

Mars in Observations and History



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for
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Mars, the Fourth Rock from the Sun

Mars, one of the original seven *planetes* of the solar system: Sun, Mercury, Venus, Moon, Mars, Jupiter, Saturn.

Galileo observed Mars in 1610 with a telescope (20x).

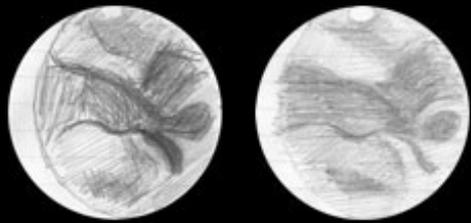
Christiaan Huygens in 1659, based on observations with his 50x telescope, wrote that “The rotation of Mars, like that of Earth, seems to have a period of 24 hours.”

Giovanni Domenico Cassini worked out the distance to Mars in 1672.

Before Huygens' death (1695), he wrote in *Kosmotheros* that the planets must have plants and animals, otherwise “we should sink them below the Earth in Beauty and Dignity; a thing that no Reason will permit.”

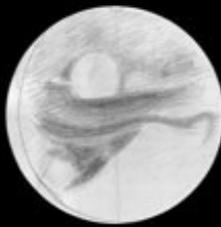


The planet Mars. Observed September 3, 1877, at 11h. 55m. p.m. (Plate VIII from *The Trouvelot Astronomical Drawings 1881-1882*). The drawing features are described in the following work: Trouvelot, Étienne Léopold (1882), *The Trouvelot astronomical drawings manual*, New York: Charles Scribner's sons, p. 64.



Percival Lowell

b. 1855



1890: William Pickering and Percival Lowell began a correspondence about setting up an observatory to observe Mars at opposition in October, 1894. The new observatory was to be in the Territory of Arizona and called Lowell Observatory.

May 1894, from the *Boston Commonwealth*:

Lowell's objective was to study the solar system. "This may be put popularly as an investigation into the condition of life on other worlds, including last but not least their habitability by beings like [or] unlike man..."

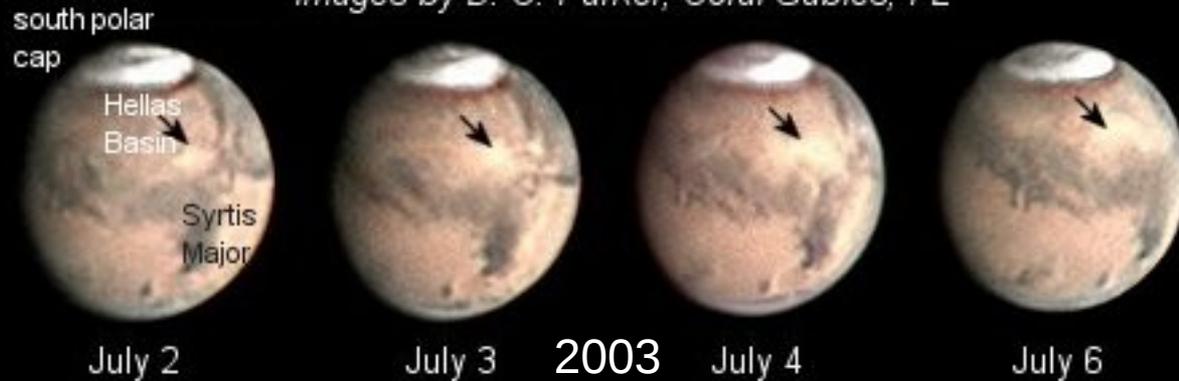
Regarding Schiaparelli's canali: "Speculation has been fruitful as to what these markings on our next to nearest neighbor in space may mean. Each astronomer holds a different pet theory on the subject and pooh-poohs those of all the others. Nevertheless, the most self-evident explanation from the markings themselves is probably the true one; namely, that in them we are looking upon the result of the work of some sort of intelligent beings..."

The preceding historical information was taken from
The Planet Mars: A History of Observation and Discovery,
by William Sheehan

<http://www.uapress.arizona.edu/onlinebks/MARS/CONTENTS.HTM>

An expanding dust cloud on Mars

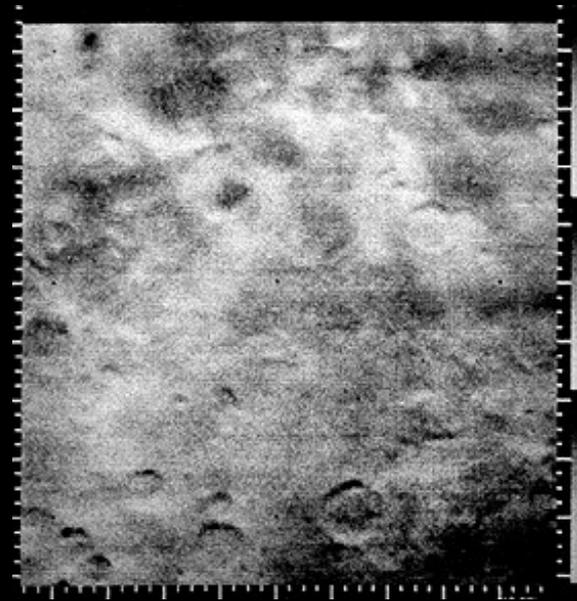
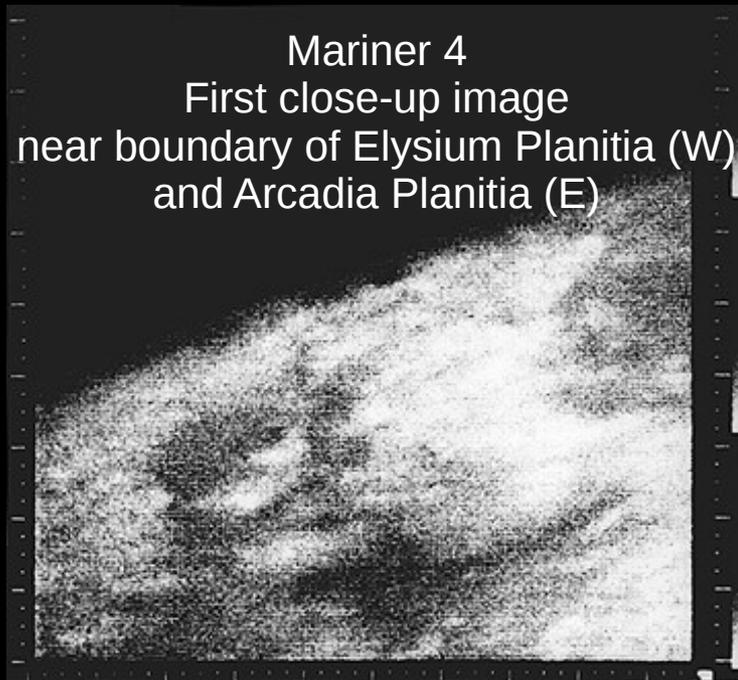
images by D. C. Parker, Coral Gables, FL



Mars Facts

Atmosphere:	Mostly carbon dioxide, some water vapor
Surface Pressure:	0.01 bars (Venus is 92 bars)
Temperature:	Average -63 deg C (-81 deg F)
Day:	24 hours 37 minutes
Year:	687 Earth days
Axial Tilt:	25 deg
Diameter:	6791 km (4220 miles)
Distance from Sun:	229 million km (142 million miles)
Moons:	2, Phobos and Deimos
Gravity:	0.375 Earth

Observing Mars in the Modern Era



**Also Mariner 4,
south of Amazonis
Planitia**

- 1965: Mariner 4 flew by Mars -- Lots of craters, no canals
- 1969: Mariners 6 and 7, confirmed no canals
- 1971: Mariner 9, placed into orbit
- 1976: Viking landed on the surface of Mars

