



Claudius Ptolemaeus

Second Century AD

Claudius Ptolemaeus (or Ptolemy) was the greatest astronomer of the Second century AD. The dates of his birth and death are unknown, although some say he died in AD 180. He lived and conducted his observations in Alexandria, Egypt, during Antonius Pius's rule (138-161 AD.)

In those years, Alexandria was the centre of world trade, and the capital of Egypt, but governed by Greek officials; it was also a scientific centre. The Ptolemies, a dynasty of Greek kings, ruling Egypt after Alexander Macedonian, founded a temple of muses called a 'Museum' in Alexandria which later became famous for its exceptionally complete library and thus attracted the best scientists from all neighbouring cities.

There is no trustful information about Ptolemy's parents, social position, income or marriage. He is known to us only as the author of several outstanding works on physics and astronomy. In the Middle Ages his name acquired a certain mystery, because it was easily confused with the family name of the royal dynasty just mentioned.

His best work was supposed to be '*Mathematical syntax of astronomy*' in 13 books. Latin speaking countries got acquainted with the work through Arabic translations of Greek texts dating back to the IX-XI century. The Arabs gave the book a title '*Almagest*' which means "the greatest". The treatise was a guide to astronomy. It contained the theory of planets' motions, a description of equipment for the observation of the stars, and the first catalogue of fixed stars. The catalogue consisted of 1022 stars with their coordinates and 'size'. The stars' positions in Constellations was described as a part of the mythical creature the constellation was named after.

Ptolemy also wrote a description of the Milky Way which existed without any alteration until the XIX century.



*He named some of
the Constellations*



*He believed
that the Earth
was the centre
of the Universe*

The basic assumption of his work was that the Earth is the centre of the Universe and all bodies revolve in perfectly circular orbits moving with uniform velocity. Ptolemy's system remained intact until it was overthrown by Copernicus in the 15th century.

The only work of Ptolemy's that is available today and still widely read is the '*Tetrabiblos*' a work on astrology, consisting of 4 books. In those books Ptolemy described the general history of the influence of planets upon events and man.

His other works also enjoyed popularity; for instance his '*Manual of geography*' in 8 books. The work contained a detailed systemised list of geographic names of ancient settlements. Ptolemy furnished the 'Manual' with coordinates of about 8000 places. Besides that, one general and 26 special maps of the Earth surface were included in the treatise. The maps were drawn according to merchants' description of the places mentioned. However, no longitudes were astronomically determined and only a few latitudes had been calculated. Columbus might never have sailed without Ptolemy's erroneous view that Asia was closer (westward) than it really is.

Ptolemy's treatise on optics was supposed to be lost forever, but in 1801 its almost complete translation from Arabic into Latin was found. There, the most interesting things are the theory of mirrors, the table of refraction angles of a light ray passing through water or glass, and also the theory and tables of astronomical refraction.

Ptolemy belonged completely to the Greek culture and science. He studied and developed the theories of his predecessors and added his own observations and explanations.

T.K.