

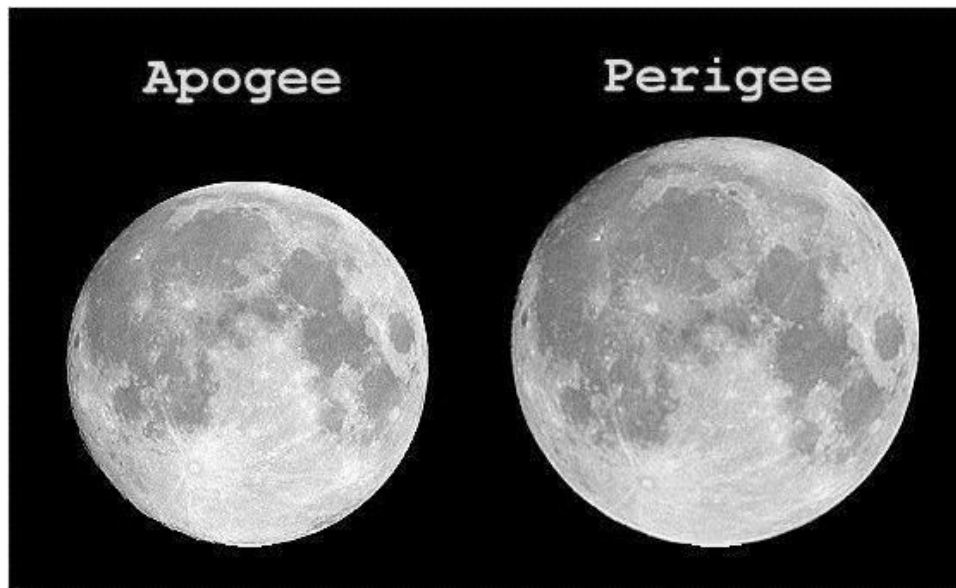
## The Idiotic Mars Hoax

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As a general rule articles about observing Mars follow two levels in detail; 1) a technical, detailed paper for advanced observers and 2) a less technical article for the general public or novice observers.

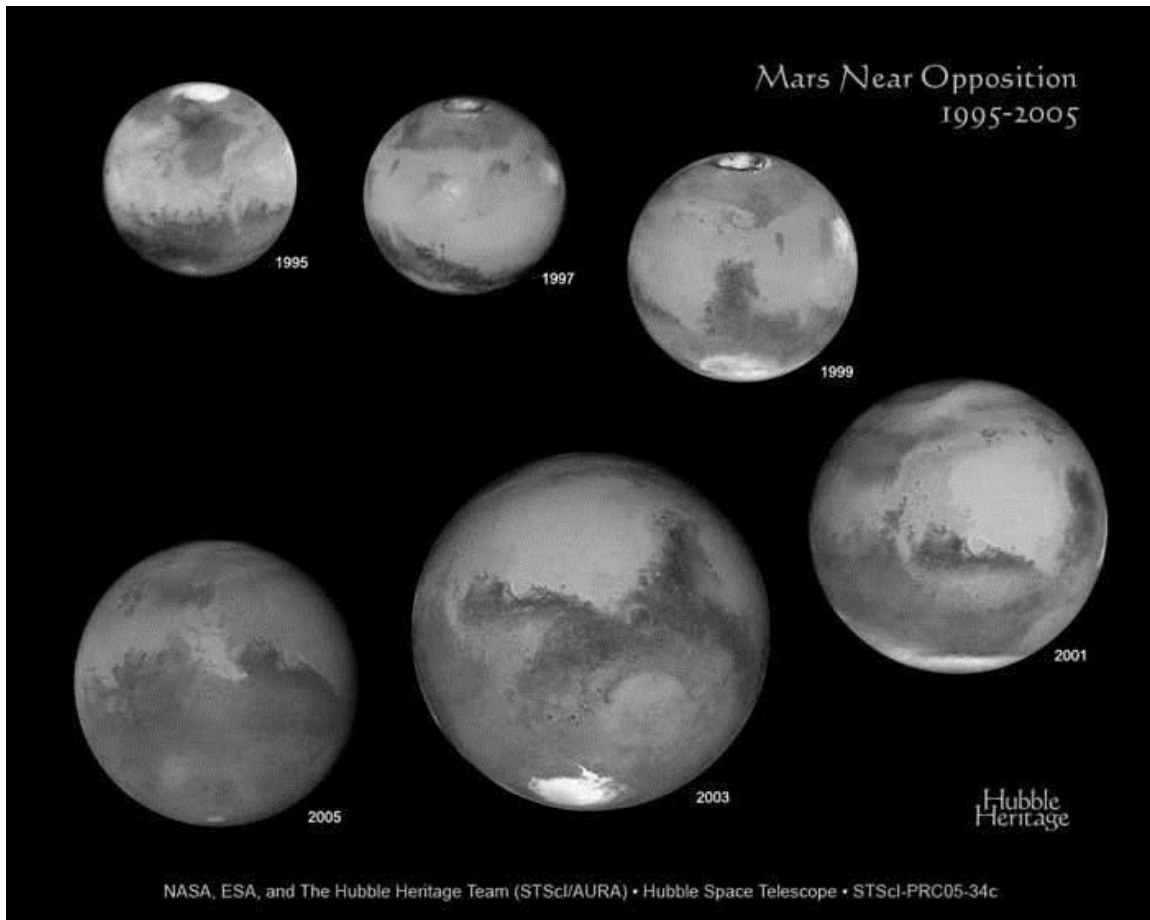
Featured in the less technical articles are general interest subjects; such as what Mars would appear like using a telescope, what albedo feature an observer may see on a given date, etc., and a sidebar issue that compares a telescopic image of Mars with the Moon appearance without a telescope. This subject has been written about several times in the past; in the February 1967 *Sky and Telescope Magazine* an article, "Mars and the Moon at Comparable Resolutions," Thomas Pope pointed out, "given that Mars has twice the diameter of the moon, it is 200 times farther away at average opposition, its apparent diameter is nearly 18 seconds of arc, roughly 1/100 the size of the moon."

If we look at the Moon with the naked eye; that is to say without a telescope, it would appear to us as a 1,765.8" (29.43') disk when it is farthest away from earth (**Apogee**) and a 2,010" (33.5') disk when it is closest to earth (**Perigee**). **NOTE:** ( " ) signifies seconds of arc in angular measurement [one degree is 3,600 seconds of arc] and ( ' ) signifies minutes of arc in angular measurement [one degree is 60 minutes of arc].



Difference in apparent diameter of the Moon at Apogee (1,765.8") and Perigee (2,010").

At the point when Mars is at the closest approach to Earth, Mars will appear to earthly observers as a disk with a true angle of 13.8" during an Aphelic apparition (farthest excursion) and 25.13" during a Perihelic apparition (closest to earth). However, to observe Mars with the naked eye it would only appear to us as a point of light.



A series of HST images of Mars illustrating the apparent diameters of the Red Planet at opposition dates indicated.

If we compare the apparent diameters of the Moon and Mars then the latter would have to be magnified at least 70 times (closest approach during Perihelic apparition) or 128 times (closest approach during Aphelic apparition) for the Red Planet to appear at the same apparent diameter that the naked eye Moon does at Apogee. [Simple proof,  $1,765.8 / 25.13 = 70.3$  and  $1,765.8 / 13.8 = 128$ ]. Conversely, Mars would have to be magnified at least 80 times (closest approach during Perihelic apparition) or 146 times (closest approach during Aphelic apparition) for the Red Planet to appear at the same apparent diameter that the naked eye Moon does at Perigee. [Simple proof,  $2,010 / 25.13 = 80$  and  $2,010 / 13.8 = 146$ ].



Compare the apparent diameters of Moon and Mars to the unaided eye. Mars is just an unresolved dot in our eyes.

An excellent article appeared in the August, 2006 issue of Sky and Telescope Magazine, "Mars Hoax Returns," by Alan M. MacRobert that illuminates this hoax in bright detail ["Mars Hoax Returns," *Sky and Telescope Magazine*, (see: <https://skyandtelescope.org/astromony-news/mars-hoax-returns/> )].

**NOTE:** The old Moon/Mars Hoax was originated by **Walter Scott-Houston**. From a newspaper clip in the *Jefferson City Post-Tribune*, **May 4, 1959**: "In 1959, Walter Scott Houston perpetrated a celebrated April Fool's hoax in the April edition of the Great Plains Observer, claiming that "Dr. Arthur Hayall of the University of the Sierras reports that the moons of Mars are actually artificial satellites". Both Dr. Hayall and the University of the Sierras were fictitious. The hoax gained worldwide attention when Houston's claim was repeated, apparently in earnest, by a Soviet scientist, Iosif Shklovsky."

Internet web page with a subject of interest: "Inconstant Moon: The Moon at Perigee and Apogee at:" [http://www.fourmilab.ch/earthview/moon\\_ap\\_per.html](http://www.fourmilab.ch/earthview/moon_ap_per.html)