

2

TYCHO BRAHE

BIOGRAPHY

BIG HISTORY PROJECT



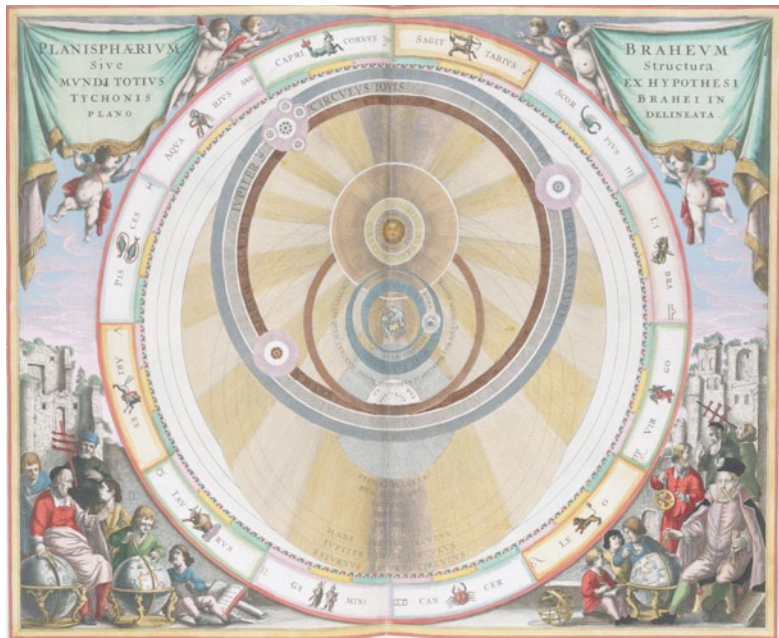
TYCHO BRAHE

NAKED-EYE
ASTRONOMER

Born
December 14, 1546
Knutstorp Castle,
Scania, Denmark

Died
October 24, 1601
Prague, Bohemia
(now the Czech Republic)

Tycho Brahe was the last great naked-eye astronomer. His legacy is a star chart of considerable accuracy and proof that the heavens were not fixed.



A plate from the *Harmonia Macrocosmica* atlas by Andreas Cellarius

At the time of Tycho Brahe's birth, the dominant model of the Universe had the Sun, Moon, and five planets rotating around the Earth on crystalline spheres against an unchanging backdrop of the stars. All of the star charts of that time were based on this geocentric (Earth-centered) system.

At age 16, newly arrived at the University of Leipzig from his uncle's palace in Copenhagen, Brahe discovered an error in the existing star charts: a conjunction of Saturn and Jupiter that had not been predicted. In an age of Royal Astrologers and navigation by sextant, which relied on the positioning of celestial bodies, this was a significant error. Having shown the existing charts to be inadequate, Brahe then devoted his life to recording the location and movement of everything in the night sky with greater accuracy than anyone before him did.

After nearly 10 years of diligently studying and recording the night sky, using instruments and techniques he had developed himself (the telescope was yet to be invented), Brahe was stunned to look up one night and see a bright star where none had been before. Using his own techniques, Brahe was able to prove that the new star (actually a supernova now known as SN 1572) was beyond the Moon, in the celestial realm — the supposedly unchanging backdrop of stars. The heavens had changed, and he had observed and recorded it for science.

This discovery focused attention on Brahe from astronomers in Europe and beyond and greatly impressed the Danish King. With help from the King, he built one of the first real astronomical research institutes and the most advanced observatory in the world, called Uraniborg (Fortress of the Sky), on an island in Copenhagen Sound.

Soon after taking up his work there, he observed a comet moving beyond the "sphere" of the Moon. By proving that the comet was not in our atmosphere, he shattered the theory that the planets were nested around the Earth on crystalline spheres and laid the foundation for our modern understanding of an evolving cosmos. Brahe's influence extended to one of his most famous students, Johannes Kepler, who used Brahe's detailed observational record to develop his own Laws of Planetary Motion.

Image credits

Undated engraving of Tycho Brahe

© Bettmann/CORBIS

A plate from the *Harmonia Macrocosmica* atlas by Andreas Cellarius

© Historical Picture Archive/CORBIS