

The role of the hinterland, the processes of representation, and the profile of the cartographer are thoroughly demonstrated in the book. All this material allows the reader to understand that, despite a disturbingly modern result, the collection needs to be examined as a political document, not as a simple military tool. The reevaluation of this atlas brings a great perspective to the history of the development of cartography in the sixteenth century. The originality of Dupont's approach lies in the laudable attempt to bridge the gap between socioeconomic and intellectual history. His in-depth study presents an excellent tool for contemporary historians, cartographers, and students of cartography.

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Der frühneuzeitliche Kometediskurs im Spiegel deutschsprachiger Flugschriften.

Anna Jerratsch.

Boethius 71. Stuttgart: Franz Steiner Verlag, 2020. 854 pp. €84.

The science of comets was long seen as a rather straightforward example of the disenchantment of the world: modern science, or so the story went, disproved comets' ominous nature and reduced them to natural objects. The falling apart of this story of linear progress did not make the story of comets less interesting. They were indeed focal points of the early modern debates on the interpretation of the world. For that reason, debates on comets as elements of early modern thinking on nature have been the subject of book-length studies by researchers including Schechner, Gindhart, and Van Nouhuys. This book by Jerratsch is another addition to this line of research.

Jerratsch's subject is early modern German-language pamphlets and broadsides on comets. This is a very extensive corpus, about 630 texts. Most of these were published on the occasion of one of the major comets in 1577, 1618, 1664, and 1680. At each of these occasions, the number of German pamphlets was larger than at the foregoing (this is not true for Latin pamphlets, by the way), until after 1680 when the publication of such pamphlets came to an abrupt and almost complete halt. The focus on vernacular texts is justified with the argument that it is exactly in such texts, rather than in academic literature, that authors could vent their ideas without bothering too much about the demands of established genres. Indeed, major discoveries such as the direction of a comet's tail away from the sun or its parabolic orbit were first published in vernacular pamphlets.

Rather than discussing all of these texts, Jerratsch decides to analyze a small sample in extensive detail. She highlights the variety of the corpus by including works by clerics, professors, physicians, schoolmasters, and others, both Protestants and Catholics. She thereby qualifies the traditional narrative of linear scientific progress. The standard narrative explains that in 1577 Tycho Brahe, by means of parallax measurements,

demonstrated that comets were above the moon. Jerratsch not only shows that it took time for this result to be accepted, but also points out that some 1577 pamphlets assume supralunarity without any reference to parallax measurements.

The narrative that Jerratsch puts in place, more or less, comes down to this. At the beginning of the sixteenth century, a new understanding of comets arises, integrating three earlier approaches: the meteorological theory of Aristotle, which explained comets as terrestrial exhalations; the astrological interpretation of comets, largely developed by medieval Arabic authors; and a theological understanding that saw comets as signs sent by God to warn sinners to repent. Jerratsch speaks here of an “augmented” or “integrated” view of comets, especially articulated in the work of Melanchthon. Comets were seen both as natural objects and divine warnings. They announced divine punishments but also caused such harm in a physical way.

Now, what happens in the course of the sixteenth and seventeenth centuries, according to Jerratsch, is not so much a rationalization or scientification, but rather a disintegration of the integrated view because of various inherent tensions. Whereas in earlier studies on the debate on comets the downfall of the Aristotelian worldview most often takes center stage, this appears only marginally relevant in Jerratsch’s narrative. She prefers to highlight the gradual erosion of astrology. In the integrated view, astrology was an essential link: it demanded exact observation to get at causal explanations and was, so to speak, the glue that bound theology and physics together. In the seventeenth century, comets were still seen as omens, but rather than justifying this by astrological methods, authors did so by compiling historical examples. With the disappearance of astrology, theology and physics lost their common ground and went their own ways, seeking legitimation in their own principles rather than in the other domains.

This study is well delineated, meticulously researched, and clearly explained, although in a rather dense, academic style. Jerratsch has a detailed knowledge of her sources and her familiarity with the literature is impressive, although she seems more inclined to accommodate various views into one overall picture rather than sift them in a critical discussion. The book shows in an exemplary way the variety and richness of the early modern debate on comets and opens important new venues for further research.

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Making Marvels: Science and Splendor at the Courts of Europe. Wolfram Koeppe, ed. New York: Metropolitan Museum of Art; distributed by Yale University Press, 2019. 308 pp. \$65.

Tiny mechanical insects. A set of solid silver furniture, made for a prince. Drinking vessels made from nautilus shells. Elaborate gilt clocks. A magic lantern. Gaming boards