PHYSICS AND CHEMISTRY

Section 5. Physical aspects of the peace building

Point I. Central Universe

Point A. The reality of Havona.

Point 1. Havona is characterized by a trinity of types of energies and is fundamentally different from the organization prevalent in the evolutionary universes of space.
(14:2.2) The physical realities of Havona represent a type of energy organization radically different from any energy organization prevalent in the evolutionary universes of space. Havona characterizes the trinity of types of energy; the superuniverse units of energy-matter contain a dual energy charge, although one type of energy exists in both the negative and positive phases. The model of the central universe is threefold (Trinity); the pattern (immediate) of the local universe is dual: it involves the Creator Son and the Creative Spirit.

Point 2. The reality of Havona is of 1,000 basic chemical elements and seven types of energies. Havonsi react to 49 different irritants.
(14:2.3) The matter of Havona consists of the organization of the thousand basic chemical elements and the balanced functions of the seven forms of Havona energy. Each of these basic types of energy has seven phases of arousal so that natives of Havona respond to forty-nine different stimuli. In other words, from a purely physical point of view, the natives of the central universe possess 49 specific types of sensations. The number of morontia feelings is 70, and the number of feelings in the higher spiritual categories varies between 70 and 210 depending on the type of being.

Point 3. The triple energies of Havona are under perfect control. All cosmic reality is in perfect balance.
(14:2.6) All natural laws are created according to principles quite distinct from the two-energy systems of the forming creations. The entire central universe is organized according to the threefold system of flawless and symmetrical governance. Throughout the Paradise-Havona system, a perfect balance is maintained between all cosmic realities and all spiritual forces. Heaven, with its absolute scope of material creation, perfectly regulates and maintains the physical energies of the central universe; The Eternal Son, within the universal spiritual scope, fully maintains the spiritual status of all the inhabitants of Havona. There is nothing experimental in Paradise, and the Paradise-Havona system is a unified whole of creative perfection.

Point II. Superuniverse
(32:3.2) All physical systems of time and space are evolutionary in origin. They even get their physical stability only after they acquire permanent orbits in their super-universes.
(32:3.3) Except in the central universe, perfection is acquired gradually.

Point A. The architectural worlds of the superuniverses
(15:7.1) Although the government of each super-universe is coterminous with the center of the evolutionary universes included in its respective segment of space, it occupies a specially created world inhabited by the persons admitted therein. Metropolitan worlds are architectural spheres - spatial bodies specially constructed for a particular purpose. Although these spheres receive light from nearby suns, they are equipped with autonomous sources of lighting and heating. Each of them possesses a sun, giving - like the satellites of Paradise - light without heat, and is heated by the heat received from the circulation of certain flows of energy near the surface of the sphere. These capital worlds belong to the largest systems located near the astronomical centers of their corresponding superuniverses.

Point B. The architectural worlds of the local universes
(41:1.3) The hundred centers of the local universe are located at Salvington, where they function in the very energy center of this sphere. Architectural spheres such as Salvington, Eden, and Jerusem are lit, heated, and powered using methods that ensure their complete independence from the suns of space. These spheres are engineered - custom made by the energy centers and physical controllers to have a powerful effect on energy distribution. Basing their activity on such central points of energy regulation, energy centers, by virtue of their living presence, direct and redistribute physical energies in space. These energy circles are the basis of all physical-material and morontia-spiritual phenomena.

Point C. Edemia

Point 1. Topography.
(43:1.1) Eden abounds with enchanting high plateaus--vast elevations of physical substance crowned with morontia life and covered with spiritual glory, but there are no jagged mountain ranges such as are found on Urantia. Tens of thousands of sparkling lakes join many thousands of streams, but there are no great oceans or raging rivers in this world. There is no surface water only in the plateau.

Point 2. Water.
(43:1.2) The water of Eden and similar architectural spheres is in no way distinguished from the water of the evolutionary planets. The water systems of such spheres are both surface and underground, in which constant circulation of moisture takes place. Using various waterways, a circumnavigation of Edenia can be accomplished, though the primary means of travel is by air. Spirit beings naturally move above the surface of the sphere, while morontia and material beings use material and semi-material means of air travel.

Point 3. Atmosphere.
(43:1.3) Edenia and its associated worlds possess a true atmosphere-generally a mixture of the three gases characteristic of such architectural creations and comprising two elements of the Urantian atmosphere plus a morontia gas suitable for the respiration of morontia creatures. But though this atmosphere is both material and morontia, it has no storms and hurricanes, no summer or winter. The absence of atmospheric perturbations and seasonal fluctuations allows the entire surface of these custom-made worlds to be decorated.

Point D. Satania

Point 1. Heating of capital worlds.
(46:1.3) Jerusem's management of energy is distinguished by perfection. The energy circulates around the sphere along the zone channels, which are directly fed by the energy charges of space and masterfully managed by the Master Physical Regulators. As a result of the natural resistance that occurs as these energies pass through the physical conducting channels, the heat necessary to create the steady temperature of Jerusem is generated. In full light, the temperature is maintained at the level of 21 degrees Celsius, and in periods of less light it drops slightly below 10 degrees.

Point 2. Jerusalem lighting system.
(46:1.4) The Jerusem system of illumination should not be too complicated for your understanding. Here there are no days and nights, periods of heat and cold. At the disposal of the energy converters are a hundred thousand centers from which the rarefied energy is directed upward through the planetary atmosphere, undergoing certain modifications until it reaches the electric air ceiling of the sphere, and then this energy is reflected below in the form of a soft, diffused and a uniform light equal in intensity to the sunlight of Urantia at ten o'clock in the morning after sunrise.

Point 3. Capital worlds are not luminous bodies of space.
(46:1.5) Under such conditions of illumination, the impression is created that there is no single source of illumination; the rays of light simply flow from the heavens, entering equally from all sides. This light is very similar to natural sunlight, except that it contains much less heat. Therefore it must be understood that capital worlds are not luminous bodies of space; even if Jerusem were very close to Urantia, it would remain invisible.

Point 4. Light is reflected from the ionosphere, just as radio waves are reflected from the ionosphere of Urantia.
(46:1.6) The gases which reflect this light energy from the upper ionosphere of Jerusem to the surface of the planet are very similar to those which make up the upper atmosphere of Urantia and are associated with your polar phenomenon, the so-called northern lights , though they have a different origin. On Urantia, it is this gas screen that prevents radio waves from scattering, reflecting them in the direction of the Earth when they hit the gas belt on their way out. So the radio waves stick to the Earth's surface on their round-the-world journeys through your atmosphere.

Point 5. Jerusem is illuminated for three quarters of the day.
(46:1.7) This illumination of the sphere is maintained at a constant level for three-fourths of the duration of the Jerusalem day, after which the light gradually fades until its strength is approximately equal to that of the full moon on a clear night. The whole of Jerusem sinks into peace. Only the broadcast stations continue their work during this period of rest and recovery.

Point 6. The weak light of several neighboring suns reaches Jerusem, but does not depend on them.

(46:1.8) To Jerusem reaches the faint light of several neighboring suns - something like the bright light of stars, but he does not depend on them; worlds like Jerusem are not subject to the vicissitudes of solar fluctuations, nor do they face the problems associated with cooling or dying suns.
(46:1.9) The seven transitory educational worlds with their 49 companions are heated, illuminated, supplied with energy and water according to the Jerusem method.

Point 7. Architectural worlds have 200 elements – 100 material and 100 morontia.
(48:1.3) All these worlds are architectural spheres containing exactly twice as many elements as the evolutionary worlds. Such purpose-built worlds, in which there are one hundred physical elements, not only abound in heavy metals and crystals, but also contain exactly one hundred forms of unique energy organization called morontia materials. The Master Physical Regulators and Controllers of Morontia Energy are able to so alter the rotation of the original units of matter and at the same time so transform these energy associations that this new substance is formed.

Point 8. The landscape of Jerusem - diversity of topography.
(46:2.1) In Jerusem you will miss the rugged mountain ranges characteristic of Urantia and other forming worlds, for here there are neither earthquakes nor rains, but you will enjoy the beautiful elevations, the unique variety of topography and landscape. The vast expanses of Jerusem are preserved in a "natural state" and the magnificence of these regions is completely beyond the reach of human imagination.

Point 9. Climate of Jerusem and the system of water circulation.
(46:2.2) This sphere is decorated with thousands of small lakes, but here there are neither raging rivers nor vast oceans. There are no rains, storms or hurricanes in any architectural world, but in the period of the extinction of light, when the temperature drops to its lowest limit, condensation of moisture takes place. [On the three-gas worlds the dew point is higher than on the two-gas planets of the Urantia type.] Both the physical plant life and the morontia world of living beings need moisture, but this is mainly provided at the expense of of the subterranean system of dew, covering the whole sphere up to the upper peaks. This water system is not entirely subsurface, as the sparkling lakes of Jerusem are joined by numerous canals.

Point 10. The atmosphere of Jerusem is a mixture of three gases.
(46:2.3) The atmosphere of Jerusem is a mixture of three gases. This air is much like the Urantian air, but with the addition of gas adapted for the respiration of the morontia categories of living beings. This third gas in no way interferes with the respiration of animals or plants of the material categories.

Point D. Urantia

Point 1. Earth's atmosphere lets through about one two-billionth of all the light emitted by the Sun.
(58:2.1) The planetary atmosphere admits to the Earth about one two-billionth part of all the light emitted by the Sun. And it is necessary to remember that you receive from the Sun other types of energies - light is not the only gift of the Sun that reaches your atmosphere. Colossal streams of solar energy, including the waves above and below the visible spectrum, pour forth upon Urantia.

Point 2. The ozone layer of the Earth.
(58:2.2) Earth's atmosphere is practically opaque to a significant portion of solar radiation in the extreme ultraviolet part of the spectrum. Much of these short waves are absorbed by ozone, the upper layer of which exists at a height of about sixteen kilometers above the Earth's surface and extends outward another sixteen kilometers. Under the conditions prevailing on the Earth's surface, the ozone saturating this space would form a layer only two and a half millimeters thick. However, the relatively small and seemingly insignificant amount of ozone protects the inhabitants of Urantia from the excess of these dangerous and ultra-violet rays present in sunlight. And if this ozone layer were a little thicker, then you would be deprived of the extremely important and beneficial for health ultraviolet rays that reach the earth's surface today and determine the appearance of one of your most important vitamins.

Point 3. The material creation and evolution of man is not an accident.
(58:2.3) Nevertheless, some limited materialists among mortals persist in holding that the material creation and evolution of man was accidental. The intermediate beings of Urantia have collected over 50,000 facts of physics and chemistry, which they believe are inconsistent with the laws of chance, and which they suppose unmistakably demonstrate the presence of an intelligent plan in the material creation. And this without taking into account their catalog of over a hundred thousand facts, located outside the boundaries of the field of physics and chemistry,

which, in their opinion, prove the presence of reason in the planning, creation and maintenance of the material cosmos.

Point 4. Earth's atmosphere, ionosphere and stratosphere.
(58:2.6) The lower 5 or 8 to 9.5 kilometers of the Earth's atmosphere falls on the troposphere; the winds and air currents of this layer are the cause of atmospheric conditions. Above this belt is the inner ionosphere, above which the stratosphere begins. When moving away from the surface of the Earth, there is a uniform decrease in temperature for 9.5 to 13 kilometers; at that height it is about 57 degrees below zero Celsius. This temperature range - from 54 to 57 degrees below zero Celsius - remains unchanged for the next 65 kilometers up. This is the stratosphere - a region of constant temperature. At an altitude of 72 to 80 kilometers, the temperature begins to rise, reaching 6,500 degrees Celsius at the height of the auroras. It is this intense heat radiation that ionizes oxygen. But the temperature in such a rarefied atmosphere can hardly be compared with the temperature of the Earth's surface. It is necessary to consider that half of all your atmosphere is in the first 5 kilometers. The height of the Earth's atmosphere is defined as the greatest height of the aurora - about 640 kilometers.

Point 5. Dependence of polar phenomena on solar activity.
(58:2.7) The auroras have a direct relation to the sunspots-those oppositely directed solar cyclones which, like terrestrial tropical hurricanes, swirl above and below the solar equator. Such atmospheric currents rotate in opposite directions when they form above or below the equator.
(58:2.8) The ability of sunspots to alter the frequency of light waves indicates that these solar storm centers are giant magnets in their action. Such magnetic fields are capable of ejecting charged particles from sunspot craters through space all the way to your outer atmosphere on Earth, where their ionizing effects give rise to the spectacular aurora borealis. Therefore, the most intense auroras are observed for you during periods of maximum sunspot activity or soon after, when the sunspots are usually located along the equator.

Point 6. Solar activity and the behavior of the compass.
(58:2.9) Even the needle of the compass responds to this influence of the Sun, deviating a little more to the east at sunrise and a little more to the west at sunset. This happens every day, but at the peak of solar activity, these compass deviations are doubled. Such daily deviations of the compass are a consequence of the increased ionization of the upper layers of the atmosphere under the influence of sunlight.

Point 7. Influence of electrified conductive layers in the stratosphere.
(58:2.10) It is the presence of two different levels of electrified conducting layers in the stratosphere that explains the possibility of long-wave and short-wave radio transmissions. Your radio transmission sometimes encounters interference, which occurs as a result of the powerful storms that occasionally rage in the upper layers of the ionosphere.

Conclusion
(32:5.1) There is a great and glorious purpose in the movement of the universes through space. The efforts of mortals are not in vain. We are all involved in the making of a grand design, a colossal undertaking, and its immensity allows us to see only a small part at any given time and in the course of each lifetime. We are all part of an eternal project that the Gods are overseeing and reworking. The whole magnificent and universal mechanism continues its majestic movement in space to the accompaniment of the music which measures the infinite thought and eternal purpose of the First Great Source and Center.