

In this book, Asger Aaboe selects a few significant "episodes" from early astronomy and treats them in detail, rather than attempting a general survey. However, first he gives a descriptive account of what one should see when one looks at the sky with the naked eye, unbiased by received knowledge, and with curiosity and wit. He then turns to the arithmetical astronomy of ancient Mesopotamia, where astronomy first became an exact science. Next are treated Greek geometrical devices accounting for planetary motion, culminating in Ptolemy's planetary models in his *Almagest*. Ptolemy does not here assign his models absolute size, but if properly scaled, they yield good values, not only of the directions to the planets, but also of the distances to them. In fact, there is evidence that Copernicus used parameters from the *Almagest* to find the dimensions of his system. There follows a discussion of modifications of Ptolemy's models by Islamic astronomers, who wanted to use only uniform circular motion, some of which Copernicus adopted. Aaboe concludes this section by clarifying precisely which problem was resolved by the heliocentric hypothesis, as well as by Tycho Brahe's arrangement.

The Ptolemaic system was the first cosmological system to incorporate quantitative models. The next section describes its construction as Ptolemy himself did it in a recently recovered passage from his *Planetary Hypotheses*. Here he does assign his models absolute size in order to fit them into the snugly nested spherical shells that made up his universe. This much maligned system was, in fact, a harmonious construct that remained the basis for how educated people thought about their world for a millennium and a half.

Aaboe concludes with an elementary discussion of Kepler motion and shows that Ptolemy's models are excellent approximations to how planets in fact move relative to the earth.



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