with calligraphic initial. Forty-seven woodcuts by the author including a number of diagrams of motions of the planets similar to those designed by Finé for the Peurbach of 1515. A large cut of an armillary sphere on leaf g6v is signed with Finé's monogram, another version of the concentric O and F used by the artist on the full page cut in the Puerbach. The last page of text and colophon are arranged in decorative forms." Mortimer. Fine historiated white on black criblé initials, finely calligraphed purchase note signed "Longe" bought from the bookseller François Pomard (bookseller and publisher at Chambéry), on 5 October 1582 on front fly, early monogram ML on title (possibly Longe's), "Gerard" in a later hand below. Light age yellowing, t-p fractionally dusty, the odd thumb mark or mostly marginal stain, a few lower outer corners creased. A very good, crisp copy with good margins in early vellum over thin boards, covered with a fine C14 manuscript bifolium leaf, in double column, decorated iniitials in red and blue with penwork flourishes and trails, beautiful and unusual grotesques of birds and monsters in lower margins, rebacked a little soiled and rubbed, all edges yellow.

First edition of the first treatise on Astronomy in French, beautifully illustrated by the author.

Although the book appeared anonymously, Oronce Finé's device ('virescit vulnere virtus') appears on two leaves (a1v and h1r).

Moreover, the woodcut with the armillary sphere on g6 is signed with his monogram 'OF'. Oronce Finé was regarded as one of the greatest scholars in France. François I took him to Piedmont and consulted him about the fortifications of Milan and the siege of Pavia. He occupied the first chair of natural science at the royal college, founded only one year earlier, from 1531 until his death.

The text is an adaptation of the treatise of Georg Peurbach (Theoricae novae planetarum), to whom we owe, together with his pupil Regiomontanus, the renaissance of the study of astronomy. The illustration-cycle comprises 47 woodcuts, all designed by Finé himself, presenting diagrams, astronomical figures and planetary constellations.

"Fine's work as a designer is closely related to his major fields of mathematics, astronomy and geography, and his contribution to book production is particularly interesting in extending beyond the illustration to the ornamentation of scientific texts" (Mortimer). The work is beautifully printed and typeset by Dubois working with Jean Pierre de Tour. "Dubois also worked with de Tour, with whom he produced Fine's 'Théorique' and Parmentier's translation of Sallust's Catline Conspiracy. There is little information available on de Tours other than after working on these two books with Dubois he began working with Gérard Morrhy" (Wintroub). Dubois was forced to flee Paris for his religious views shortly after the publication of this work. The typography is remarkable. "The lettres bâtardes font used for the text affords a finer balance between the type area and the solid black portions of the diagrams than would be possible with a Roman or Italic letter" (Mortimer). A very good copy of this rare and important work.

BM STC Fr. C16th Bechtel F-106. Brun p. 188. Brunet II, 1260. USTC 14703. Mortimer French, 224. Houzeau and Lancaster 2252. Not in Honeyman.

La theorique

Theorica regularitatis et irregularitatis motus Solis.

De terminis ad supputationē motus Solis necessarijs.

¶ Reſte venir aux termes neceſſaires a la calculation ⁊ practiq̄ du vray mouuement et cours du ſoleil / ſelon le cōmun vſaige des Aſtronomiēs. Il fault doncq̄s premierement entendre/que pour ce que leccentriq̄ ha ſon centre hors du centre du monde/que ledit eccētrique accede pl⁹ au firmament du coſte dudit centre/q̄ de lauſtre. Dont la ligne diametrale dudit eccentrique paſſant par ſon propre centre/ et par le centre du monde: comme eſt la ligne C E/ de la figure ſuyuante/diſtingue en la circunference du cercle eccentrique deux poinctz: dont lung eſt le plus loingtain du centre du monde/et eſt communement appelle lauge/ou eſleuation du Soleil: ceſt a ſcauoir le poīct q̄ denote la ligne ou partie du diametre deſſuſdit/procedant du centre du monde/ par le centre dudit eccentrique. Laquelle ligne eſt dicte la pluſlongue longitude / ou la ligne de lauge du Soleil. Comme repreſente la ligne A C/ paſſant du centre du monde A/ par le centre de leccentrique B/ et denotant ledit poinct de lauge C/ en leccētrique C D E F/ de ladicte figure. Lauſtre poinct oppoſite au deſſuſdit qui eſt denote par le reſidu de ladicte ligne diametrale vers la partie de leccentrique pl⁹ prochaine de leccentrique eſt le poinct entre tous le pl⁹ prochain dudit cētre du monde/et eſt appelle loppoſite de lauge du Soleil: et ladicte ligne eſt nommee la pluſbrefue longitude: comme demonſtre le poinct E/ denote par la ligne A E oppoſite au poīct C/ et a la ligne A C. Et pource que les deux orbes difformes tournent le moyen eccentrique a leur mouuement/et conſequemmēt le centre dudit eccētrique/la deſſuſdicte ligne de lauge eſt tant ⁊ quant circūduicte au mouuement des deux orbes deſſuſditz. Dont larc de lecliptique compris des 7

Aux Solis.

Lōgitudo lōgior.

Oppoſitū Augis. Longitudo propior.

Motus Augis.

7. PEURBACH, Georg von. FINE, Oronce. *La Théorique des cielz.*
Paris, Simon du Bois , 31 August 1528.

8

PREPARING THE NEXT EDITION?

PICCOLOMINI, Alessandro. *La sfera del mondo.* [with] *De le stelle fisse.*

Venice, Giovanni Varisco e Paganino Paganini, [n.d., c. 1566].

£2,250

4to, 2 works in one, 1) pp. (xii) 252; 2) ff. 1-32; pp. 1-48; ff. 25-93 (iii). Roman and italic letter, woodcut floriated initials, headpiece, printer's device to t-ps. Astronomical and geometric diagrams in first work, 48 full-page plates containing astronomical maps and 43 astronomical tables in second, ¾ woodcut of an astrolabe in both. First t-p a little bit soiled, ink ex libris partly erased causing small holes in blank, occasional age yellowing, light browning one gathering, old ink marks to margins (many rubbed or removed), text often lightly ruled through (not maps or diagrams), outer edges of a few astronomical plates slightly trimmed (affecting 3 letters on one leaf), rear feps adhered, further annotations visible. A particular copy with much interesting early use in slightly later vellum. Later "Arcivescovo di Patrasso † 1578' to t-p, cancelled later ms. numeric annotations (possibly a computus, i.e. calculation of a date) to front paste-down.

This very influential Italian cosmography paired with the first printed star atlas of the Western world, were originally published together in 1540. The present editions, printed with no date, bear a dedication of 1564 and were possibly produced around 1566 (see Cantamessa N. 6105) or slightly later (see EDIT16 CNCE41110 and CNCE41174), but certaintly before 1588, when Varisco ceased his printing activity.

The frequent marginalia indicate that an early reader examined this copy very carefully, also marking almost all the pages with a diagonal line through the text as he read through it, and all chapter headings with a cross-hatched symbol. Occasional notes to margins – particularly in sections concerned with constellations, and their associated mythological characters and zodiacal signs – include astrological symbols, the words 'bene' (=good) and 'buono per la Magi' (=good for 'Magi', possibly 'Magia', meaning magic). It appears that the annotator was checking the contents with considerable care and vigorously marking the pages accordingly. It is possible that he was a censor or inquisitor checking the astrological contents for orthodoxy. The result must have been favourable as these works by Piccolomini were never included in the Index Librorum Prohibitorum. However, evidence from other volumes of the period suggest that the diagonal crossing through of pages of text accompanied by marginal sign markings was not infrequently done by printers in the course of publication of a new edition or text in order to ensure that nothing was duplicated or omitted and that everything appeared in the right place.

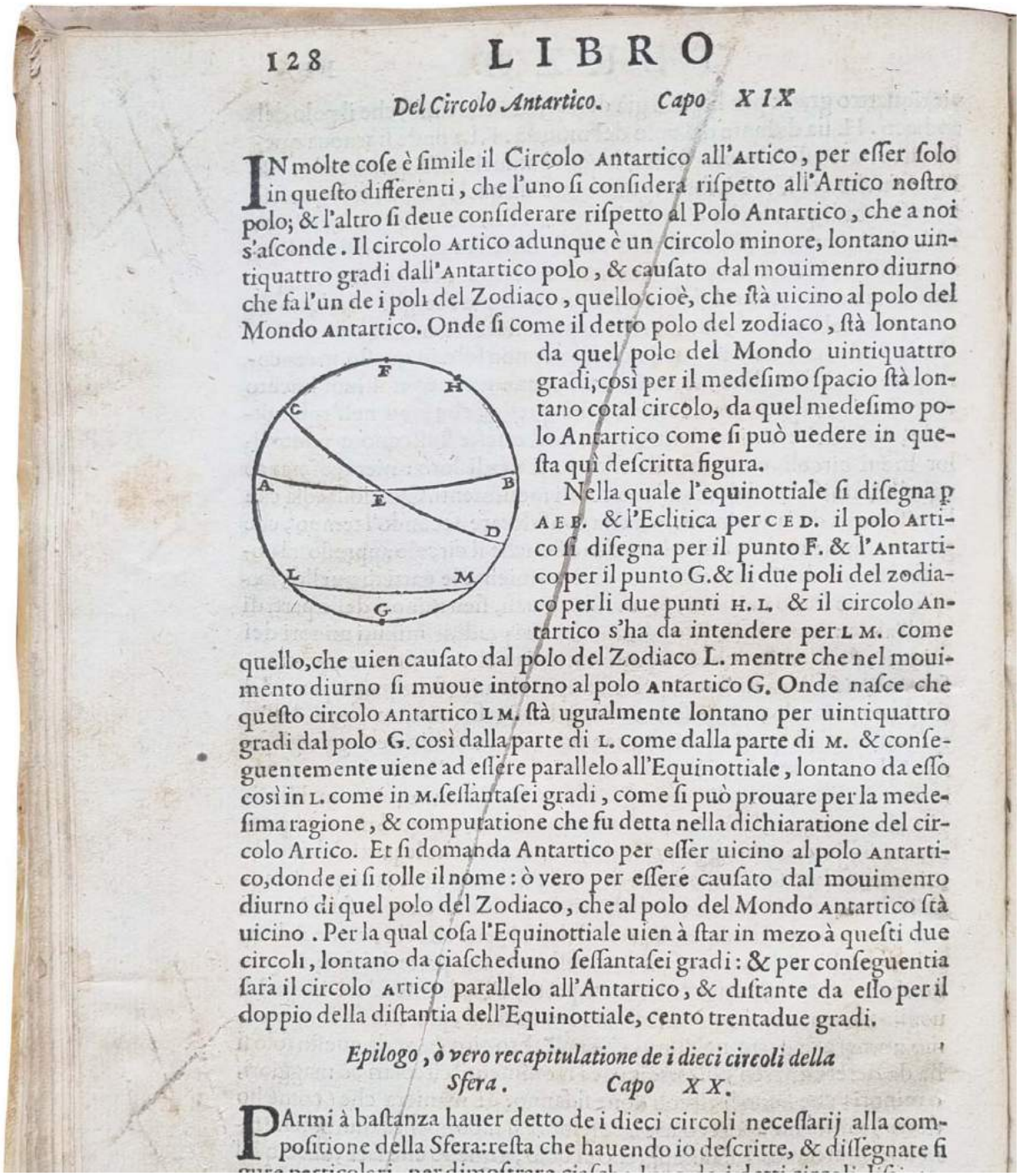
The scion of a papal family in Siena, Alessandro Piccolomini (1508-1578) was a leading humanist, philosopher, dramatist and astronomer. A member of the prominent literary society 'Accademia degli Intronati' in Siena, he contributed to the founding of the new 'Accademia degli Infiammati' at Padua. After teaching philosophy in Padua, he moved to Rome and Siena and started an ecclesiastical career, which eventually led him to being appointed archbishop of Patras in 1574 – however, he never went to Greece. A partisan of the Italian vernacular, he intentionally avoided Latin in his numerous works. These comprise a couple of moral comedies and collections of his letters and sonnets, several philosophical treatises and translations of classical authors, as well as astronomical essays.

'La sfera del Mondo' is an astronomical treatise concerned with the Ptolemaic-Aristotelian universe. After introducing a few elementary principles of geometry, Piccolomini describes the celestial spheres and their motion, discusses equinoxes, solstices and the horizon, presents the zodiac signs, the tropics, the difference between 'natural' and 'artificial' days, explains how stars rise and set, as well as the solar and lunar eclipses. Interestingly, a few sections are dedicated to showing how to make an 'instromento' (an instrument, i.e. the astrolabe) used to determine the altitude of "the sun, the moon, or any desired star' above the horizon.

'De le stelle fisse' is Piccolomini's best-known and successful astronomical work, written for a popular audience. It was dedicated to the noblewoman Laudomia Forteguerri, and designed so that she, as well as any other reader who was not an astronomer, could recognise and find the constellations in the sky. "Piccolomini produced 47 star maps for the book, one for each of the Ptolemaic constellations exept for Equuleus, which he considered too insignificant for inclusion. Unlike previous depictions of the constellations, he did not draw in the mythological images associated with them, and so they appear as simple star patterns. […] The accompanying text helps to explain the particulars about each constellation […] In the individual maps, the constellations are drawn to fill the page and, therefore, the different maps are not to the same scale". (Brashear) The magnitude of the stars is reproduced using different symbols, and Piccolomini introduced here the practice of identification of stars by Latin letters, which would be adopted using the Greek alphabet by Johann Bayer some seventy years later. The volume also comprehends several astronomical tables. The last three pages are concerned with the rising and setting of the main stars in the twelve zodiac signs.

USTC 848368 and 848376; Cantamessa N. 6105 (both eds); Houzeau-Lancaster, 2491 (both eds). This eds. not in BM STC It., Shirley, Brunet or Graesse. R. Brashear, 'Piccolomini, Alessandro', in *The Biographical Encyclopedia of Astronomers* (2007).

L3824



128 LIBRO

Del Circolo Antartico. Capo XIX

IN molte cose è simile il Circolo Antartico all'Artico, per esser solo in questo differenti, che l'uno si considera rispetto all'Artico nostro polo; & l'altro si deue considerare rispetto al Polo Antartico, che a noi s'asconde. Il circolo Artico adunque è un circolo minore, lontano uintiquattro gradi dall'Antartico polo, & causato dal mouimenro diurno che fa l'un de i poli del Zodiaco, quello cioè, che stà uicino al polo del Mondo Antartico. Onde si come il detto polo del zodiaco, stà lontano da quel polo del Mondo uintiquattro gradi, così per il medesimo spacio stà lontano cotal circolo, da quel medesimo polo Antartico come si può uedere in questa quì descritta figura.

Nella quale l'equinottiale si disegna p A E B. & l'Eclitica per C E D. il polo Artico si disegna per il punto F. & l'Antartico per il punto G.& li due poli del zodiaco per li due punti H. L. & il circolo Antartico s'ha da intendere per L M. come quello, che uien causato dal polo del Zodiaco L. mentre che nel mouimento diurno si muoue intorno al polo Antartico G. Onde nasce che questo circolo Antartico L M. stà ugualmente lontano per uintiquattro gradi dal polo G. così dalla parte di L. come dalla parte di M. & conseguentemente uiene ad essere parallelo all'Equinottiale, lontano da esso così in L. come in M. sessantasei gradi, come si può prouare per la medesima ragione, & computatione che fu detta nella dichiaratione del circolo Artico. Et si domanda Antartico per esser uicino al polo Antartico, donde ei si tolle il nome: ò vero per essere causato dal mouimenro diurno di quel polo del Zodiaco, che al polo del Mondo Antartico stà uicino. Per la qual cosa l'Equinottiale uien à star in mezo à questi due circoli, lontano da ciascheduno sessantasei gradi: & per conseguentia sarà il circolo Artico parallelo all'Antartico, & distante da esso per il doppio della distantia dell'Equinottiale, cento trentadue gradi.

Epilogo, ò vero recapitulatione de i dieci circoli della Sfera. Capo XX.

PArmi à bastanza hauer detto de i dieci circoli necessarij alla compositione della Sfera: resta che hauendo io descritte, & dissegnate si

9

COPIOUS EARLY ANNOTATIONS

SACROBOSCO, Johannes de. [with] **REGIOMONTANUS, Johannes.** [and] **PURBACH, Georg.** *Sphaera mundi. [with] Contra Cremonensia deliramenta. [and] Motus planetarum.*

[Venice, Ernhard Ratdolt, 6 July 1482.]

£19,500

FIRST COLLECTED EDITION. 4to, 190x140mm. 3 works in 1, continuous signatures, ff. 60, a-g8 h4. Gothic letter, title at head of a2 recto in red. Large woodcut 'sphaera mundi' to a1 verso, several ½-page woodcut diagrams: 1 of heavenly spheres (a2 verso), 1 of eclipses (c1 verso) and 29 of 'theoricae' (7 in green or yellow original colouring), 6 small woodcut diagrams, large ms diagram of climatic zones inked to a1 blank and copious interlinear ms annotations in an early C16 Germanic hand to first 2 gatherings, decorated initials. Few ll. just toned, fore-edge of a1 trimmed, mainly marginal finger-soiling to first few ll., minor water stain at upper blank gutter of first 4 gatherings, first two ll. strengthened at gutter. A very good, well-margined copy in C19 vellum over paper boards, extremities a bit rubbed.

Very good, well-margined and handsomely illustrated copy of the first edition of this important collection on Ptolemaic astronomy intended for students, and the most widely used of the early modern period. Johannes de Sacrobosco (or Holywood, 1195-1256) was a monk and astronomer who taught at Paris.

His ground-breaking works were extremely influential in the medieval period; they focused on astronomy and mathematics including the Hindu-Arabic numeral system, a study of the shortcomings of the Julian calendar (anticipating C16 debates) and his treatise 'Sphaera mundi'. First published in 1472, it was reprinted dozens of times in Europe throughout the C15. It discusses the earth in relation to the geocentric Ptolemaic universe, touching on subjects including its physical composition, geometrical realization, its (as it were) sphericity, the revolution of the heavens and the zodiac in relation to sunrise and sunset, the meaning of zenith and climate zones.

Johannes Regiomontanus (Müller von Königsberg, 1436-76) studied at Leipzig and Vienna, devoting himself to commentaries on ancient texts on arithmetic and astronomy. He established the first astronomical observatory in Nuremberg. His work argues against the 'deliramenta' of Gherardus Cremonensis's Ptolemaic 'Theorica Planetarum', written in the C12 and the most important manual of astronomy used in Faculties of Arts. Structured as a dialogue between two scholars, it concerns calculations relating to very specific points of the Ptolemaic system, e.g., epicycles and longitude, with the help of geometrical diagrams. The last work - 'Theoricae novae planetarum' - was written by Georgius Purbach (1423-61), an Austrian astronomer and mathematician, acquainted with Regiomontanus. It is a clear introduction to the Ptolemaic universe discussing the sun and moon, theories of the polar axis and astronomical connections between the moon and the motions of other planets. The early C16 annotator of 'Sphaera' was probably one of the 'novicii adolescentes' (young students) to whom the works were addressed. He applied sundry learning techniques, which shed light on the teaching of astronomy: the typically medieval and early modern interlinear paraphrasis (the rewriting of a concept using synonyms, e.g., 'ascensu' for 'ortu'); marginal glosses (e.g., the astronomical concept of 'annus bisextilis', a clarification of the meaning of 'opposition' for the zodiac); and the clarification of sources (e.g., the specific book in which Euclid discusses the geometrical 'sphaera'). A most interesting copy.

ISTC ij00405000; GW M14652; BMC V 286: 'some of the diagrams are painted yellow and green'; Goff J405; HC 14110* = H 14102; Essling 258; Sander 6661; Houzeau-Lancaster 1641; Graesse VI, 209; Cantamessa 6967.

L4008

9. SACROBOSCO, Johannes de. [with] REGIOMONTANUS, Johannes. [and] PURBACH, Georg. *Sphaera mundi*. [with] *Contra Cremonensia deliramenta*. [and] *Motus planetarum*. [Venice, Ernhard Ratdolt, 6 July 1482.]

10

FIRST BOOK OF ORIGINAL ASTRONOMY

STÖFFLER, Johannes. *Elucidatio Fabricae ususque Astrolabii.*

Oppenheim, Jacobus Kobel, 1513 (colophon 1512).

£9,500

FIRST EDITION. ff. xii, lxxviii. Roman and Gothic letter. Title within fine woodcut architectural border, putti above, numerous woodcut diagrams, charts and illustrations, some full-page, those on A6v, C4v and D3r with extension slips (single extension slip of D3 loosely inserted), woodcut arms of George Simler to ✶✶6 verso, fine white on black woodcut initials in various sizes, charming criblé white on black printer's device at recto of last, ✶✶6 verso with poem by Philipp Melanchthon, occasional early ink marginalia in and English hand, early English ms. price mark (3s 4d) at head of t-p. Light age yellowing, t-p a little soiled, minor restorations to lower blank corners of first three and last two leaves, light, mostly marginal, water-staining, the occasional thumb mark or minor stain, fractionally trimmed at outer margin. A good copy in contemporary speckled calf, sympathetically re-backed, spine gilt ruled in compartments with fleurons gilt to centres, morocco label gilt. a.e.r.

First edition of this hugely important and beautifully illustrated work, the first book of original astronomy published in the C16th. The most comprehensive treatise on the astrolabe of its time, it was handsomely printed at the first press in Oppenheim. 'Stoeffler recognized that, in mapping, computation of the distance between two places whose latitude and longitude were known failed to take into account the convergence of the meridians' (Stillwell). The poem by Melanchthon, who was Stoeffler's student, is possibly his first appearance in print.

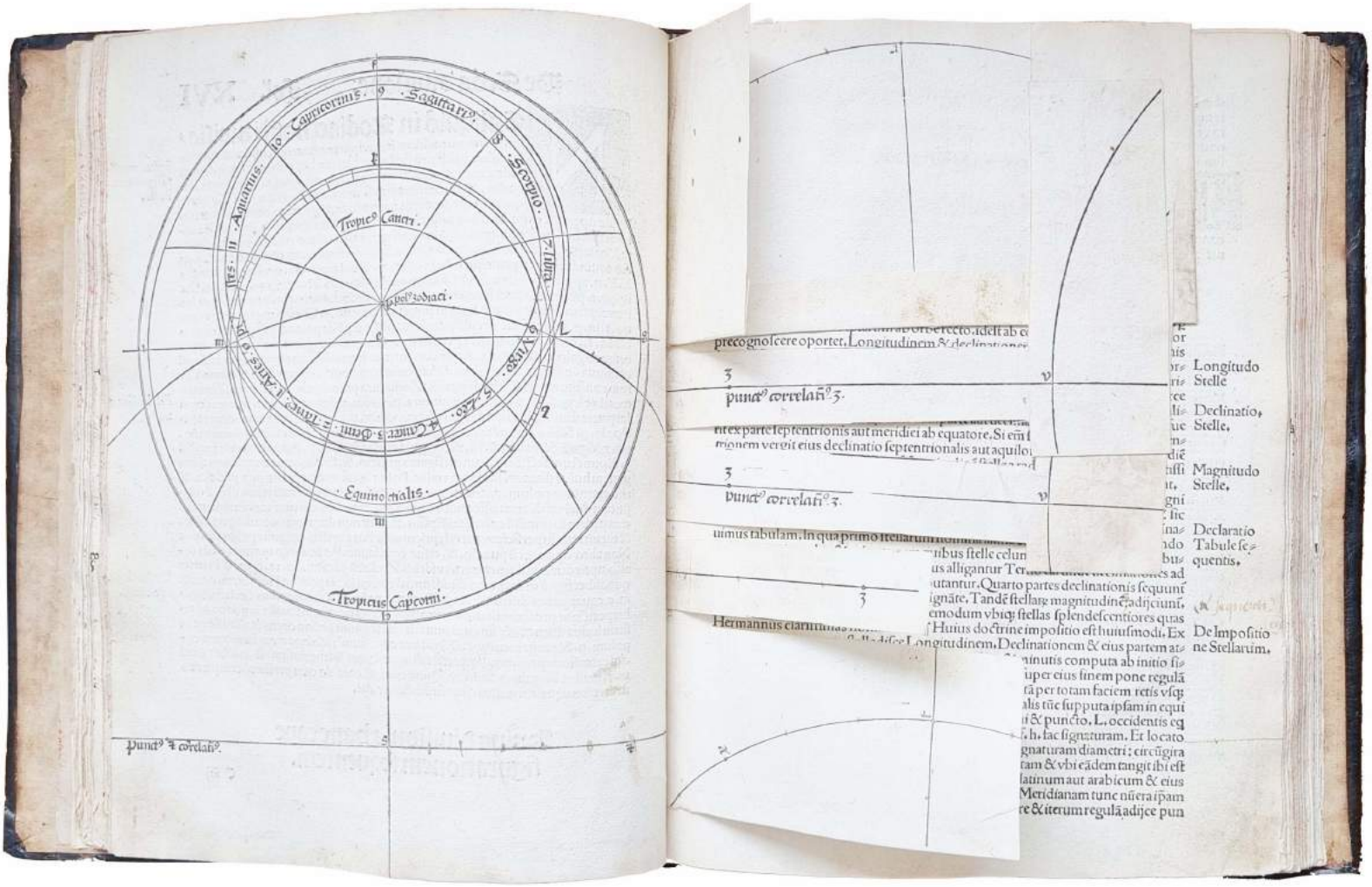
Johann Stoeffler (1452-1531) was a mathematician, astronomer and instrument-maker who was appointed to the chair of mathematics and astronomy at the University of Tuebingen. His Elucidatio fabricae ususque astrolabii was one of the most influential books published on the astrolabe, with editions extending from 1513 into the seventeenth century. He was the teacher of Philipp Melanchthon, Johannes Schöner, and Sebastian Münster and a key member of the generation who considered Regiomontanus the paragon of Renaissance astronomers. Stoeffler adopted a programme of astronomical observation and publication of tables, and promoted the importance of precision instruments and practical accounts of how they worked. "Stoeffler devotes Part one to the construction of the components of an astrolabe, including marking the lines on the latitude plates; setting out the rete (with the star positions in Latin and Arabic); applying the calendar scale, the shadow square and the unequal hours lines to the back; making the rule, alidade, axis and suspension shackle.

Stoeffler also discusses an horary quadrant for equal hours, the use of the shadow square in surveying, and the astrological applications of the astrolabe. Such was the currency of his account that 'Stoeffler's astrolabe' came to stand for fixed-latitude astrolabes, as distinct from the universal ones." J. Bennett and D. Bertoloni Meli, Sphaera Mundi: Astronomy Books in the Whipple Museum 1478-1600.

The second part of the work gives detailed explanations the use of the astrolabe with equally remarkable woodcut illustrations. Stoeffler ends his work with a discussion of perspective and measurement. Jacob Koebel, the printer of this work, was a surveyor and practical mathematician in Oppenheim, near Mainz. He was also a prolific printer and publisher of his own works. After publishing this work by his friend, Johann Stoeffler, in 1513, Koebel went on to produce his own treatise on the astrolabe.

USTC 649878. BM STC Ger. 834.C16th Adams S1886. Houzeau & Lancaster 3256. Stillwell Science, 892. Wellcome 6099.

L1995



10. STÖFFLER, Johannes. *Elucidatio Fabricae ususque Astrolabii.*
Oppenheim, Jacobus Kobel, 1513 (colophon 1512).

11

ON COMETS - RARE AND ANNOTATED

VIGENÈRE, Blaise. *Traicté des cometes.*

Paris, chez Nicolas Chesneau rue Saint Jacques, au chesne verd, 1578.

£3,950

FIRST EDITION. 8vo. (in fours). pp. 171, [i]· A-X^4 Y^2. Roman letter, some Italic and Greek. Small woodcut printer's device on title, woodcut emblem of a comet on verso, three woodcut astrological tables, 'Selestat Auboy' in a contemporary hand on t-p 'Luraneau fils 1794' below, many contemporary marginal annotations and underlinings in a very legible hand. Light age yellowing, single worm holes in blank outer margin, becoming a marginal trail in quires K and L, light waterstaining in first few quires, tear to blank outer corner of t-p A very good copy, with good margins in contemporary limp vellum, holes for ties.

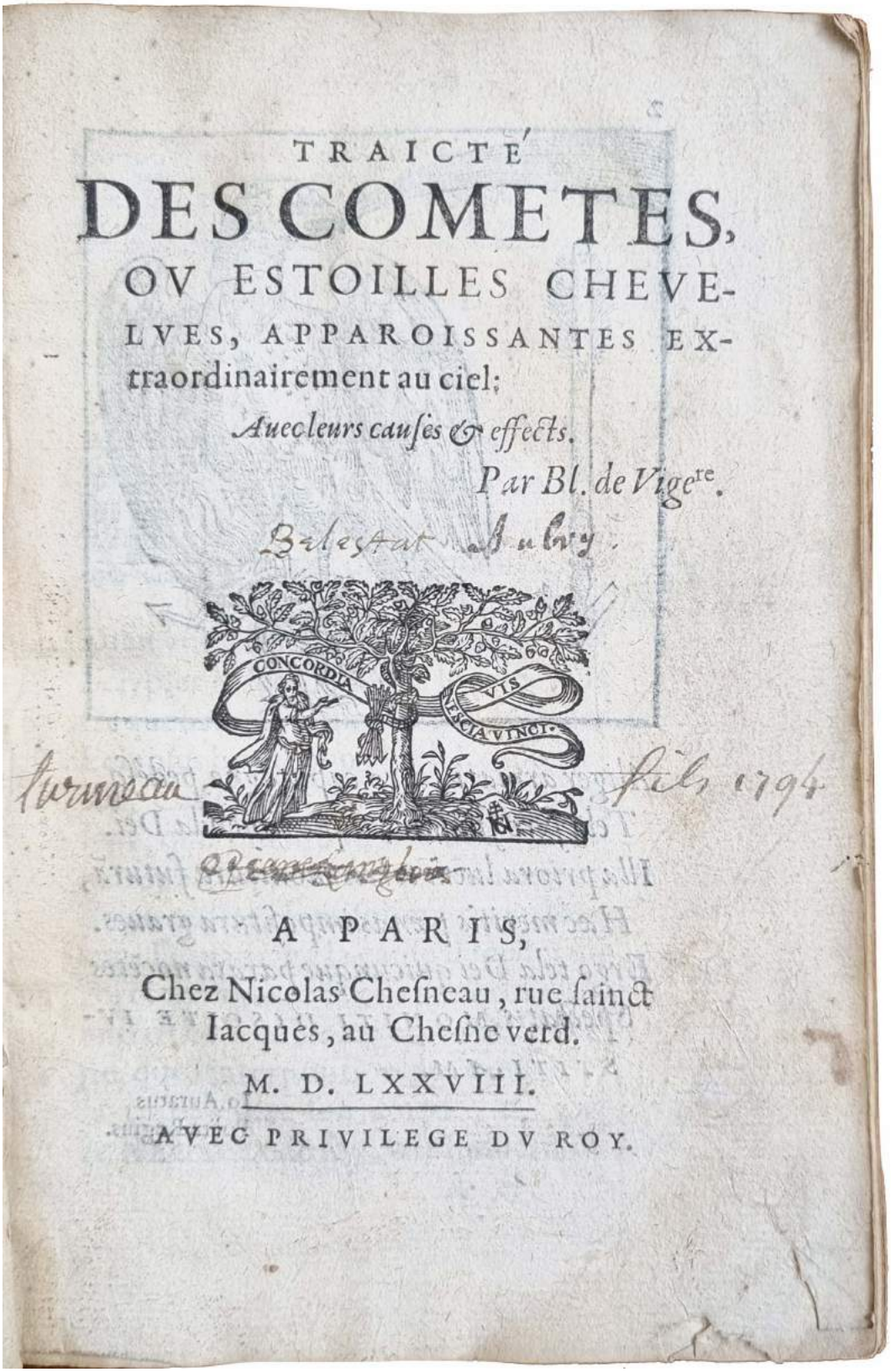
Rare and important first edition of this most interesting and influential work on comets by Blaise de Vigenere, (1523–1596) a French diplomat, cryptographer, translator and alchemist. The work has been extensively annotated by a contemporary scholarly owner, whose views were sceptical as to the ability of people to predict the future based on astral events. The author was a renowned scholar, translator and commentator, on among other things, Jerusalem Liberated by Tasso and on Filostrato's works. He was also an innovative cryptographer, and a keen investigator of natural and celestial phenomena. This work was written on the occasion of the passage of the famous comet of 1577, in which he makes an effort to formulate astronomical assessments, compatible with the science of his time. Vigenère assumes a somewhat ambiguous attitude in relation to astrology; on the one hand, he states that it is not given to men to practice the art of divination, and on the other he writes that in numerous cases the passage of comets do coincide with negative events, mainly related to princes and kings.

"European thought, which New England followed, had at last broken away in great measure from the theological view of comets as signs and wonders. The germ of this emancipating influence was mainly in the great utterance of Seneca; and we find in nearly every century some evidence that this germ was still alive. This life became more and more evident after the Reformation period, even though theologians in every church did their best to destroy it. The first series of attacks on the old theological doctrine were mainly founded in philosophic reasoning. As early as the first half of the 16th century we hear Julius Caesar Scaliger, protesting against the cometary superstition as 'ridiculous folly'. Of more real importance was the treatise of Blaise de Vigenère, published at Paris in 1578. In this little book various statements regarding comets as signs of wrath or causes of evils are given, and then followed by a very gentle and quiet discussion, usually tending to develop that healthful scepticism which is the parent of investigation." Andrew D. White 'A History of the Warfare of Science with Theology in Christendom.' "Although a vocal minority espoused the theory that comets were the proximate causes of catastrophic events, most authors in the 15th, 16th, and 17th centuries denied outright comets were causal. For example, in 1578 Blaise de Vigenère, a French author and court official, rejected the theory that 'comets menace great princes and kings with death because they live more delicately than other people; especially as the air is impregnated and thickened by a comet's impression, such that it is more harmful and dangerous to them than it would be to a labourer or scoundrel who lives on coarser food' because he observed that many people indulged their appetites for delicacies yet remained unharmed by comets." Sara Schechner. 'Comets, Popular Culture, and the Birth of Modern Cosmology'.

A very good copy of this extremely rare work, with interesting contemporary annotations.

Cantamessa 8401. Dorbon 5130 'excessivement rare.' Caillet III 11162. Grassi p. 710. Not in Houzeau and Lancaster.

L2613



TRAICTÉ
DES COMETES,
OV ESTOILLES CHEVELVES, APPAROISSANTES EXtraordinairement au ciel;
Auecleurs cauſes & effects.
Par Bl. de Vige^re.
Balestat Aubry.
CONCORDIA VIS NESCIA VINCI.
A PARIS,
Chez Nicolas Cheſneau, rue ſainct Iacques, au Cheſne verd.
M. D. LXXVIII.
AVEC PRIVILEGE DV ROY.

11. VIGENÈRE, Blaise. *Traicté des cometes.*
Paris, chez Nicolas Chesneau rue Saint Jacques, au chesne verd, 1578.

12

EARLY THEORIES OF SPACE EXPLORATION

WILKINS, John. *The Discovery of a New World or a Discourse tending to prove… there may be another habitable world on the moone. With a Discourse concerning the possibility of a Passage thither.* [with] *A Discourse concerning a New Planet Tending to prove, That tis probable our Earth is one of the Planets.*

London, John Norton for John Maynard [with] R.H. for John Maynard, 1640.

£7,750

Two works in one, FIRST EDITION of the second. 8vo. pp. (x) 244 (iv); (xii) 246 (ii). Roman letter, text within double printed line borders, marginal notes in italic, separate title to each. General engraved frontispiece by William Marshall depicting Copernicus and Galileo beneath a chart of the solar system with the sun at its centre (Johnson 79), woodcut and printed astronomical diagrams throughout. Slight age yellowing, light browning, mostly marginal, to a few leaves. A good clean copy with generous margins in contemporary sheep, rebacked, wear at edges.

These innovative works demonstrate a remarkable early interest in space exploration and alien life forms. The Anglican clergyman, natural philosopher and author John Wilkins (1614-1672) here presents a compelling argument for the alleged habitability of the moon, a possible way to travel through space to get there, and a second book discussing the discovery of a new planet.

This is the best early edition, comprising the third edition of the first work 'corrected and enlarged', first printed at Oxford in 1638, and the first edition of the second. Bishop Wilkins was the first secretary and effective founder of the Royal Society, sometime Warden of Wadham, Master of Trinity and Bishop of Chester and everywhere a patron of learning and encourager of experimentation, whose protegés included Wren, Ward and Boyle.

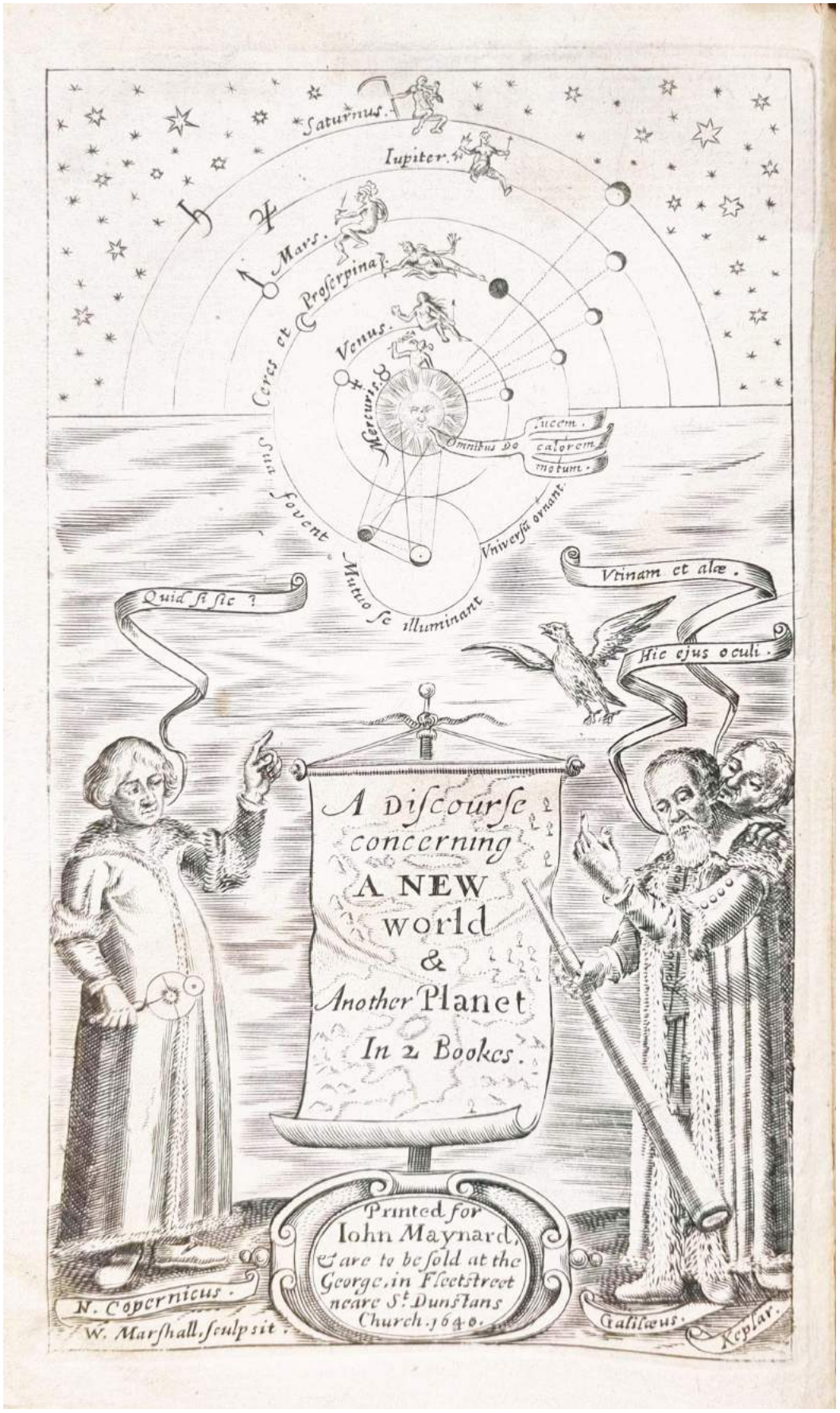
The second work is the first printed in England unequivocally to espouse the Copernican system of the universe in place of the Ptolemaic – which was still then the 'official view' – and more than any other it was responsible for the acceptance in England of the new astronomical learning.

In the first work Wilkins attempts to 'prove' i. a. that the moon is a solid, compact, opaque body, generating no light of its own, with mountains, valleys, plains, lakes and seas (accounting for the lighter and darker areas as seen from Earth), that it has an atmosphere and that the Earth is its moon. In turn, he discusses, at some length, the possibility of there being some form of life there, an, printed for the first time in this impression, the possibility "for some of our posterity to finde out a conveyance to this other world…to have a commerce with them". This ed. Appears to be the first work in English where the mechanics of space are travel are considered; "And how happy shall they be that are first successful in this attempt?", a charming rumination only answerable following the 1969 NASA moon landing. Both works are of interest also for their breadth of references to contemporary literature, more than thirty in each, of which nearly a dozen are new in the second work.

"(Wilkins) two books Discovery and Discourse were written for the common reader to make known and to defend the new astronomy of Copernicus, Kepler and Galileo", Kenney 208. "In the 1640 edition of the Discovery, Wilkins added the sensational idea that it might be possible to contrive a way of flying to the moon". DSB XIV 364.

ESTC S119973; Lowndes VII 2922; Wellcome I 6742; Houzeau and Lancaster give C18 and 19th reprints only.

L3605



12. WILKINS, John. *The Discovery of a New World…*
London, John Norton for John Maynard [with] R.H. for John Maynard, 1640.

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