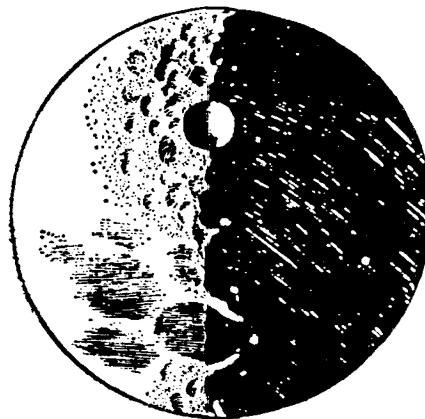


# An ancient quest

Man has been reaching for the moon since the dawn of his time; now it is finally within his grasp

by Jonathan Eberhart and Susan Brouwer



The moon's attraction for man is older than memory. The beginning of man's longing for the big, comforting light in the sky is lost somewhere in the dawn of pre-civilization, when stooped, primitive bipeds peered uncomprehendingly upward at one spot of awesome calm overhanging the terror-filled, still-evolving world.

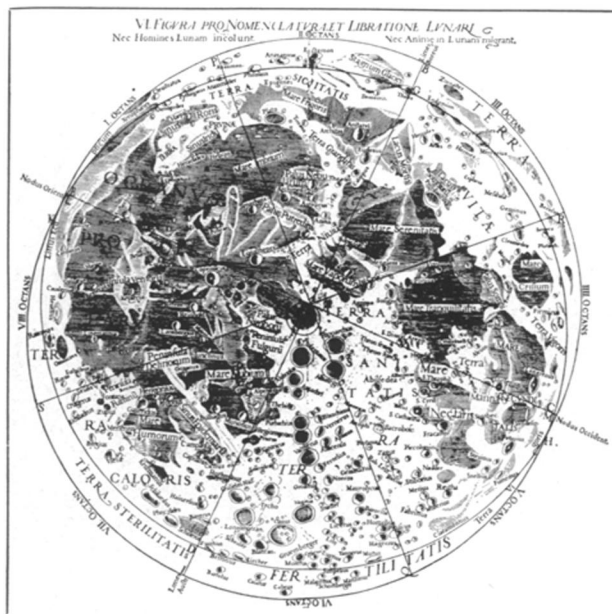
Even relatively sophisticated interest in the nature of the moon extends back to the early cradles of civilization. More than a century before the birth of Christ, the Greek astronomer Hipparchus was already estimating to the nearest hundredth of a degree the eccentricity of the moon's orbit around the planet earth.

It was only recently in the human time scale, however, that man began to see the moon as more than a featureless light in the sky. The first to do so was Galileo Galilei, who in 1609 modified a Flemish invention into the first astronomical telescope.

The new view of the moon, even through that first, crude instrument, was a revelation. "Many of the prominences there," wrote Galileo, "are in all respects similar to our most rugged and steepest mountains, and among them one can see uninterrupted stretches hundreds of miles long . . . There are also many isolated and solitary peaks, precipitous and craggy. But most frequently there are certain ridges . . . very much raised, which surround and enclose plains of different sizes and shapes, but mostly circular."

By mid-17th century, more than 200 lunar features had been charted and named. As telescopes, too, grew in size and precision, knowledge of lunar surface details increased, culminating, for earth-based instruments, with the 200-inch Hale telescope at Mt. Palomar.

Almost as big a step as Galileo's telescope was the advent of camera-equipped spacecraft. The first space vehicle to photograph the moon was Russia's Luna 3, in October 1959; Luna 3's pictures were also man's first views



Galileo: 1609 (above)

Grimaldi: 1651 (left)

of the craters on the moon's far side.

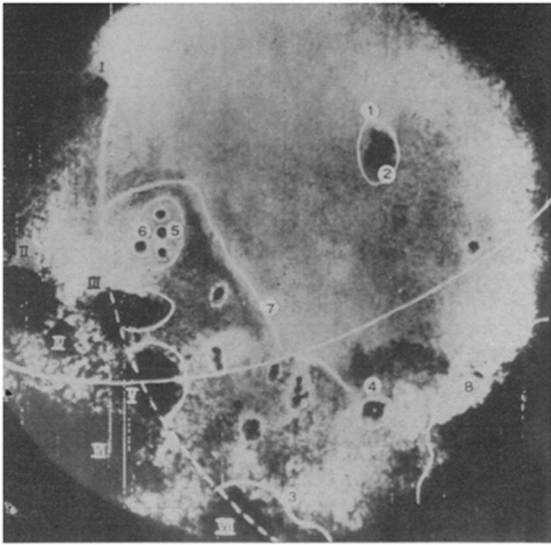
Since then, U.S. and Soviet spacecraft have crashed into, settled gently onto, and orbited the moon, until virtually its entire surface has been photographed and mapped. Three U.S. Ranger spacecraft sent back 17,259 pictures, all taken on collision courses with the moon.

When the National Aeronautics and Space Administration began seriously hunting landing sites for Apollo, five Lunar Orbiters took 1,775 high-resolution photographs, including most of the successful moon-mapping to date. The closest look came from five Surveyor spacecraft that sent back more than 87,000 photos showing details down to grains of moonrock a fraction of an inch in diameter.

Then the Apollo 8 and 10 flights around the moon added two new elements: color, and the fact that their pictures did not have to be transmitted back to earth by television. The remaining step is that of Apollo 11: putting man himself onto the surface of the moon.



Mt. Palomar: 1914

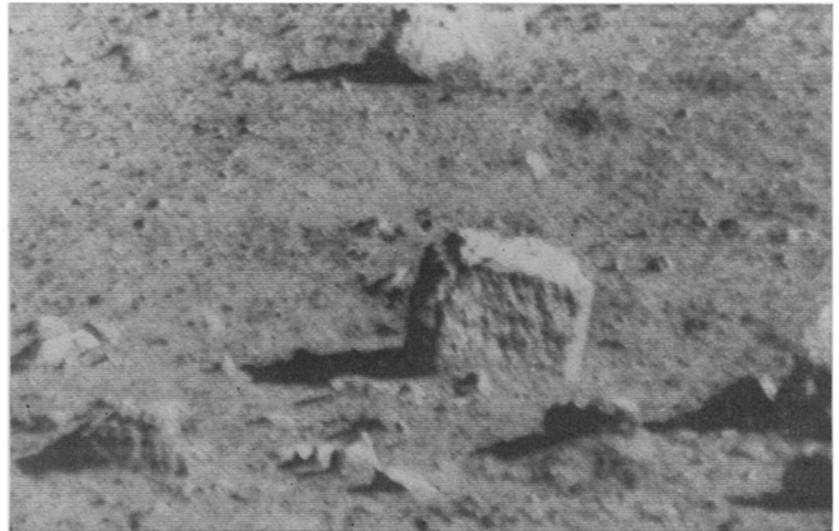
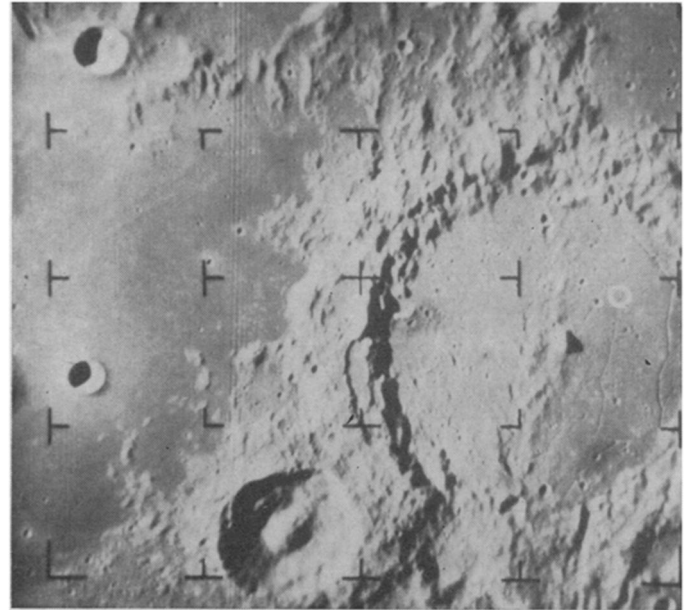


*Luna 3: October, 1959  
(left)*

*Ranger 9: March, 1965  
(right)*

*Lunar Orbiter 5:  
October, 1967  
(below left)*

*Surveyor 7:  
January, 1968  
(below right)*



*Apollo 10: May, 1969*