WHY MILANKOVITCH WAS RIGHT FROM THE GETGOS

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Milankovitch’s original concept is that the orbital position of the planet controls the amount of incoming solar energy, thus controlling long-term climate trends. Three principal orbital parameters affect low frequency oscillations of the Earth's size, and shape. Eccentricity (100,000 year cycles) is the deviation of the orbit from a perfect circle; obliquity (40,000 year cycles) is the angle of tilt of the Earth's axis with respect to the plane of its orbit; and precession (26,000 year cycles) is the direction in which the rotation axis points. The interaction between these orbital parameters apparently control much of long-term climate change. The dominance of eccentricity has been linked to glacial cycles. The similarity between the duration of major glacial cycles, such as those of the past 800,000 years, and the duration of eccentricity cycles imply a causal relationship (Berger, 1980; Berger et al., 1984). Such orbital periodicities have been found in deep sea cores (Hays et al., 1976, Berger et al., 1984). Investigations of long-term climate of the Late Pleistocene are represented by (Clark et al., 1980; Hooghiemstra, 1984; Kellogg, 1976; Koming et al., 1979; Prell, 1982; Ruddiman and McIntyre, 1976; van der Hammen et al., 1971; and Williams, 1984) The most impressive aspect of these data sets are the synchroneity of these global changes (Lowrie, 1985).

It is generally accepted by Earth scientists that global eustatic sea level changes of various magnitudes and durations have various origins. Supercontinental Gondwanaland-type plate collisions or and rifting have tectonic cycles on the order of 10^8 years (Fairbridge, 1982). Seafloor spreading rate changes and mid ocean ridge volumetric expansion and contraction have tectonic cycles on the order of 10^7 years (Koming, 1984, Pitman, 1978). Sedimentary depositional cyclicity are recorded throughout the Phanerozoic in seismic sequences at periods of 10^5 and 10^6 years. Planetary orbital motions, controlling the amount of incoming solar radiation of 20,000, 40,000 and 100,000 year duration, are the apparent cause of these depositional cycles via climate/sea-level fluctuations as opposed to tectonic fluctuation.

But is it that simple? Arguments that solar insolation variations with sunspot activity have higher magnitudes than those induced by orbital parameters, make the point that it is more complex. Variations in height of lake levels in the Middle East, like the Caspian, have been linked to sunspot activity, (Rodionov, S. N., 1994), but the phase is not consistent. This mysterious climate link can be explained by variations in the magnitude of gravitational teleconnection, which alters storm tracks dependent on tectonic vortex teleconnection strength. When the affect of tectonic gravitational teleconnection on atmospheric flow dynamics is additionally considered, a much more powerful concept for the drastic changes observed in climatic proxies emerges linking all eustatic sea level change to tectonic dynamics. Shifting wind patterns, especially the jet streams meridional to zonal perturbations controlled by the Global Earth Teleconnected Global Oscillation System, (GETGOS) dominate the modern climatic swings of El Nino. Logic implies larger changes recorded in climate proxies are a result of more dramatic changes in these modern processes, which can be quantified and modeled using accurate time series gravity data collected within the tectonic vortices of GETGOS.

This hypothesis goes a long way to explaining Milankovitch series correlation with climatic shifts, since the orbital changes of the earth probably do not by themselves invoke enough change in temperature correlated to distance from the sun to explain the degree of climatic change observed in the geologic record. But local changes in 'g' could invoke a weakening or strengthening of gravitational teleconnection between tectonic vortices thus altering global weather patterns in ways not explained by current interpretations of the cause/effects of present day circulation patterns.

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