

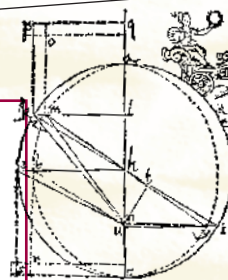


1608 – The first telescopes are constructed in the Netherlands. Using these instruments as models, **Galileo** constructs his first telescope the following year.

1609

$$T^2 \propto a^3$$

New Astronomy, by **Johannes Kepler**, is published. In it, Kepler demonstrates that the orbit of Mars is elliptical rather than circular.



1637 – **René Descartes's** *Discourse on Method* is published. According to Descartes's philosophy of rationalism, the laws of nature can be deduced by reason.



1644 – The Ch'ing, or Manchu, Dynasty is established in China. China becomes the most prosperous nation in the world, then declines until the Ch'ing Dynasty is replaced by the Chinese Republic in 1911.

1669 – Danish geologist **Niclaus Steno** correctly determines the structure of crystals and identifies fossils as organic remains.



1655 – The first paintings of Dutch artist **Jan Vermeer** are produced around this time. Vermeer's paintings portray middle- and working-class people in everyday situations.



1678

$$c = f\lambda$$

Christiaan Huygens completes the bulk of his *Treatise on Light*, in which he presents his model of secondary wavelets, known today as Huygens' principle. The completed book is published 12 years later.



1687

$$F = ma$$

Issac Newton's masterpiece, *Mathematical Principles of Natural Philosophy*, is published. In this extensive work, Newton systematically presents a unified model of mechanics.

