

Great Astronomers: Copernicus

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The life of Copernicus began in 1473 in a city called Torun in northern Poland. Unfortunately he lost his father at the young age of ten, so was brought up by his uncle whose profession was a church canon. His uncle's job greatly influenced his future career, as Copernicus decided to follow in his footsteps and work with the church. This profession gave him time to focus on his interest in astronomy.

His love for astronomy began in 1491 when Copernicus was studying at Cracow Academy. It seemed to remain just a hobby as after four years here he moved to Italy to study law and medicine at the Universities of Bologna and Padua. In 1497 he moved to Rome, where he observed a lunar eclipse and gave lectures on astronomy and mathematics.

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Copernicus came up with a theory called the Heliocentric hypothesis. For centuries the Solar System was believed to have the Earth at its centre with the planets, Moon and Sun moving around it. About 1400 years earlier Ptolemy had invented the ultimate in Geocentric theories. However by Copernicus' time the planets in the real Solar System were starting to diverge from the positions as predicted by Ptolemy's theory. Copernicus wondered if a Sun-centred Solar system made more sense and began collecting information for his theory in 1504, continuing his research until his death in 1543. The Heliocentric hypothesis had seven main elements (note

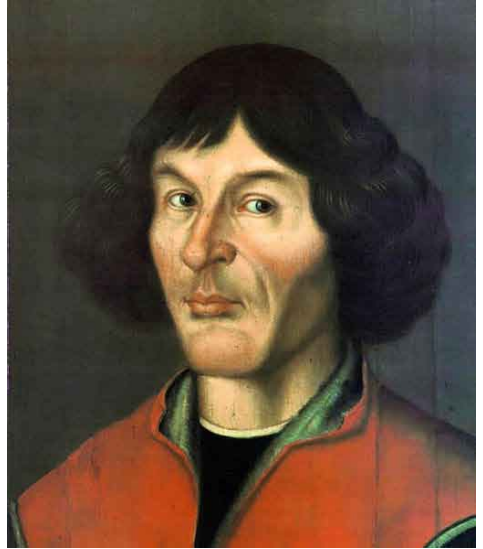


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Nicolaus Copernicus portrait from Torun c. early 16th century.

that the Solar System was thought to be the whole Universe):

1. there is no one centre in the Universe;
2. the Earth's centre is not the centre of the Universe;
3. the centre of the Universe is close to the Sun;
4. the distance from the Earth to the Sun is small compared with the distance to the stars;
5. the rotation of the Earth causes the daily motion of the stars;
6. the annual cycle of the Sun is caused by the Earth revolving around the Sun;
7. the apparent motion of the planets is caused by the motion of the Earth.

Copernicus wrote a short piece on his theory called 'De Revolutionibus'. Copernicus seemed a bit shy to publish his work, but eventually in 1542 he gave copies of 'De Revolutionibus' to

close friends to publish. Legend has it that the first printed copy of 'De Revolutionibus' was placed in Copernicus' hands on the day he died. Apparently he woke from a stroke-induced coma, looked at his book and died peacefully. Before long it was being read by many throughout Europe.

There is still dispute about whether Copernicus should be counted as Polish or German.

Although his birthplace was and is in present day Poland, Torun had belonged for centuries to the Teutonic Knights, only becoming Polish in 1466, and the locals spoke German. Copernicus himself was known to be fluent in German, but there is no direct evidence to suggest he knew Polish. However when Copernicus lived people did not consider nationality to be as important as it is today. So Copernicus could have quite possibly thought himself to be both at the same time!