

Clementine Mines Information from the Moon

Analysis of data collected during the two-month orbit of spacecraft Clementine around the moon has already revealed some surprises.¹

Apollo measured an elevation range of 12 kilometres whereas Clementine measured 25 km. This was the first surprise. Apparently the extremes of topography exist in areas not visible to earth or the Apollo altimeters. The biggest craters, by evolutionary reckoning, are supposed to be over 4 billion years old. But how have such structures lasted for so long? It has been suggested that the moon's rigid outer shell must have been far stronger (colder) early in lunar history than had been supposed.

On the other hand, variations in the orbital behaviour of Clementine as the shape of the moon varied under the influence of the gravity of the earth and sun, suggest that the moon still has a molten interior — either a molten core or more dispersed pieces of magma. Unfortunately it would take more orbital data to be sure, and Clementine has left the moon.

The suggestions that the moon's surface must have been colder early and

the core is still molten do not seem to be consistent if the moon is billions of years old. These observations seem to be more consistent with the young moon of creationists.



REFERENCES

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Astronomical Problems

Astronomical theory has lately run into a series of nasty problems. The most troublesome problem is the most recent calculation of the so-called Hubble constant using the repaired Hubble Space Telescope. This constant is used to calculate the expansion rate of the universe.¹ Based on measurements of 20 Cepheid variable stars in the Virgo Cluster of galaxies, the Hubble constant was measured at 80 kilometres per second per megaparsec ($\text{km s}^{-1} \text{Mpc}^{-1}$).^{2,3} Assuming the Big Bang theory for the origin of the

universe, the above expansion rate corresponds to an 'age' of the universe of 8 to 12 billion years, depending upon how much 'dark matter' is in the universe. This more sophisticated measurement agrees with other less precise recent measurements. Another group of astronomers led by Allan Sandage have claimed and consistently measured the Hubble constant at about $50 \text{ km s}^{-1} \text{Mpc}^{-1}$.⁴ This would make the universe about 14 to 20 billion years old.⁵ Several astronomers recently argued that astronomical theories would

best fit a Hubble constant of $30 \text{ km s}^{-1} \text{Mpc}^{-1}$.⁶

The newer, younger age contradicts the age of globular clusters, dense groupings of stars in a galaxy, that are thought to be 16 billion years old. Thus, astronomers are presented with the paradox that the objects in the universe may be much older than the universe itself. It also is

*'... blow for the Big Bang account of the beginning of the Universe, although not necessarily a fatal one.'*⁷

Another recent report throws confusion on the postulated dark matter in the universe.⁸ Dark matter is needed by old age theorists to account for rapid