

The original publication of Copernicus' revolutionary heliocentric theory of our planetary system

Nicolaus Copernicus, *De Revolutionibus Orbium Coelestium, Libri VI*. Nuremberg: Johannes Petreius, 1543. 10 15/16 inches x 8 3/16 inches (278 x 208 mm), 396 pages.

A handful of great books in the scientific renaissance forever changed how we look at our place in the universe. The first of these was Nicolaus Copernicus' *De revolutionibus orbium coelestium, libri VI* (Six books on the revolutions of the heavenly spheres). Published in 1543, *De revolutionibus* gave a momentous new blueprint for the planetary system. The earth, instead of resting solidly in the center of the cosmos, was set awirl, spinning on its axis every twenty-four hours and revolving around a distant, fixed sun.

The new cosmology was not a clarion call from the stars, inevitable and proven by fresh Renaissance observations of the planets; instead it was something truly subtle and wonderful, a "theory pleasing to the mind." The tenth chapter of the first book, with its famous sun-centered diagram of the planetary system, a soaring defense of heliocentrism, was intended to convince not by physical or astronomical "proof," but by aesthetics, by the beauty of the explanation. From a geometric point of view, Copernicus' arguments were highly compelling, but to the great majority of his contemporaries, any claims for physical reality seemed ridiculous. If the earth were spinning daily on its axis, a stone thrown upwards would surely land in another country. Besides, throwing the earth into motion seemed contrary to Holy Scripture.

Each of Copernicus' arguments concerns the planets, those heavenly bodies that moved against the fixed patterns of the distant stars. He demonstrated that the principal complications in the planetary motions could be elegantly explained by attributing movement to the earth itself. As the great Danish astronomer Tycho Brahe would say later in the sixteenth century, "The Copernican arrangement nowhere offends the principles of mathematics, but it casts the earth, a lazy, sluggish body unfit for motion, into a movement as fast as the aetherial torches [i.e., the stars themselves]."

The first edition of his book probably numbered only 400 to 500 copies; Copernicus, elderly and bedridden, received the completed volume only on the day he died. Little did the astronomer know what he had wrought. His *De revolutionibus* was the volume that uncorked from the bottle the genie of modern science. The heliocentric blueprint was the starting point for today's grand conception of the physical cosmos.

This is a very fine copy from the Warnock Library and is in a contemporary binding of vellum-covered pasteboard. The spine is smooth, with gold-tooled titling on a red-stained patch. The edges of the textblock are ploughed smooth and colored blue, with manuscript titling on the tail edge of the textblock.

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