

On Uniqueness of Earth as a Harbor of Steady Life: a Comparative Planetology Approach

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The main point of the wave comparative planetology is the statement: “Orbits make structures”. All celestial bodies have two fundamental properties: movement and rotation. Movements in non-round orbits with changing accelerations induce in bodies wave warpings (standing waves) which in rotating bodies go in 4 ortho- and diagonal directions. An interference produces uprising, subsiding and neutral tectonic blocks. The wave1 gives ubiquitous tectonic dichotomy, wave2 produces sectoring. Along with these warpings exist tectonic granulations. Granule sizes depend on orbital frequency: higher frequency – smaller granule, lower frequency – larger granule. Terrestrial planets have the following granule sizes: Mercury $\pi R/16$, Venus $\pi R/6$, Earth $\pi R/4$, Mars $\pi R/2$, asteroids $\pi R/1$. These granule producing warpings tend to bring planetary spheres to polyhedrons which, for simplicity, are represented by the following figures inscribed in the planetary circle: Mercury- 16-gon, Venus- hexagon, Earth- square, Mars- rectangle, asteroids - line. Obviously, nearer a figure to circle more it is stable, and this is expressed by the areas ratio of a figure to the circle. Mercury has 0.973, Venus 0.830, Earth 0.637, Mars 0.420, asteroids 0. The line for asteroids means the zero ratio, thus zero stability and no planet in their zone. Earth is unique by its near to the “golden section” value. Now, what is the stable life? Life means creation and destruction (birth and death). Too much one or another both suppress life. Only the right proportion ensures a steady life. Earth has this proportion –golden section. At Mars destruction prevails over creation, at Venus creation over destruction. Weak signs of past life possibly can be found at Mars. At Venus enormous degassing possibly with help of primitive biocycle led to deadly conditions.