

the motions of the light emitting objects. Then Max Plank found the need to postulate a quantum for a property called "action." Albert Einstein used this idea to show that light behaved like quanta in the photoelectric effect. Since then there has been almost continuous controversy about whether light is one or the other, or both a particle and a wave—a "wavicle."

Later in the twentieth century John Bell proved that experiments already done proved that a measurement of either particle of a pair of widely separated but somehow "entangled particles" affects the state of the other particle at faster than light speeds. This is the "spooky action at a distance" that Einstein railed against to no avail.<sup>28</sup>

The interpretation of these phenomena is still an active controversy in quantum mechanics to this day. It is often confused with the indeterminacy principle of quantum mechanics, which is that any measurement of the position of a particle changes its velocity and vice versa; therefore the position and velocity cannot be directly measured beyond a certain precision. This principle is affirmed by *The Urantia Book*: "It is impossible accurately to determine, simultaneously, the exact location and the velocity of a moving object; any attempt at measurement of either inevitably involves change in the other." [65:6.1] (P. 737) However, this is a problem having to do with the conditions for measurement of position versus velocity, which partially conflict. This indeterminacy can be incorporated into quantum logic by using Boolean fractions to represent conditional quantum measurements and events.<sup>29</sup>

*The Urantia Book* also throws light onto the "entangled particles," wave-particle duality phenomena of quantum mechanics: "Primordial-force behavior does give rise to phenomena which are in many ways analogous to your postulated ether. Space is not empty; the spheres of all space whirl and plunge on through a vast ocean of outspread force-energy; neither is the space content of an atom empty. Nevertheless there is no ether, and the very absence of this hypothetical ether enables the inhabited planet to escape falling into the sun and the encircling electron to resist falling into the nucleus." [42:5.16] (P. 476)

*The excitation of the content of space produces a wavelike reaction to the passage of rapidly moving particles of matter, just as the passage of a ship through water initiates waves of varying amplitude and interval.* [42:5.15] (P. 476)

*The interelectronic space of an atom is not empty. Throughout an atom this interelectronic space is activated by wavelike manifestations which are perfectly synchronized with electronic velocity and ultimatomic revolutions. This force is not wholly dominated by your recognized laws of positive and negative*

*attraction; its behavior is therefore sometimes unpredictable. This unnamed influence seems to be a space-force reaction of the Unqualified Absolute.* [42:8.2] (P. 478)

*The quantity of energy taken in or given out when electronic or other positions are shifted is always a 'quantum' or some multiple thereof, but the vibratory or wavelike behavior of such units of energy is wholly determined by the dimensions of the material structures concerned. Such wavelike energy ripples are 860 times the diameters of the ultimatoms, electrons, atoms, or other units thus performing.* [42:4.14] (P. 474)

*The so-called ether is merely a collective name to designate a group of force and energy activities occurring in space. Ultimatoms, electrons, and other mass aggregations of energy are uniform particles of matter, and in their transit through space they really proceed in direct lines. Light and all other forms of recognizable energy manifestations consist of a succession of definite energy particles which proceed in direct lines except as modified by gravity and other intervening forces. That these processions of energy particles appear as wave phenomena when subjected to certain observations is due to the resistance of the undifferentiated force blanket of all space, the hypothetical ether, and to the intergravity tension of the associated aggregations of matter. The spacing of the particle-intervals of matter, together with the initial velocity of the energy beams, establishes the undulatory appearance of many forms of energy-matter.* [42:5.14] (P. 475)

So *The Urantia Book* says that matter is composed of particles, not waves, but that waves are always generated in the unrecognized force content of space, apparently at faster than light speed. "Human beings are only just beginning to realize that the reactions of existence appear between acts and their consequences." [86:2.3] (P. 951)

#### GÖDEL'S "ROTATING UNIVERSE" SOLUTIONS TO EINSTEIN'S FIELD EQUATIONS

In the early twentieth century scientists were trying hard to interpret the famous Michelson-Morley interferometer light experiments,<sup>30</sup> which looked for evidence of a medium in which light vibrated using the Earth's motion around the sun. Unlike sound waves, light did not appear to be carried by some medium, some "ether" that did the vibrating and which would serve a fixed reference frame. In 1905 Albert Einstein published his first paper on "special relativity," which started from scratch concerning the measurement of time and space in relatively moving reference frames.

Einstein based his theory on just two principles: "1) The laws by which the states of physical systems undergo change are not affected, whether these changes of state be referred to the one or the other of two systems of coordinates

in uniform translatory [sic] motion. 2) Any ray of light moves in the 'stationary' system of co-ordinates with the determined velocity  $c$ , whether the ray be emitted by a stationary or a moving body."<sup>31</sup>

The first law implies that there is no preferred reference frame because they all give the same physical laws. There is no way to say that one object is really at rest and the other moving. It could be the other way. Or they are both moving with respect to some other reference frame.

The second law was the experimentally verified fact that speed of light will be the same value when measured in either of two reference frames that are moving with constant velocity with respect to one another.

*The Urantia Book* seems to affirm the second law but definitely not the first. *The Urantia Book* affirms the famous equation  $E = mc^2$  proved by Einstein in a second short paper in 1905: "The increase of mass in matter is equal to the increase of energy divided by the square of the velocity of light." [42:4.11] (P. 474) But it does not follow Einstein's "principle of relativity," which holds that there is no fixed reference frame. Instead, *The Urantia Book* affirms that there is such a fixed reference frame. *The Urantia Book* points to a "focus of space" that is not in space but located at the limiting surface of the relatively non-moving midspace zones existing between the zones of matter-pervaded space. These midspace zones converge on a non-moving non-spatial location, which can be taken as the fixed frame of reference for the universe. Even the motion of space can be measured relative to this fixed reference frame.

Einstein knew that there were other solutions to his equations that had a center, but he specifically discarded them on the grounds of aesthetics. However, another scientist, a mathematical one, the great logician Kurt Gödel, as part of a tribute to his friend Einstein, produced a paper<sup>32</sup> showing that there was a class of "rotating universe" solutions to Einstein's general field equations for his "relativity theory."

These rotating universe solutions to Einstein's equations have a peculiar characteristic, everything rotates, and because of the insistence that all positions are equivalent to each other as reference frames, the universe rotates about every position!<sup>33</sup>

Now this sounds suspiciously like *The Urantia Book's* claim that everything rotates around Paradise, not just macroscopically, but microscopically as well. By identifying all of the positions around which the universe rotates as being a single fixed place, Paradise becomes the "most gigantic organized body of cosmic reality in all the master universe." [11:0.1] (P. 118) If everything rotates around the "focus of space" then Einstein's equations can be satisfied

with a Center. And if light is emitted from this non-moving focus within matter then it will not be affected by the motion of the emitting body.

#### SOLAR SYSTEM ORIGIN

The contemporary theory of the solar system's birth starts with a rotating gaseous nebula, which then contracted by gravity, increased its spin, and evolved into the sun and planets. While allowing for this type of solar system birth, *The Urantia Book* makes a strong case for an alternate but now mostly discarded theory:

*Gravity-explosion Planets. When a sun is born of a spiral or of a barred nebula, not infrequently it is thrown out a considerable distance. Such a sun is highly gaseous, and subsequently, after it has somewhat cooled and condensed, it may chance to swing near some enormous mass of matter, a gigantic sun or a dark island of space. Such an approach may not be near enough to result in collision but still near enough to allow the gravity pull of the greater body to start tidal convulsions in the lesser, thus initiating a series of tidal upheavals which occur simultaneously on opposite sides of the convulsed sun. At their height these explosive eruptions produce a series of varying-sized aggregations of matter which may be projected beyond the gravity-reclamation zone of the erupting sun, thus becoming stabilized in orbits of their own around one of the two bodies concerned in this episode. Later on the larger collections of matter unite and gradually draw the smaller bodies to themselves. In this way many of the solid planets of the lesser systems are brought into existence. Your own solar system had just such an origin. [15:5.5] (P. 170)*

Scientists are presently reluctant to accept such an origin because 99% of the angular momentum calculated for our solar system seems to reside in the spinning planets rather than in the sun, and that fact is taken as counter to the "passing star" theory, as it is called. They also dispute the possibility of drawing off sufficient matter from the sun by a near pass. This assertion seems unfounded because a tidal disruption of the sun could have fragmented it completely; therefore a partial disruption could have separated a lesser amount from the main solar body.

On the other hand, *The Urantia Book* states that retrograde motion as observed (and confirmed) in our solar system in some of the moons of Saturn and Jupiter never occurs unless foreign bodies have been introduced into the system. That appears to be a mathematically verifiable assertion, but I have not found mention of it anywhere else. Other evidence cited is that the average plane of orbits of the planets is more than 5% off the plane of our sun's equator. Instead it is in the plane defined by the line of Angona's approach.

The extremely elongated orbit of the new planetoid, Sedna, corroborates such a passing heavy object theory. ("A passing star" is now being offered by contemporary scientists to explain how Sedna got such an elongated orbit!) *The Urantia Book* also says there were three outer planets of Angona captured by our sun with the help of the sun's nebular mother. Existence of such "foreign matter" has still to be determined, but there is such variation in the character of the solar system bodies that it is not hard to believe. Yet I never read this idea anywhere other than in *The Urantia Book*.

*Today, your sun has achieved relative stability, but its eleven and one-half year sunspot cycles betray that it was a variable star in its youth. In the early days of your sun the continued contraction and consequent gradual increase of temperature initiated tremendous convulsions on its surface. These titanic heaves required three and one-half days to complete a cycle of varying brightness. This variable state, this periodic pulsation, rendered your sun highly responsive to certain outside influences which were to be shortly encountered.* [57:5.2] (P. 655)

The scientific jury is still out on the solar system origin, but *The Urantia Book* poses a scenario that deserves further examination. *The Urantia Book* asserts that our sun was then a variable star with a 3.5-day period and that the 11.5-year sun spot cycle is a remnant of that state. Variable stars are known to expand and contract periodically making them brighter or less bright accordingly. Add a passing dark gravity body that caused a "partial disruption," that is, pulled the sun apart by tidal-gravity action.

During the maximum expansion period our then variable sun disgorged a huge column of mass on the near side and equal amounts of material on the other side thereby perhaps ridding itself of the angular momentum found now in the large planets and thereby avoiding complete fragmentation. In effect, by stretching out planetary arms the sun was able to reduce its angular momentum like a ballet dancer slows her spinning by stretching out her arms. The sun was thus able to avoid complete disruption, and the "arms" could immediately start circling the sun. The result is a more stable star with much less angular momentum than before, which is now represented in the swing of the planets around the sun and in their orbital spins. This scenario still fits the evidence.

*As the Angona system drew nearer, the solar extrusions grew larger and larger; more and more matter was drawn from the sun to become independent circulating bodies in surrounding space. This situation developed for about five hundred thousand years until Angona made its closest approach to the sun; whereupon the sun, in conjunction with one of its periodic internal*

*convulsions, experienced a partial disruption; from opposite sides and simultaneously, enormous volumes of matter were disgorged. From the Angona side there was drawn out a vast column of solar gases, rather pointed at both ends and markedly bulging at the center, which became permanently detached from the immediate gravity control of the sun.* [57:5.6] (P. 656)

*The nucleus of the physical system to which your sun and its associated planets belong is the center of the onetime Andronover nebula. This former spiral nebula was slightly distorted by the gravity disruptions associated with the events which were attendant upon the birth of your solar system, and which were occasioned by the near approach of a large neighboring nebula. This near collision changed Andronover into a somewhat globular aggregation but did not wholly destroy the two-way procession of the suns and their associated physical groups. Your solar system now occupies a fairly central position in one of the arms of this distorted spiral, situated about halfway from the center out towards the edge of the star stream.* [15:3.6] (P. 168)

#### SOLAR INTERNAL TEMPERATURE AND ENERGY SOURCES

*The Urantia Book* states that the internal temperature of the sun is much higher than is presently thought and indicates that we are missing the most important energy source of the sun. (That might explain why our scientists have been observing only 1/3 as many neutrinos as they expect to account for the sun's energy expenditures. However, in 2002 additional experiments have shown that electron neutrinos change into another type of neutrino en route from the sun and that total is consistent with theory.)

*"The internal temperature of many of the suns, even your own, is much higher than is commonly believed."* [41:7.1] (P. 463) *The surface temperature of your sun is almost 6,000 degrees, but it rapidly increases as the interior is penetrated until it attains the unbelievable height of about 35,000,000 degrees in the central regions. (All of these temperatures refer to your Fahrenheit scale.)* [41:7.2] (P. 463) *the sources of solar energy, named in the order of their importance, are: 1. Annihilation of atoms and, eventually, of electrons, ... Only second does* *The Urantia Book* list *Transmutation of elements, including the radioactive group of energies thus liberated.* [41:7.3] (P. 463) *You might try to visualize 35,000,000 degrees of heat, in association with certain gravity pressures, as the electronic boiling point. Under such pressure and at such temperature all atoms are degraded and broken up into their electronic and other ancestral components; even the electrons and other associations of ultimatons may be broken up, but the suns are not able to degrade the ultimatons.* [41:7.5] (P. 463)

## PHYSICS AND CHEMISTRY ALONE CANNOT EVOLVE INTO LIFE

*Physics and chemistry alone cannot explain how a human being evolved out of the primeval protoplasm of the early seas. The ability to learn, memory and differential response to environment, is the endowment of mind. The laws of physics are not responsive to training; they are immutable and unchanging. The reactions of chemistry are not modified by education; they are uniform and dependable. Aside from the presence of the Unqualified Absolute, electrical and chemical reactions are predictable. But mind can profit from experience, can learn from reactive habits of behavior in response to repetition of stimuli. [65:6.8] (P. 738)*

This cosmic instruction should not really be necessary, but we are bombarded by mechanists who use their minds to deny that mind and life is anything more than matter and energy. They seek to teach computers how to learn like humans and even attain consciousness; they fail to notice that teachable mind is more than physics and chemistry.

*In the later evolution of mortal creatures the Life Carrier Sons provide the physical body, fabricated out of the existing organized material of the realm, while the Universe Spirit contributes the 'breath of life.' [34:2.5] (P. 376)*

## SOON-COMING SCIENTIFIC VALIDATION OF THE URANTIA BOOK'S COSMOLOGY

If *The Urantia Book* is what it purports to be then the present lack of contemporary scientific interest will not always be the case. What would make scientists sit up and take notice of this "communication from outer space," this revelatory gift from higher universe life? Only scientific evidence in a book of philosophy can impress a real scientist of the book's worth when discussing the scientific aspects of the cosmos, not some re-warmed twentieth century science ill-suited for the presentation of the spiritual truths of the next thousand years. No, *The Urantia Book* must present truly impressive, albeit transient, science alongside of ageless truth.

*The Urantia Book* has made many predictions and when they are scientifically observed this will be a mighty powerful attraction to scientists and others to take *The Urantia Book* seriously, and not just scientifically.

However, without a very spectacular prediction most scientists will never entertain the possibility of an actual communication from higher order beings via a published book. Scientists respect confirmed predictions. But typically they wouldn't take a serious look at a "book of revelation" without some very dramatic fulfilled prediction.

So far that hasn't happened, but even now events are gathering for such a spectacular corroboration. I refer to the recent explorations in the eastern Mediterranean for Plato's

Atlantis, which due to research scientist Robert Sarmast, we now know was also the first Garden of Eden! That is quite a nice "co-ordination of known or about-to-be-known facts and observations." What will happen if Robert's next expedition brings up sensational evidence just where *The Urantia Book* says it is? Will scientists ignore that too? We may soon see. (I know of one, and there may be many other "closet UB readers" among professional scientists, who read and utilize the book, but who for obvious reasons prefer to keep that their secret.)

My own personal candidate in this category is *The Urantia Book's* prediction that there is a rare type of non-breathing humanoid life on a sphere in close proximity to our world. As such we might be looking for the wrong kind of life in our solar system, entertaining too narrow a concept of life. If *The Urantia Book* is what it says it is, then there must be such a world in close proximity. Some people think that implies the world must be in our solar system, but I suppose being within easy communication range, like a few light years away, might also be in close proximity in astronomical terms because we could become aware of each other by interstellar communication. Even that would be exciting.

Why believe *The Urantia Book's* science? Certainly it is not only because *The Urantia Book* states many spiritual truths. Rather, *The Urantia Book's* science must stand on its own as well, at least for a while, during these times when it has yet to be taken seriously by most of the world. The real reason that I believe in the science of *The Urantia Book* and the authenticity of *The Urantia Book* as divine revelation to our world is because of its humanly improbable avoidance of error and the meandering convergence over the years of contemporary science to positions taken by the *Urantia Book* authors.

**DISCOVERY OF ATLANTIS—THE FIRST GARDEN OF EDEN.** Already Robert Sarmast<sup>34</sup> has made on-site discoveries a mile under water near Cyprus. Expect more headlines at any time.

## THE ANDROMEDA GALAXY IS "CLOSER THAN SCIENTISTS THOUGHT"

The Andromeda galaxy, being visible with the naked eye, was designated M31 by Edwin Hubble. Unlike so many other galaxies found by Hubble, it is blue shifted.

a) **Distance Measurements.** Many people, especially skeptics, but some believers as well, have pointed to *The Urantia Book's* statement about the time of light travel from Andromeda being "almost one million years" [15:4.7] (P. 170)

as an error on the face of the cosmology. They assume that the current distance estimate of 2.7 light years is accurate and reliable enough to base further conclusions on it, even conclusions about the motivation of the superhuman authors for putting into *The Urantia Book* what they supposedly knew to be inaccurate! Skeptics have pointed to it as strong evidence of human authorship.

However, the accuracy of distance measurements to celestial objects is still a controversial topic in the scientific community. "While it is well established that M31 is about 15–16 times further away than the Large Magellanic Cloud (LMC), the absolute value of this measure is still uncertain, and in current sources, usually given between 2.4 and 2.9 million light-years—a consequence of the uncertainty in the LMC distance and thus the overall intergalactic distance scale. For example, the semi-recent correction from data by ESA's astrometrical satellite Hipparcos has pushed this value up by more than 10 percent, from about 2.4–2.5 to the about 2.9 million light-years we use here."<sup>35</sup>

One of the most dependable methods to estimate relative distance utilizes so-called "variable stars." These stars expand and contract in regular periods. The longer the period and expansion the brighter the star becomes. Shorter period variable stars are dimmer in all phases than longer period ones. For instance, stars in the LMC are all about the same distance from us and those with equal periods are observed to have equal luminosity. Therefore by determining the period of such a variable star its relative distance can be estimated using the inverse square law. If a star with the same period as another star is four times dimmer, then it must be twice as far away as the brighter star.

Although this is an accurate measure of relative distances, the accuracy of the calibration of this technique is still uncertain and unreliable. That is, we have an accurate measuring stick with the Cepheid variable stars but we still don't know with much reliability the length of the distance unit on our measuring stick. Consequently we know more accurately that the Andromeda galaxy is about 15 to 16 times as far away as the LMC than we know the actual distance to LMC.

The reason for this is that there are no variable stars close enough on which we can do some relatively accurate and independent parallax distance measurements. If we could independently and reliably measure the distance to even one of these variable stars then we would have a reliable estimate of the actual distance associated with that period and so all periods. But the LMC is too far away to measure distances by the parallax method.

In the parallax method the earth's orbit around our

sun functions as the base of a narrow triangle with the target star at the far away vertex. Seeing the shift of the target against the background stars allows an estimate of the angle between the viewpoints. Unfortunately other methods must be used to estimate the distance to LMC but they too have reliability problems.

In "Astronomy and the Superuniverse," Troy Bishop,<sup>36</sup> documents with references that astronomy has calculated the distance to Andromeda, in 1907 at 19 light years, by stellar parallax in 1911 at over 1600 light years, by observation of novae in the mid-1920's at 800,000 light years, by Cepheid variables in the mid-1950s at 2.7 million light years. See Isaac Asimov's *The Universe From Flat Earth to Black Holes and Beyond*, Walker and Company, New York, 1980, for an account of the early evolution of our Andromeda distance measurements.

Recently the distance estimate to Andromeda was changed upward again by 10% due to slight refinements in another distance measuring method used to calibrate the measuring stick. The bottom line is that as scientists we still do not know for sure what unit of distance is on our variable star measuring stick. In this context adjusting by a factor of three would not be shocking. There is always a ready explanation making everything reasonable!

But considering such variability even in recent measurements, the actual light from Andromeda still might take "almost 1 million years" to reach Urantia as *The Urantia Book* says, not from 2.4 to 2.9 million years as presently estimated by our science. Our scientists are still learning about large-scale motions that will change subsequent estimates. *The Urantia Book* is attempting to provide some cosmic instruction, but most of our scientists don't yet think it is worth reading. Extra-terrestrial, super-human instruction on science and cosmology by way of *The Urantia Book* is not yet on the agenda of our scientists.

b) **News on Size of Andromeda.** On Monday, May 30, 2005, while I was preparing this paper, Reuters released the news from astronomers that the Andromeda galaxy "just got bigger—three times bigger." A sprinkle of stars once thought to be part of the central halo were measured to be moving in a way only consistent with their being part of the main arms of the circling star cloud. That means the diameter of the disk is three times what was thought last year.

"This giant disk discovery will be very hard to reconcile with computer simulations of forming galaxies. You just don't get giant rotating disks from the accretion of small galaxy fragments," Rodrigo Ibata said in a statement.<sup>37</sup> No, you get them from the initiating actions of living force

organizers as detailed earlier.

*The seven superuniverses are still growing; the periphery of each is gradually expanding; new nebulae are constantly being stabilized and organized; and some of the nebulae which Urantian astronomers regard as extragalactic are actually on the fringe of Orvonton and are traveling along with us. [12:2.3] (P. 131)*

If in 2005 the estimated size of Andromeda can be discovered to be in error by a factor of three, is it hard to believe that there can be a similar error in the estimates of the distance to Andromeda? Indeed, if Andromeda is actually three times closer than thought, that would mean it is three times smaller in each dimension than was thought, which would make the size estimate back shift again. But that is the nature of science, to correct its previous errors with the scientific method—the technique of experiment. A mathematical scientist conducts his experiments purely in the mind.

#### THE FOURTH AND LAST OUTER SPACE ZONE.

Expect to hear about four distinct rings, “walls” or concentric rings of galaxies separated by relative empty space. These huge rings of billions of galaxies will also be found to be rotating in alternating directions. The center of these common rotations will be found to be the same center around which travel the “local group,” the seven great super-galactic elongated elliptical arms of the grand universe circling the same macroscopic Center.

*The Quartan Space Level. This, the final and largest corps, consists of 24,010 Master Architects, and if our former conjectures are valid, it must be related to the fourth and last of the ever-increasing-sized universes of outer space. [31:9.9] (P. 352)*

These Master Architects are eternal beings working on the ultimate (transcendental) level of reality, prior to all finite beginnings and after all finite endings, thereby joining the finite realms with the eternal realms of eternal Havona. Unifying all of this finite reality with eternal reality is the transcendental job of the Supreme Being and numerous Associates. These outer space universes were begun prior to the present “Local Group” (Grand Universe) of galaxies, not in a Big Bang explosion.

#### SPECTROGRAPHIC REINTERPRETATION OF THE DISTANCE AND REDSHIFT LINEAR RELATIONSHIP

Numerous “factors of error” in present day spectrographic interpretations will be identified. Look for errors due to: Earth’s angles of observation, newly recognized rotations within our local group of galaxies (and associated Doppler

shift corrections), alternating rotation of the local group (grand universe) and the first outer space zone of galaxies (the largest distortion), and still other space influences that shift light toward the red. The overall picture of the Master Universe of Central Paradise, surrounding eternal Havona, seven finite time-space superuniverses (the local group), and four outer space zones full of billions of galaxies.

Beyond matter there is midspace, and beyond midspace there is the concept periphery of the mind, and beyond mind we are face to face with the Spirit of the Persons of the Eternal Son and our Paradise Father.

#### OVERTHROW OF THE BIG BANG COSMOLOGY.

Along with the overthrow of the Big Bang we will hear that the universe is ‘smaller than we thought,’ and what seemed like rapid expansion now looks like orderly rotation, not explosive expansion.

*The successive space levels of the master universe constitute the major divisions of pervaded space—total creation, organized and partially inhabited or yet to be organized and inhabited. If the master universe were not a series of elliptical space levels of lessened resistance to motion, alternating with zones of relative quiescence, we conceive that some of the cosmic energies would be observed to shoot off on an infinite range, off on a straight-line path into trackless space; but we never find force, energy, or matter thus behaving; ever they whirl, always swinging onward in the tracks of the great space circuits. [12:1:2] (P. 128)*

#### DISCOVERY OF NON-BREATHING, ELECTRICALLY POWERED HUMANIDS “IN CLOSE PROXIMITY” TO EARTH.

The *Urantia Book* predicts a non-breathing, intelligent race of people on a sphere close to Earth. Judging by characteristics of such worlds, Ganymede, Jupiter’s largest satellite in the solar system, is a candidate to be the world of the non-breathers. It is also possible that our moon harbors such a race still unnoticed by our still cursory exploration, but this seems less likely than Ganymede.

*Life on the worlds of the nonbreathers is radically different from what it is on Urantia. The nonbreathers do not eat food or drink water as do the Urantia races. The reactions of the nervous system, the heat-regulating mechanism, and the metabolism of these specialized peoples are radically different from such functions of Urantia mortals. Almost every act of living, aside from reproduction, differs, and even the methods of procreation are somewhat different. [49:3.4] (P. 563)*

*You would be more than interested in the planetary conduct of this type of mortal because such a race of beings inhabits a sphere in close proximity to Urantia. [49:3.6] (P. 564)*

Ganymede is a moon of Jupiter, the largest moon in

our solar system with a diameter of 5,262 km (3,280 miles). It has no known atmosphere.

"The Galileo orbiter's first flyby of Ganymede discovered that Ganymede has its own magnetosphere field embedded inside Jupiter's huge one. This is probably generated in a similar fashion to the Earth's: as a result of motion of conducting material in the interior. It is thought that this conductive material may be a layer of liquid water with a high salt concentration, or it may originate in Ganymede's metallic core. Ganymede is the only moon known to have a magnetosphere."<sup>38</sup>

It seems likely that energy intake for non-breathers is similar to the electrical energy intake of the humanoid midways elsewhere described. In 1990 Joe Pope,<sup>39</sup> published evidence of Ganymede being the likely sphere of the non-breathers.

#### SUMMARY

So the soon-coming scientific verifications are:

- a) Discovery of Atlantis—the First Garden of Eden (<2 years)
- b) The Andromeda galaxy is closer than once thought and light from there requires "almost one million years," not almost three million years as is presently believed (<10 years)
- c) Fourth and last outer space zone (<10 years)
- d) Spectrographic reinterpretation of the distance-redshift linear relationship (<10 yrs)
- e) Overthrow of "big bang" cosmology; universe is "smaller than we thought" (<15 years)
- f) Discovery of non-breathing, electrically powered humanoids "in close proximity" to Earth—Ganymede, Jupiter's satellite, largest in the solar system, is candidate (Anytime we look for them, the sooner the better)

#### THE FUTURE

*The Urantia Book* has much to say about the far distant future, not only the immediate future. Some revelatory information was mandated, and some lost knowledge is resurrected.

Scientists must be reminded that not only religion has unproved assumptions: "All divisions of human thought are predicated on certain assumptions which are accepted, though unproved, by the constitutive reality sensitivity of the mind endowment of man. Science starts out on its vaunted career of reasoning by assuming the reality of three things: matter, motion, and life. Religion starts out with the assumption of the validity of three things: mind, spirit, and the universe—the Supreme Being." [103:7.11] (P. 1139)

#### TIME AND SPACE

*It is helpful to man's cosmic orientation to attain all possible comprehension of Deity's relation to the cosmos. While absolute Deity is eternal in nature, the Gods are related to time as an experience in eternity. In the evolutionary universes eternity is temporal everlastingness—the everlasting now. [118:1.1] (P. 1295)*

Time is the "moving image of eternity" and space is the "reflected shadow" (projection) of Paradise realities

*Mankind is slow to perceive that, in all that is personal, matter is the skeleton of morontia, and that both are the reflected shadow of enduring spirit reality. How long before you will regard time as the moving image of eternity and space as the fleeting shadow of Paradise realities? [189:1.3] (P. 2021)*

*Throughout the first centuries of the Christian propaganda, the idea of the kingdom of heaven was tremendously influenced by the then rapidly spreading notions of Greek idealism, the idea of the natural as the shadow of the spiritual—the temporal as the time shadow of the eternal. [170:5.2] (P. 1864)*

*Human personality is the time-space image-shadow cast by the divine Creator personality. And no actuality can ever be adequately comprehended by an examination of its shadow. Shadows should be interpreted in terms of the true substance. [1:6.1] (P. 29)*

*The brighter the shining of the spiritualized personality (the Father in the universe, the fragment of potential spirit personality in the individual creature), the greater the shadow cast by the intervening mind upon its material investment. In time, man's body is just as real as mind or spirit, but in death, both mind (identity) and spirit survive while the body does not. A cosmic reality can be nonexistent in personality experience. And so your Greek figure of speech—the material as the shadow of the more real spirit substance—does have a philosophic significance. [12:8.16] (P. 141)*

If the universe is circular, ever moving around motionless Paradise at the focus of space, ever moving around Paradise in microscopic and macroscopic ways, then the motions we see may just be reflected images of time-less sequentiality on the space-less surfaces of Paradise.

The topology of matter and space is such that there is a (potentially dense) set of foci at the limit of the midspace zones existing within, between, and completely enveloping all moving matter. All of these midspace zones converge on a timeless, spaceless realm—Paradise, at the center of Infinity.

Although the midspace zones are potentially infinite, beyond the boundaries of matter-pervaded space they too end. But like Paradise the Unqualified Absolute and Universal Absolute have no limits.

### CIRCULAR SIMULTANEITY

An experience of circular simultaneity will replace the one-time linear "flow of events." We all recognize that time is more than a moving point; our experience of time always includes an interval of it, a fragment of the never-beginning, never-ending eternal "now."

*Time, space, and experience constitute barriers to creature concept; and yet, without time, apart from space, and except for experience, no creature could achieve even a limited comprehension of universe reality. Without time sensitivity, no evolutionary creature could possibly perceive the relations of sequence. Without space perception, no creature could fathom the relations of simultaneity. Without experience, no evolutionary creature could even exist; only the Seven Absolutes of Infinity really transcend experience, and even these may be experiential in certain phases.* [106:9.2] (P. 1173)

From Jesus in *The Urantia Book*, we read, "Animals do not sense time as does man, and even to man, because of his sectional and circumscribed view, time appears as a succession of events; but as man ascends, as he progresses inward, the enlarging view of this event procession is such that it is discerned more and more in its wholeness. That which formerly appeared as a succession of events then will be viewed as a whole and perfectly related cycle; in this way will circular simultaneity increasingly displace the onetime consciousness of the linear sequence of events." [130:7.5] (P. 1439)

How, you may ask, can we ever imagine that time is not linear? Is it not true that the past is different from the future? Yes, it is different. For instance, we can change the future but not the past by deciding to act in the present. But every "moment" is already a time interval of longer or shorter duration. The theoretically infinitesimal instant has zero duration and the union of all such zero duration instants still has zero duration. There must be something more to a "time line" than points with no length.

Time always comes in intervals that include "now," the eternally present. Without fragmentation, a time interval includes both the infinite past and also the infinite future. These time intervals also convey logical sequentiality, something that can also be conveyed by "circular simultaneity."

*Time comes by virtue of motion.* [12:5.1] (P. 134) Motion is more basic than time; all measurements of time are done by counting relative motions. One day is one revolution (motion) of the earth on its axis. Time is therefore the experience of periodic motion, and motion appears to be the change of an object from one of position in space to another. Motion in space has logical meaning, but that meaning can be gleaned without the necessity of linear motion.

*The seven prime relationships within the I AM eternalize as the Seven Absolutes of Infinity. But though we may portray reality origins and infinity differentiation by a sequential narrative, in fact all seven Absolutes are unqualifiedly and co-ordinately eternal. It may be necessary for mortal minds to conceive of their beginnings, but always should this conception be overshadowed by the realization that the seven Absolutes had no beginning; they are eternal and as such have always been. The seven Absolutes are the premise of reality.* [105:3.1] (P. 1155)

Time gives us the intricacies of sequentiality and space gives us the relationships of simultaneity, but they are inseparable in wholeness of human experience.

### THE BESTOWAL OF LIFE.

*The force organizers initiate those changes and institute those modifications of space-force which eventuate in energy; the power directors transmute energy into matter; thus the material worlds are born. The Life Carriers initiate those processes in dead matter which we call life, material life. The Morontia Power Supervisors likewise perform throughout the transition realms between the material and the spiritual worlds. The higher spirit Creators inaugurate similar processes in divine forms of energy, and there ensue the higher spirit forms of intelligent life.* [42:1.5] (P. 468)

### THE SEVEN MASTER SPIRITS AND THEIR SEVEN DIFFERENT SUPERUNIVERSES.

*Early in the projection of the superuniverse scheme of creation, the Master Spirits joined with the ancestral Trinity in the cocreation of the forty-nine Reflective Spirits, and concomitantly the Supreme Being functioned creatively as the culminator of the conjoined acts of the Paradise Trinity and the creative children of Paradise Deity. Majeston appeared and ever since has focalized the cosmic presence of the Supreme Mind, while the Master Spirits continue as source-centers for the far-flung ministry of the cosmic mind.* [116:4.3] (P. 1272)

Each Master Spirit has his own superuniverse. We belong to the seventh superuniverse, Orvonton, while the whole fifth superuniverse among the seven is devoted to the power control beings. "Master Spirit Number Five. This divine personality who exquisitely blends the character of the Universal Father and the Infinite Spirit is the adviser of that enormous group of beings known as the power directors, power centers, and physical controllers. This Spirit also fosters all personalities taking origin in the Father and the Conjoint Actor. In the councils of the Seven Master Spirits, when the Father-Spirit attitude is in question, it is always Master Spirit Number Five who speaks." [16:3.10] (P. 187)



## THE SPIRIT NUCLEUS

Mortal man has a spirit nucleus. The mind is a personal-energy system existing around a divine spirit nucleus and functioning in a material environment. Such a living relationship of personal mind and spirit constitutes the universe potential of eternal personality. [12:9.6] (P. 142)

\* \* \*

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### Endnotes:

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