Setting up Copernicus? Astronomy and Natural Philosophy in Giambattista Capuano da Manfredonia’s *Expositio* on the *Sphere*

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Abstract

In 1499, while Copernicus studies in Bologna, the commentary on Sacrobosco’s *Sphere* by the Padua master Francesco Capuano da Manfredonia first appears in print. It will be revised and reprinted several times thereafter. Like Copernicus, Capuano has a high view of astronomy and mingles astronomical and physical considerations (flies moving on wheels, men on ships, impetus, comets, *raptus*). Also, Capuano offers a flawed argument against a two-fold (diurnal and zodiacal) motion of the Earth. Multiple thematic resonances between Capuano’s commentary and *De revolutionibus*, I, 5-11, suggest the hypothesis that Copernicus is answering Capuano, whose work was owned by Joachim Rheticus, if not Copernicus himself.

Keywords

Capuano da Manfredonia, Medieval natural philosophy, Padua, Bologna, Sacrobosco, Nicholas Copernicus, *raptus*, Joachim Rheticus, *De caelo* II, 14

No one doubts that Nicholas Copernicus and his contemporaries saw his proposal for a rotating Earth that also revolved around the Sun as antithetical to the established world order. Friends and foes alike worried about the novelty of *De revolutionibus orbium coelestium*. Copernicus himself was reluctant to publish the work and

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did not do so before Joachim Rheticus’s *Narratio prima* (1540) had successfully “tested the waters.” While seeing *De revolutionibus* through the press (1543), Andreas Osiander was so worried about its physical claims that he undercut them by inserting a “note to the reader” intended to shield its author from the likes of Martin Luther, who by 1539 had already called Copernicus a fool.¹

Our own contemporaries also believe that *De revolutionibus* had revolutionary features, but for different reasons. Many historians of science see the heart of Copernicus’s innovation in his disrespect for allegedly sharp boundaries between mathematical and physical (natural philosophical) approaches to the cosmos. In Westman’s widely cited classic formulation, Copernicus “violated Aristotle’s prohibition of *metabasis*, a prohibition that disallowed the transfer of the principles of one discipline into those of another.” He dared to use arguments from mathematical astronomy to draw physical conclusions about the location and motion of the Earth.²

Severe space limits allow only one point about the extensive historiography on the subject.³ The received wisdom focuses mostly on the pronouncements of natural philosophers, largely neglecting what writers more concerned with astronomy said and did around the time of Copernicus. Accordingly, the university context, in which natural philosophy occupied a preeminent place, is judged to be relatively static and fruitless for the minority activity of astronomy. Some natural philosophers did dispute the legitimacy of bringing astronomical claims to bear on their discipline, which they considered superior. But it is crucial to understand that the matter was contested. Whatever the natural philosophers thought, several astronomers, both before and in Copernicus’s era, shared his notion that

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³ Most work to 2003 is summarized in Michael Kokowski, *Copernicus’s Originality: Towards Integration of Contemporary Copernican Studies* (Warsaw/ Cracow, 2004).