GEOLOGY

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Section 4. Era of origin of life

Point I. Implantation and development of life

(58:4.1) It should not trouble you that we are called Life Bearers. We are capable of carrying life and delivering it to the planets, but we did not bring life to Urantia with us. Urantian life is unique - it originated on this planet. This realm is a world for altered life, and all emergent life was formulated by us right here on the planet itself. And in all Satania, even in all Nebadon, there is not a single world with such life as Urantia.

Point II. Description of the structure of the Earth

Point A. Continental drift

Point 1. Increase in internal temperature, pressure and continuation of continental drift.

(58:5.1) Continental drift continued. Under the pressure of nearly 3,500 tons per square centimeter, the Earth's core became as dense and hard as steel, and as a result of the colossal gravitational contraction at great depth it was, and still is, molten. The temperature rises as you approach the center of the Earth, where it is slightly above the temperature at the surface of the Sun.

Point 2. The outer crust was about 65 kilometers, the heavier metals lay below it.

(58:5.2) The outer layer of the earth's mass at a depth of 1,600 kilometers consists mainly of various types of rock. Below them are the denser and heavier metals. The melting processes and high temperatures of the early and pre-atmospheric eras meant that the world was practically in a liquid state, so heavy metals sank deep into the depths of the Earth. Those of these which are found near the surface today are the discharges of ancient volcanoes, later and powerful lava flows, and relatively recent meteorite deposits.

Point 3. Beneath this crust lay a layer of molten basalt.

(58:5.3) The thickness of the outer crust was about 65 kilometers. This outer crust rested directly on a molten basaltic sea of varying thickness-a mobile layer of molten lava held back by the high pressure, but with an invariable tendency to rush in every direction to offset the planetary pressure and so stabilize the crust.

Point 4. The continents still float on a sea of molten basalt

(58:5.4) The continents today continue to float on the uncrystallized "shock-absorbing" sea of molten basalt. If it weren't for these protective conditions, strong earthquakes would literally tear the Earth apart. Earthquakes are not caused by volcanoes, but by the movement and displacement of the rigid upper crust.

Point 5. The density ratio of granite and basalt is a guarantee for the stability of the continents.

(58:5.5) The layers of lava in the earth's crust solidify to form granite. The average density of Urantia is a little more than five and a half times that of water; the density of granite is less than three times that of water. The Earth's core is twelve times denser than water.

(58:5.6) The sea floor is denser than the land masses, which holds the continents above the surface of the water. When the pushed-up sea floor rises above sea level, it is found to consist mainly of basalt, a type of lava that is significantly heavier than continental granite. Moreover, if the continents were not lighter than the ocean bed, the force of gravity would pull the edge of the oceans onto the land, but such a phenomenon is not observed.

Point 6. Reason for the sliding of the continents towards the ocean bed.

(58:5.7) The weight of the oceans is also one factor in the increasing pressure of the sea bed. Along with the weight of the water column, the lower but relatively heavier ocean beds are roughly balanced by the weight of the higher but significantly lighter continents. But as a trend all continents are creeping towards the ocean. The pressure on the continents at the level of the ocean floor is about 1,400 kilograms per square centimeter. That is, such would be the pressure of the continental mass, located at an altitude of 5,000 meters, per square centimeter. This difference in pressure is the cause of the sliding of the continents towards the ocean floor.

Point 7. Reason for the different behavior of the eastern and western land masses.

(58:5.8) Subsidence of the ocean floor in the epoch before the appearance of life raised the solid continental mass to such a height that its lateral pressure caused the eastern, western, and southern ends to slide over the underlying layers of semi-dense lava into the water of the surrounding Pacific ocean. Such a complete compensation of the continental pressure made it possible to avoid the wide rift of the eastern coast of the ancient Asian continent, but

since then the eastern coastline has been overhanging the abyss of the adjacent ocean depths, threatening to slide into the watery grave.

Point B. Transition period
(58:6.1) 450,000,000 years ago the transition from plant to animal life took place. This metamorphosis took place in the shallow, sheltered tropical bays and lagoons located along the coastlines of the drifting continents. And this process, all the phases of which were laid down in the original prototypes of life, proceeded gradually. There were many intermediate stages between the primitive plant forms and the later, well-formed animal organisms. To this day, transient mold fungi have been preserved, which cannot be attributed to either plants or animals.

Point C. Geological annals

Point 1. Proterozoic rocks are now found in rare places on the Earth's surface.
(58:7.1) The vast group of rock systems that constituted the outer crust of the world at the dawn of life or the Proterozoic epoch is now found only in rare places on the surface of the earth. When it emerges from under all the accumulations of subsequent ages, only fossilized remains of plant and primitive animal life are found in it. Some of these most ancient submerged rocks are mixed with later strata, and sometimes they contain fossils of early forms of plant life, while the uppermost strata sometimes contain more primitive forms of ancient marine animal life. In many places these most ancient stratified rock layers, containing fossils of early marine life, both animal and plant, can be found overlying the older, undifferentiated rock.

Point 2. Proterozoic fossils include algae, coral-like plants, primitive protozoa, and transitional fungi-type organisms.
(58:7.2) Among the fossils of this era are found algae, coral-like plants, primitive Protozoa, and transitional fungi-type organisms. But the absence of such fossils in the layers of the lower rock layers does not necessarily mean that at the time of the formation of these deposits life did not exist elsewhere. During these ancient ages, life was a rare phenomenon and slowly spread across the Earth's surface.

Point 3. Transitional layers are close to the Earth's surface.
(58:7.3) At present the rocks of this ancient age are at or very near the surface of the Earth, covering about one-eighth of the present land area. The average depth of this transition layer - the most ancient sedimentary layers - is about 2.5 kilometers. In some places, such ancient rock systems reach a depth of 6.5 kilometers, but many layers attributed to this age refer to later periods.

Point 4. Upper strata of the Proterozoic
(58:7.5) Rocks of this age come to the surface in many places, but the most easily explained is the formation of those found in the Lake Superior region, and also in the Grand Canyon of the Colorado River, where these rocks containing primitive fossils and existing in several layers, confirm the cataclysms and fluctuations of the surface in those remote times. This layer of rock - the most ancient fossil-bearing layer of crust - was wrinkled, folded and twisted in the most unimaginable ways as a result of earthquakes and early volcanic activity. The lava flows of this era brought large amounts of iron, copper and lead to the surface of the Earth.

Point 5. The mineral deposits during this period.
(58:7.10) Some of the upper layers of these intervening sedimentary deposits contain small amounts of dark shale or aspid slates, indicating the presence of organic carbon and testifying to the existence of the progenitors of those forms of plant life which filled the earth in the course of the subsequent Carboniferous, or Carboniferous, period. A significant proportion of the copper in these rock layers is the result of water deposits. Some copper occurs in the fissures of older rocks and is a concentrate that forms in the stagnant marshes that exist along some ancient sheltered shores. The deposits of iron ore in North America and Europe are located in deposits and volcanic spills, lying partly in the older, non-sedimentary rocks and partly in the later, sedimentary rocks relating to the transitional periods of the formation of life.

Point 6. "And the dust upon which we tread was once alive."
(58:7.12) All this narrative is vividly set forth on the fossilized pages of the great "book of stone" recounting the events of days gone by. And the pages of this gigantic biogeological annals will surely reveal the truth to you, if only you learn to interpret them. The bottom of many seas has risen to a great height today, and their centuries-old deposits testify to the struggle for existence in those long-ago days. Literally true are the words of your poet who declared: "And the dust we tread upon was once alive."