

Folio (463 by 315mm). [59] ll., title-page framed by a woodcut border, on verso of the same leaf, woodcut coat of arms of the joint dedicatees Charles V and his brother Ferdinand of Spain, 53 11-line and 39 six-line historiated woodcut initials by Hans Brosamer, 36 full-page woodcut astronomical figures, of which 21 have a total of 83 volvelles [complete], 44 silk threads, 12 pearls, full original hand colour, full-page woodcut arms of the author by Michael Ostendorfer on fol. O6, small letterpress cancel slip on recto of fol. K1 correcting the text, contemporary German calf binding, tooled in blind with three rolls, one of half-length biblical figures, another, dated 1550, with classical heads in medallions, the third in conventional foliage, also a small took of a French type impressed in silver.

“THE MOST SPECTACULAR CONTRIBUTION OF THE BOOK-MAKER’S ART TO SIXTEENTH-CENTURY SCIENCE”

Astronomicum Caesareum.

Author
APIANUS, Petrus

Publication date
1540

Publisher
Peter Apian,

Publication place
Ingolstadt,

Physical description
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woodcut coat of arms of the joint dedicatees Charles V and his brother Ferdinand of Spain, 53 11-line and 39 six-line historiated woodcut initials by Hans Brosamer, 36 full-page woodcut astronomical figures, of which 21 have a total of 83 volvelles [complete], 44 silk threads, 12 pearls, full original hand colour, full-page woodcut arms of the author by Michael Ostendorfer on fol. O6, small letterpress cancel slip on recto of fol. K1 correcting the text, contemporary German calf binding, tooled in blind with three rolls, one of half-length biblical figures, another, dated 1550, with classical heads in medallions, the third in conventional foliage, also a small took of a French type impressed in silver.

Dimensions

Notes
First edition of “the most luxurious and intrinsically beautiful scientific book that has ever been produced” (de Solla Price, p.104), with wonderful original hand colour.

The author of this popular textbook in astronomy is Petrus Apianus. Petrus Apianus (1495-1552) was born in Saxony as Peter Bienewitz. He studied at the University of Leipzig from 1516 to 1519, where he took a Latinised version of his German name, Petrus Apianus. In 1527 the University of Ingolstadt appointed him as a mathematics tutor and official printer. While at Ingolstadt Apianus came to the attention of Charles V, Holy Roman Emperor, who praised his work at the 1530 Imperial Diet and granted him printing monopolies in 1532 and 1534. In return, Apianus dedicated his most famous work to Charles in 1540: the ‘Astronomicum Caesareum’, a comprehensive review of contemporary astronomical knowledge.

Apianus’ work on the project began eight years before and the ‘Astronomicum Caesareum’, which was printed in his private press at Ingolstadt, is considered “the most spectacular contribution of the book-maker’s art to sixteenth-century science” (Gingerich, Astronomicum Caesareum, p.168).

The handbook is divided in two parts: the first (ll. B1-M3) includes 40 chapters with maps reproducing the position and the movement of celestial bodies, while the second part describes the meteroscope, an instrument designed to solve problems in spherical trigonometry, and relates the sighting of five comets: “The Astronomicon is notable for Apian’s pioneer observations of comets (he describes the appearances and characteristics of five comets, including Halley’s) and his statement that comets point their tails away from the sun. Also important is his imaginative use of simple mechanical devices, particularly volvelles, to provide information on the position and movement of celestial bodies” (DSB, p.179). For the dissemination of calculating technology in a standardized and reproducible form, Poulle has compared the appearance of ‘paper instruments’ to nothing less than the advent of printing (see Poulle, 1.83).

The volvelles in the work are each placed within a frame reminiscent of an astrolabe, a contemporary device that modelled the movement of the heavens in two dimensions and enabled the calculation of time and place, and assisted with astrology. The first moveable woodcut, which represents the planispheric astrolabe, compresses both hemispheres onto one plate. According to the text, the plate depicts 1,033 stars, and was based on the first printed star charts published in 1515 by Albrecht Dürer. The most spectacular of the volvelles, which are the work of the artist Michael Ostendorfer, are the dragon plates. These include the title-page and the double-page spread dragon and moon dials. The dragon dial can be used to calculate the nodes of the moon, the two points of intersection between the yearly path of the sun, and the plane of the lunar orbit, which produce eclipses. Dragons were associated with eclipses, which were believed to occur when their head or tail blocked the sun. The thirteen small dragons indicate different parts of the lunar cycle.

Apianus is also noted for introducing Arabic star names into his maps. In the present work, Apianus

includes a revision of his 1536 star chart, with the addition of two more Arabic star names (Argentenar in Eridanus, and Yed in Ophinchus), and two Latin star names which do not appear in the 1536 edition. Apianus knew the work of Islamic astronoment Abu 'l-Husain al-Sufi (A.D. 903-986). "Al-Sufi, in his 'Book on the constellations' (written around A.D. 964), gave a detailed account of the 48 classical constellations (which the Arabs knew through translations of Green astronomical works and through pictorial representations on globes from other sources), complemented by records of star names of indigenous Arabic origin which he took pains to identify astronomically with the respective Ptolemaic stars. It was from this section on the indigenous Arabic star names in al-Sufi's book that Apian extracted a number of names and mentioned them in his own writings, most of them in the chapter in constellations in his Astronomicum Caesareum of 1540" (Kunitzsch).

Apianus was supposedly promised the princely sum of 3000 guilders by the Emperor in return for his work, although there is no record of whether this was ever actually paid. He was, however, made a Reichsritter or Imperial Knight, and eventually made an Imperial Count Palatine.

"Fabulously expensive to produce and prohibitively expensive to buy, it was always a rare book. Nicholas Wotton reported in 1544 from the Diet of Speyer that Apian would give Henry VIII a copy, for otherwise the king would not be able to get hold of it; Edmund Halley tried in vain to obtain a copy" (Hebron).

Bibliography

Adams A, 1277; Benezit II, 332 and VIII, 49; Campbell Dodgson II, 242; DSB I, pp.178-179; Lalande, p.60; Gingerich, 'A Survey of Apian's Astronomicum Caesareum', in Peter Apian, Karl Röttel (ed.), (Buxheim, 1995); Gingerich, Rara Astronomica, 14; Gingerich, 'Apianus's Astronomicum Caesareum', Journal for the History of Astronomy 2 (1971), pp.168-177; Kunitzsch, 'Peter Apian and 'Azophi"; Arabic Constellations in Renaissance Astronomy', in Journal for the History of Astronomy 18 (1987); Poulle, Les instruments de la théorie des planètes selon Ptolémée, (Genève, 1980) 1.83; Schottenloher, Landshuter Buchdrucker, 42; de Solla Price, Science since Babylon, (New Haven, 1975), p.1040; Stillwell, The Awakening Interest in Science during the First Century of Printing, 19; Van Ortroy, 112; Zinner 1734.

Provenance

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1. E.P. Goldschmidt (1887-1954), Sotheby's sale 24 November 1947, lot 95, Maggs, £250.
2. Major John Roland Abbey (1894-1969), initialled and dated acquisition note on rear-paste-down, Sotheby's sale 21 June 1965, lot 34, £1,200, Voisey.

Price:

Inventory reference: 10777

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