

EL-BAZ F. (National Air and Space Museum, Smithsonian Institution, Washington, D.C., 20560, USA). The Later History of the Moon.

Volcanism played a major role in the later history of the Moon. Analyses of lunar mare basalts indicate that they originated from magmatic differentiation at depth. Extrusion of basaltic lavas began at least 3.7 billion years ago and continued to about 3.2 billion years ago. Major fractures related to large impacts served as channelways for the upward moving melts, as suggested by the late stage mare ridge systems. Recent Apollo photographs indicate that numerous generations of lava flows partially filled circular impact basins (e.g., Imbrium) and flooded topographically low places (e.g., Oceanus Procellarum).

As recently discovered, relatively young, dark mantling deposits of probable volcanic origin are concentrated along an ellipsoidal zone from 20°W to 70°E. The ellipse's center at 25°E correlates with the displacement of the lunar center of mass relative to the optical center of the figure.

On the farside, as confirmed by Apollo 17, basalt-like units are limited to large basins and a few craters larger than 100 km across. These occurrences are related to features of Imbrian age and younger. This suggests a direct correlation between the time of crustal fracturing and that of global melting in the lunar interior.