# On the Evidence for the Revelatory Presentation of Cosmology:

Findings from *A New Model of the Universe* and New JWST Findings

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*The Urantia Book* gives "a co-ordinated and unbroken explanation of both science and religion." (101:2.1) This explanation involves "the revelatory presentation of religion, philosophy, and cosmology which portrays the triune existence of spirit, mind, and energy proceeding from the Trinity of Paradise and attaining time-space unification within the Deity of the Supreme." (99:4.13) Considering the contribution made by the revelatory presentation of cosmology to a comprehension of the Supreme, a review of some of the existing evidence supporting this cosmology seems appropriate at this time, since new evidence for it has recently come from the James Webb Space Telescope (JWST). Existing evidence is largely from *A New Model of the Universe* presented at the 2022 Science Symposium. [20]

The science in the book predates 1955 and some of its facts have become outdated, like the distance to Andromeda, first determined in 1924. As we might expect, the revelators foresaw imminent scientific discoveries and how they would change previously established facts. They could have incorporated these new facts in the text, "but we are forbidden to include such humanly undiscovered facts in the revelatory records." (101:4.2) But this does not prevent them from sharing some of their superior knowledge about how the physical universe is organized, which they say it is important to know.

> …the mortal mind can be taught much about the plan and arrangement of the universes; you can know something of their physical organization. (12:0.1)
>
> It is important first to gain an adequate idea of the physical constitution and material organization of the superuniverse domains, for then you will be the better prepared to grasp the significance of the marvelous organization provided for their spiritual government… (15:0.3)
>
> Because your world is generally ignorant of origins, even of physical origins, it has appeared to be wise from time to time to provide instruction in cosmology. (101:4.1)

This instruction covers Edwin Hubble's 1929 discovery of the empirical redshift-distance relation; Hubble demonstrated that the redshifts of galaxies are proportional to their distances. This is the cornerstone of modern cosmology which interprets this relation as evidence of space expansion. However, the revelators say this is incorrect; space is not expanding following a big

bang event some 13.8 billion years ago. [The modern hypothesis of a continuous space expansion is not to be confused with the revealed 2-billion-year cycles of space respiration. (see 11:6)] They knew their concept of a static non-expansionary universe would initially be dismissed as scientifically obsolete, and it has been. The revelators also tell us about unique cosmic structures called space levels, which contain all of the galaxies of creation. The organization of the universe in space levels is completely original with their cosmology. Such cosmic structures are impossible in the current expanding universe model.

Prior to 1924, it was universally believed the Milky Way was the one and only galaxy in a non-expansionary universe. Hubble's discovery in that year of the distance to Andromeda proved there are multiple galaxies in the universe. Hubble's measurement of the redshifts and distances of a couple of dozen galaxies led to his 1929 discovery of the empirical redshift-distance relation. There has been an explosion of astronomical data since, but this new data has not yet answered the question first raised by Edwin Hubble: Is space expansion a real phenomenon or not? Or is space expansion an incorrect interpretation of the empirically confirmed redshift-distance relation?

Initially, Hubble thought the receding velocity of space expansion was a viable explanation for the redshift-distance relation. But as redshifts and the receding velocities they implied got larger, his doubts increased. In 1936 Hubble wrote that "'velocities' of about 25,000 miles per second" were being calculated from galactic redshifts. [1] He found these velocities hard to believe, since almost all other astronomical velocities observed were on the order of hundreds of miles per second, not tens of thousands. The revelators say that with more powerful telescopes, it will appear that some galaxies are receding "at the unbelievable rate of more than thirty thousand miles a second." (12:4.14) These doubts led him to reconsider a static universe model, in which the redshift-distance relation was caused, in his words, by "some unknown principle of nature, which does not involve actual motion." [1] Hubble appears to have in mind something like his friend Fritz Zwicky's "tired light" hypothesis, where "light loses energy in proportion to the distance it travels through space." [1] In a 1947 analysis of the distribution of galaxies, Hubble concluded this was not consistent with the expanding model: "It seems likely that red-shifts may not be due to an expanding Universe." [2]

Hubble's idea that galactic redshifts might be due to a new "principle of nature" is still tenable, because astronomers have not proven that space expansion is real. This was the conclusion reached by the astrophysicist Martin Lopez-Corredoira in 2015. He reviewed multiple implementations of six different critical tests for space expansion and found two types of tests favor an expanding universe, while four favor a static one. [3] Consequently, the overall results of these tests are inconclusive. The space expansion explanation for galactic redshifts has been favored, in part, because of the apparent lack of a plausible explanation for them in a static universe.

In 2022 there was a new instance of one of these critical tests for space expansion called the angular size–redshift test. This type of test was considered by Lopez-Corredoira. This test instance

used data from the James Webb Space Telescope (JWST), which first became available in the summer of 2022. Its observations of high redshift galaxies extended the reach of this test by a factor of five and its results strongly favor a static universe model. But before covering these results, the reasons for initially adopting the expanding universe model are considered to establish the scientific context for this finding, which also incorporates the cosmological instruction of the revelatory corps.

The ancient idea of a universe of absolutely changeless space was discredited by Hubble's discovery of the redshift-distance relation in 1929. [18] In this relation the redshifts of galaxies increase in proportion to distance. The simplest explanation for redshift is a receding velocity. But a very perplexing aspect of this phenomenon is that the redshift-distance relation is observed to occur *in every direction*. Since it is assumed we are not at the center of the universe, it must be that space, itself, is expanding from every point in every direction in the same way.

This idea of space expansion comes from a solution to the field equations of general relativity found by Alexandre Friedmann in 1922. A 2-dimensional analogy sometimes used for this idea of space expansion is make an analogy between space and the surface of an inflating balloon. Relative to any arbitrary reference point on the balloon's surface, all other points on this surface will recede from it with velocities that are proportional to their surface distances from this point. After the discovery of the redshift-distance relation, it was realized this relation could be explained by the velocity of space expansion, as described by the Friedmann solution. This explanation is expressed in Hubble's law $v = H_0 D$: The receding velocity $(v)$ of space expansion equals the Hubble constant $(H_0)$ multiplied by the distance $(D)$. The Hubble constant is the rate of increase in the velocity of space expansion per unit distance.

The velocity *of* space expansion is different from a velocity *through* space. Velocity through space causes a displacement in spectral lines called a Doppler shift: "Spectral lines are displaced from the normal towards the violet by an approaching star; likewise these lines are displaced towards the red by a receding star." (12:4.14) We are told these displacements give "fairly reliable" estimates of relative velocity within the superuniverse space level. But reckoning the velocities of galaxies in outer space (external universes) in this way is "wholly unreliable." It may appear that these outer space galaxies are "engaged in outward flight at ever-increasing velocities as your calculations proceed outward in space. But such is not the case." (12:4.12) The redshift-distance relation is not explained by their outward flight. This is because:

> Many influences interpose to make it appear that the recessional velocity of the external universes increases at the rate of more than one hundred miles a second for every million light-years increase in distance. (12:4.14)

This rate of increase in velocity for the Hubble constant is taken almost verbatim from Hubble's 1936 work, *The Realm of the Nebulae.* [4] Hubble is careful to point out the tentative and unproven nature of this velocity interpretation. "Although no other plausible explanation of red-shifts has been found, the interpretation as velocity-shifts may be considered as a theory still to be tested by actual observations." [4, pg. 34] The Hubble constant cited here is about seven times the current value of 73 kilometers per second (km/s) per megaparsec (Mpc).

> By this method of reckoning, subsequent to the perfection of more powerful telescopes, it will appear that these far-distant systems are in flight from this part of the universe at the unbelievable rate of more than thirty thousand miles a second. But this apparent speed of recession is not real; it results from numerous factors of error embracing angles of observation and other time-space distortions. (12:4.14)

Outer space galaxies are not receding at the unbelievable rate of tens of thousands of miles per second, because space expansion *is not real*. The revelators do not tell us what causes the redshift-distance relation. But they do say it is the result of "numerous factors of error" and other "time-space distortions." This last phrase is quite curious and catches the attention, since it appears to hint at the theory of relativity. Although the revelators are not permitted to give us unearned knowledge, they have permission "for the co-ordination and sorting of present-day knowledge." (101:4.2)

Prior to the 20th century, Newton's concepts of absolute time and space were unquestioned. But the idea of time-space distortions is conceivable in relativity theory: "…neither space nor time can be absolute or infinite." (1:7.7) "Space is, from the human viewpoint, nothing…. Space is, however, real. It contains and conditions motion." (12:4.7) Since space contains motion, there can be no motion without space. And there is no time without motion. "Time comes by virtue of motion…" (12:5.1) "Relationships to time do not exist without motion in space…" (12:5.5) These statements could be reflective of relativity theory, which describes quantifiable relationships between time and motion. The novel idea of time-space distortions is reiterated for emphasis in the next paragraph.

> But the greatest of all such distortions arises because the vast universes of outer space, in the realms next to the domains of the seven superuniverses, seem to be revolving in a direction opposite to that of the grand universe. (12:4.15)

At first, this seems to suggest these opposite directions of revolution are somehow responsible for time-space distortions which explain galactic redshifts. But counter rotation would produce blueshifts in one direction and redshifts in the other. Since this whole paragraph describes the alternating directions of revolution of the successive space levels, the apparent implication is that universal gravitational revolution causes time-space distortions on a universal scale. Universal gravitational revolution requires a universal gravitational field with a single center, Paradise, and this results in a gravitational potential which varies with the distance from this center. General relativity describes how gravitational potential results in time dilation. This phenomenon is

described by a solution to the field equations of general relativity found in 1915 by Karl Schwarzchild. Time dilation can be fairly characterized as a time-space distortion, which results in a gravitational redshift that is proportional to distance.

Gravitational time dilation — a relative "lengthening" of the unit of time or a "slowing down" of the passage of time — occurs where there is a difference in gravitational potential between two locations. Time dilation is like playing back the recording of an event in slow motion. Under time dilation physical processes are unchanged, but each one occurs over a longer relative duration. Time "passes" more slowly in a stronger gravitational potential than it does in a weaker one. For example, time passes more slowly at sea level than it does on a mountain top. Time dilation in special relativity is due to the motion of uniform velocity. In general relativity time dilation is due to the acceleration associated with a static gravitational potential. [15, pg. 26-30] Gravitational time dilation has been thoroughly tested and confirmed. *A New Model of the Universe,* presented at the 2022 Science Symposium, discusses how gravitational potential causes time dilation, which results in a redshift in the frequencies of light. [20]

Gravitational time dilation/redshift is greatest where the gravitational potential is the strongest, which is on the surface of a sphere of matter. From the conventional perspective external to a sphere of matter, gravitational potential is weakest (~zero) at an arbitrarily large distance from the surface of the sphere. However, there is also an internal perspective in a static universe with a uniform mass density. From this perspective we are at the center of a spherically-symmetric distribution of matter, which extends outward to the limits of a static universe. From this internal perspective, the gravitational potential at a distance equals the gravitational potential at the surface of a sphere with a radius equal to this distance. By Newton's shell theorem, the spherically-symmetric mass beyond this spherical surface has no effect on the gravitational potential at the surface.

The spherically-symmetric distribution of mass is a consequence of the assumption of a uniform mass density at the root of the cosmological principle, formalized in the mid-1930s. The application of general relativity in an expanding universe requires this simplifying assumption. Gravitational redshift is described by general relativity in a static universe but not in an expanding one. In an expanding model the assumption of a uniform mass density can be justified by a hypothetical big bang event, which results in a universal dispersion of energy-matter. The justification for this assumption in the revelatory static model is more implicit.

"Throughout all organized space there are gravity-responding energy currents, power circuits, and ultimatonic activities, as well as organizing electronic energies. Practically speaking, space is not empty." (42:4.6) Gravity-responding energy-matter is everywhere in space. A uniform distribution of energy-matter can also be justified by both the creation of nebulae and stellar dynamics.

"All evolutionary material creations are born of circular and gaseous nebulae…" (57:2.1) Nebulae are created (eventuated) by the Paradise force organizers from the space potency of the Unqualified Absolute. (42:1.5) Nebulae form over something like a trillion years (57:1.6) and give birth to between tens of thousands and a hundred million stars. (15:4.5) It is reasonable to suppose that the creation of innumerable stars by innumerable nebulae over trillions of years results in a universal dispersion of energy-matter.

An ordinary sun gives off heat and light for "trillions upon trillions of years…. Many phases of physical energy and all forms of matter are attracted to, and subsequently distributed by, the solar dynamos. In this way the suns serve as local accelerators of energy circulation, acting as automatic power-control stations." (15:6.9) The circulation of energy-matter by uncountable suns over trillions of years is consistent with the assumption of a uniform mass density on large cosmic scales. What the expanding model explains with a cataclysmic event lasting for a mere fraction of a second, revelation explains in terms of processes which occur over many trillions of years.

We are told "the most nearly empty space known in Nebadon would yield about one hundred ultimatons—the equivalent of one electron—in each cubic inch." (42:4.6) This density equals 33 hydrogen atoms per cubic meter. In current theory the mass density on large cosmic scales is $1 \times 10^{-26}$ kg/m$^3$ (on the order of hundreds of megaparsecs). This equals six hydrogen atoms per cubic meter. It seems possible that the minimum mass density in our region of the Milky Way is roughly five times greater than the uniform mass density on large intergalactic cosmic scales. This mass density of $1 \times 10^{-26}$ kg/m$^3$ accumulates quickly by volume. In a sphere with a radius of four million light-years (i.e. like the Local Group) this mass density results in $1.2 \times 10^{12}$ $M_\odot$ (solar masses), which is enough stellar matter for 3 to 12 Milky Way galaxies.

Assuming there is a uniform mass density in a static universe, there *must be* a gravitational potential between us and a remote galaxy which is proportional to its distance. This follows from Newton's shell theorem, which is discussed in *A New Model of the Universe* [20, pg. 9-11]. A uniform mass density results in the spherically-symmetric distribution of mass relative to any point, and we are at the center of a *possible* sphere of matter of indefinite radius. The distance to a remote galaxy can be treated as the radius of an *actual* sphere of matter. By the shell theorem, the mass within this sphere acts as though it is all concentrated at its center as a point mass. The gravitational constant $G$ times this point-mass $M$ divided by this radius ($GM/r$) gives the gravitational potential ($v^2$) on the surface of this sphere. Also by the shell theorem, the spherically-symmetric distribution of mass outside this sphere has no effect on the gravitational potential at this distance; it is as though there is only empty space outside this sphere. The redshift of a galaxy due to time dilation is determined by the gravitational potential at the surface of a sphere whose radius equals the distance to the galaxy.

Gravitational potential can be described as an energy density – energy divided by mass – with units of velocity squared: $v^2 = E/m$. This concept of energy density is analogous to the energy-

mass equivalence equation of special relativity, $E = mc^2$. The total possible gravitational potential ($v^2$) of a sphere with a uniform mass density ($\rho$) is proportional to its radius squared ($r^2$): $v^2 = (8\pi G\rho r^2)/3$. [20, pg. 17) Time dilation is the ratio of dilated over undilated time minus one ($t/t_0 - 1$). Redshift $z$ equals the ratio of observed wavelength over emitted wavelength minus one $z = (\lambda/\lambda_0 - 1)$. Gravitational redshift is caused by gravitational time dilation and both are equal to the square root of this gravitational potential divided by the speed of light squared ($c^2$): $(t/t_0 - 1) = z = \sqrt{(8\pi G\rho r^2)/(3c^2)}$. Gravitational redshift explains the constant redshift-distance relation, since $z/r = \sqrt{(8\pi G\rho)/(3c^2)}$.

One of the six critical tests for space expansion considered by Lopez-Corredoira in 2015 is the time dilation test. [3] There is not supposed to be time dilation in a simple static universe model. In the expanding model time dilates by a factor of $(1 + z)$ due to the velocity of space expansion, and this time dilation is described by special relativity, not general relativity. This time dilation has been confirmed by the light curves of Type Ia supernovae at high redshifts. In the above equation, gravitational potential results in time dilating by exactly the same factor of $(1 + z)$, since $(t/t_0 - 1) = z \rightarrow t/t_0 = (1 + z)$, where $t_0$ is the undilated time of the observer. (*A New Model,* pg. 17-18) In the standard big bang model the velocity of space expansion explains galactic redshifts and the time dilation of Type Ia supernovae. In the static model gravitational potential explains the redshift-distance relation and the time dilation of Type Ia supernovae. Consequently, the time dilation test no longer distinguishes between the expanding and static models.

The hypothesis of space expansion is no longer the only explanation for galactic redshifts. Gravitational redshift is a plausible explanation for the redshift-distance relation in a static universe. The hypothesis of space expansion is speculative, since its reality has still not been demonstrated. Gravitational redshift is an observable phenomenon that is based on well-established physics. This explanation was considered by Fritz Zwicky in 1929, but he settled, instead, on a so-called "tired light" (TL) hypothesis. [5] This is the idea that photons lose energy at a rate proportional to the distance they travel, and this results in a redshift that is proportional to distance. Zwicky speculated photons lose energy when passing near matter and interacting with it.

> *The Gravitational 'Drag' of Light*. – According to the relativity theory, a light quantum $h\nu$ has an inertial and a gravitational mass $h\nu/c^2$. It should be expected, therefore, that a quantum $h\nu$ passing a mass will not only be deflected but it will also transfer momentum and energy to the mass M and make it recoil. [5]

Zwicky describes this as "a sort of gravitational analogue of the Compton effect." This hypothesis has not been persuasive to most other physicists. In this same paper Zwicky considers gravitational redshift as a possible explanation.

> *The Usual Gravitational Shift of Spectral Lines* — One might expect a shift of spectral lines due to the difference of the static gravitational potential at different distances from the center of a galaxy. [5]

Gravitational redshift, once referred to as "the Einstein shift," is caused by a difference in static gravitational potentials. This meets the conditions identified by Zwicky for a credible explanation; the redshift is the same for all frequencies, involves no absorption or scattering of photons, and results in no blurring of images. We are in a gravitational potential relative to the center of our galaxy, and this alters our measurements of galactic redshifts in a uniform way. In principle, this gravitational potential "might cause a violet shift of the light traveling from the outer regions of our galaxy," but not a redshift. Additionally, galactic redshifts are proportional to their distances from us, not to our distance from the center of the Milky Way. In principle, a uniform mass density on large cosmic scales results in a spherically-symmetric distribution of mass between us and a remote galaxy, which produces a gravitational potential and redshift proportional to distance.

This is a relativistic effect dependent on the frame of reference, not an effect caused by a transfer of energy. In the tired light mechanism photons transfer *quanta* of energy to stationary matter as they travel through space, resulting in a loss of energy and consequent redshift. By contrast, the "Einstein shift" occurs when a photon is emitted in a gravitational potential that is different from the one in which it is detected. For instance, a photon emitted on the earth's surface and observed on the space station is redshifted, because the gravitational potential on the surface is stronger. Conversely, a photon emitted from the space station and observed on the surface is blueshifted, because it originates in a weaker gravitational potential. These spectral line shifts are not caused by photons losing energy to matter or taking energy from matter while they are in transit. They are due to differences in the underlying time-space realities in which photons are emitted and observed; that is, they are the result of different time-space frames of reference established by different gravitational potentials.

The gravitational redshift in a static universe hypothesis gives the linear redshift-distance relation discovered by Hubble. This explanation is based on well-established physics which require no additional *ad hoc* assumptions, like the standard expanding universe model. It does, however, require the assumption of a static, non-expanding universe. There is new evidence that strongly supports this, which is considered next.

One of the more sensitive tests for the reality of space expansion is the angular size–redshift test, mentioned earlier. The results of several implementations of this test consistently favor a static universe. This was the conclusion of a 2010 implementation of this test by Lopez-Corredoira for redshifts up to $z = 3.2$. He concludes that "Static Euclidean models with a linear Hubble law or simple tired light fit the shape of the angular size vs. $z$ dependence very well." [6] Recent observations by the James Webb Space Telescope (JWST) greatly extend the redshifts considered by this test.

**Predicted Angular Size–Redshift Relations for Typical Galaxies Out to $z = 20$ in the Expanding (ΛCDM) and Static Models**

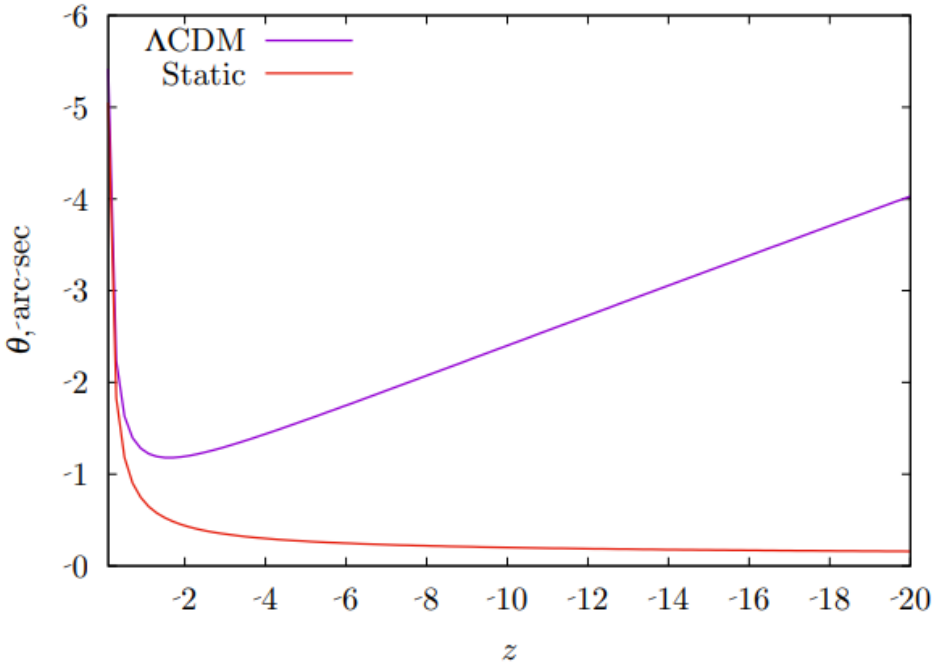



Fig. 3. Angular size of a 10 kpc-size object as a function of redshift z within the framework of the static-Universe model (the red curve) as compared to the same relationship within the framework of the ΛCDM model (purple curve) for $H_0$ = 70 $kms^{-1}$ $Mpc^{-1}$.

This angular size–redshift test has recently been implemented for high redshift galaxies observed by JWST. [7] This new test by N. Lovyagin includes galaxies with redshifts up to $z = 15$. The graph labeled figure 3 is from this 2022 paper. It shows the predicted angular size by redshift in the Lambda Cold Dark Matter (ΛCDM) expanding model and in the "tired light" (TL) static, non-expanding model. The observed angular size $\theta$ (left axis) is measured in arcseconds, where one arcsec (1") equals 1/3600 of a degree. This graph is for a typical average galaxy with a 10 kiloparsec (kpc) diameter, where 10 kpc equals 32,615 ly. (The diameter of the Milky Way is about 30 kpc.) As redshift $z$ increases in a static universe, the angular size spanned by an object consistently *decreases* (red line). By analogy: The farther we walk from a flagpole, the smaller the angle it spans, when we turn and look back at it.

In the expanding model (purple line in figure 3) the angular size of an object also decreases as redshift $z$ increases, but only up to a point. When the redshift equals $z \cong 1.6$, the angular size of the object *stops decreasing* and *starts increasing*. By analogy: The angle spanned by a flagpole decreases up to a certain distance but then starts increasing as distance increases. This counter-intuitive change occurs in the ΛCDM model, because the scale factor (the "size" of the Universe) is smaller when the light is emitted than when it is observed.

The expanding (ΛCDM) model predicts "the JWST must find large images of remote galaxies whose surface brightness is low," as shown in figure 3. [7] At a redshift of $z = 15$ in the expanding model a typical 10 kpc galaxy should have an angular size of about 3" (3 arcsec = 3/3600 = 1/1200 of a degree). In the static model a typical galaxy at this same redshift should have an angular size of just 0.2" (0.2 arcsec = 1/18000 of a degree). At this very high redshift the angular size will be about 15 times larger for the expanding model (purple line) than it is for the static model (red line). The JWST high redshift data make the angular size-redshift test quite sensitive in determining the reality of space expansion.

**Angular Size–Redshift Test: Expanding and Static Models**

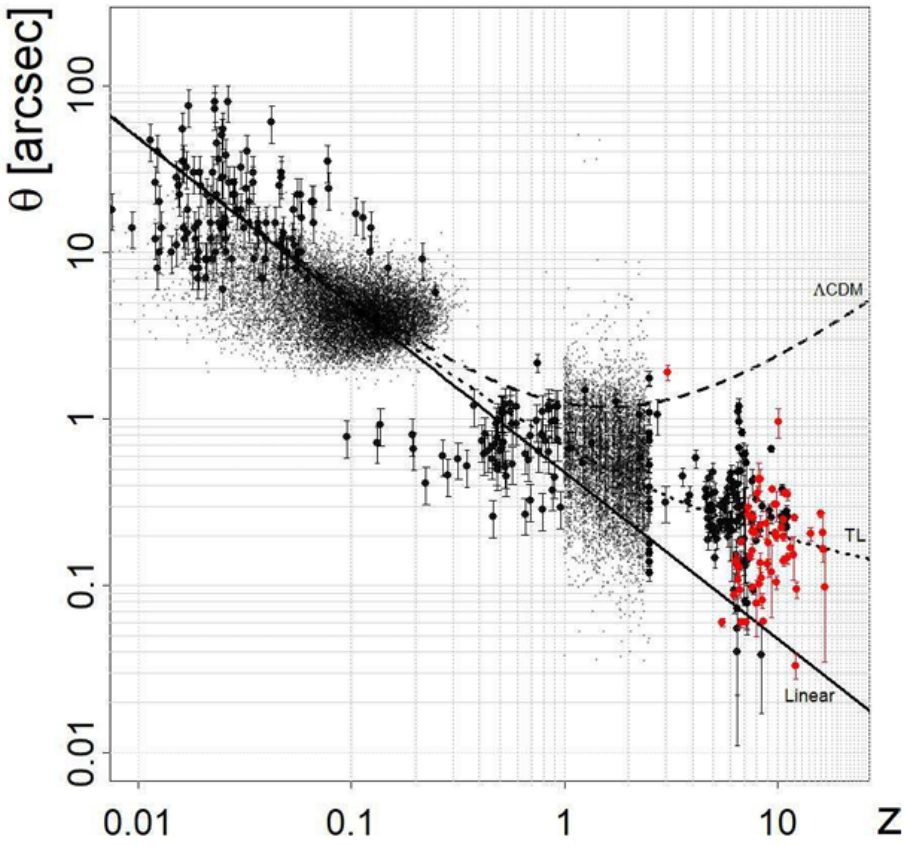



**Fig. 5** Angular diameters of a 10-kpc-size object as expected to be seen at different redshifts within the frameworks of ΛCDM (dashed curve) and of the non-expanding Universe model, TL (dotted curve). These expectations are compared with the actual angular sizes found in the recent JWST observations (red points) and some pre-JWST observations (black points). The solid curve indicates the simplest linear function for angular diameters based on the Hubble constant $H_0$.

The angular sizes of JWST high redshift galaxies are shown as red dots in figure 5. This is a log-log plot of angular size by redshift from this 2022 paper. [7] Galaxies observed with other telescopes, such as the Hubble Space Telescope, are shown as black dots. The dashed curve is for the expanding (ΛCDM) model and shows the predicted angular size for typical 10 kpc galaxies at increasing redshifts. Above a redshift of $z = 3$, no galaxies are observed near the dashed curve for

the expanding model; it does not come close to predicting the angular sizes of galaxies with redshifts above $z = 3$. Space expansion does not explain the observed change in angular size with redshifts.

The dotted curve is for the static (TL) model and shows the predicted angular size and redshift for 10 kpc galaxies. This dotted curve essentially runs through the middle of galaxies observed at all redshifts. This curve gives reasonably good predictions of angular size versus redshift in a static universe. In a static universe model the angular size for a typical galaxy diminishes to $\theta \approx 0.2$" at $z \approx 15$. This is about 7% of the ΛCDM prediction of $\theta \approx 3.0$" at the same redshift. The results strongly favor the static model and are inconsistent with the expanding model. "…our analysis of JWST observations favours a static (TL) model of the Universe …. We conclude that the first JWST observations of high-redshift objects cannot be explained by the expanding-Universe model." [7]

The angular sizes of JWST high redshift galaxies are about 5 times smaller than predicted by the expanding model. These galaxies are also much brighter than predicted. In the expanding model the increase in angular size with increasing redshift above $z = 1.6$ results in a lower surface brightness, because the same amount of light is spread out over a larger surface area. "However, what is currently observed is something opposite to what is expected: there are small (by their angular size) galaxies with bright surfaces at ultrahigh redshifts." [7] The same amount of emitted light is concentrated in a smaller surface area, resulting in brighter surfaces. This is consistent with a static universe model; it is inconsistent with an expanding one.

Another inconsistency with the expanding model is the lack of evolution time: "Everything points to the possibility that the actual age of the objects in the Universe is far larger than predicted by ΛCDM cosmology." [7] The 13.8 billion year age of the expanding universe is too short for high redshift galaxies with "disks and bulges, which indicate that they have passed through a long period of evolution." [7] Both galactic disks and bulges are believed to require billions of years to form. It is also supposed that many galactic mergers over billions of years are required to explain the formation of massive galaxies like the Milky Way. The authors conclude: "These issues indicate that the galaxies at redshifts $z > 15$ discovered by JWST do not have enough time within the framework of the standard cosmological model to evolve into what is observed." [7] There is no age limit in the static model, which has no identifiable starting point.

Another inconsistency with the standard ΛCDM model uncovered by the JWST data is that the number of galaxies found in the early universe far exceeds the predictions of the model. "Simply put, candidate galaxies in the early universe are popping up in numbers that defy predictions, with dozens found so far." [8] Another study also found that galaxy formation theory in the ΛCDM model cannot account for the excessive number of early galaxies astronomers are finding. [9]

The conclusion from the December 2022 paper that there is not enough evolution time is supported by a paper published two months later on February 23, 2023. This paper identified six galaxies observed by the JWST as they were less than 700 million years after the big bang. Their masses are comparable to that of our Milky Way, which presents a serious problem. In an article in *Astronomy.com* the paper's lead author, Ivo Labbe of Swinburne University, states "We just discovered the impossible. Impossibly early, impossibly massive galaxies…. To produce these galaxies so quickly, you almost need all the gas in the universe to turn into stars at near 100 percent efficiency. And that is very hard, which is the scientific term for impossible." [10] A different article on this discovery reports: "The researchers say the galaxies are so massive, they are 'in tension with 99 percent of the models for cosmology.' This means that either the models need to be altered, or scientific understanding of galaxy formation requires a fundamental rethink." [11]

Several studies using high redshift galaxies observed by the JWST favor a static universe over the standard expanding universe model. The recent 2022 angular size-redshift test using these galaxies very strongly favors the static model; it is concluded that its results "cannot be explained by the expanding-Universe model." [7] The evidence supports a static universe model that is consistent with the cosmology in *The Urantia Book.* Based on suggestive comments in the book, the redshift-distance relation in a static universe can be explained by well-established physics. The uniform distribution of mass on large cosmic scales in a static universe results in a difference in gravitational potential between us and a distant galaxy. This is a necessary consequence of Newton's Shell Theorem. This differential in gravitational potential results in a gravitational redshift that is proportional to the distance, which explains Hubble's law. This is a necessary consequence of Einstein's general relativity.

The revelatory presentation of cosmology includes a description of how the universe is organized. The cosmos consists of concentrically arranged cosmic structures called space levels, which revolve around the absolute center of a universe with physical limits. These revolving space levels reflect the truth that the universe has a physical, mindal, and spiritual center on the Isle of Paradise, the dwelling place of God. This vision of the universe has the appeal of divine truth. By contrast, the worldview of modern cosmology is chaotic and unappealing. We are told that along with their "instruction in cosmology" (101:4.1) there is also some contemporaneous cosmology. There are "errors on the face of the associated cosmologies" (101:4.1) contained in the book. This is apparently because it includes different evolutionary cosmologies present during the first half of the 20th century. There were several profound changes in cosmological thought during this period in response to astronomical discoveries.

William Herschel mapped and identified the Milky Way in the late 18th century. Our solar system appeared to be the center of the (observable) universe, which consisted of the Milky Way. At the beginning of the 20th century there was general agreement that the universe is eternal, space is static and the Milky Way is the one and only galaxy. Harlow Shapley upset this cosmic order in

1916 by showing that our sun is about 30,000 ly from the center of the Milky Way. Shapley found the Milky Way has a diameter of roughly 300,000 light-years, which was more than an order of magnitude larger than Jacobus Kapteyn calculated in 1900. Einstein's 1917 static universe model incorporated these ideas using the theory of general relativity. But he further upset things with the shocking idea that the universe has no preferred center due to the *curvature* of spacetime.

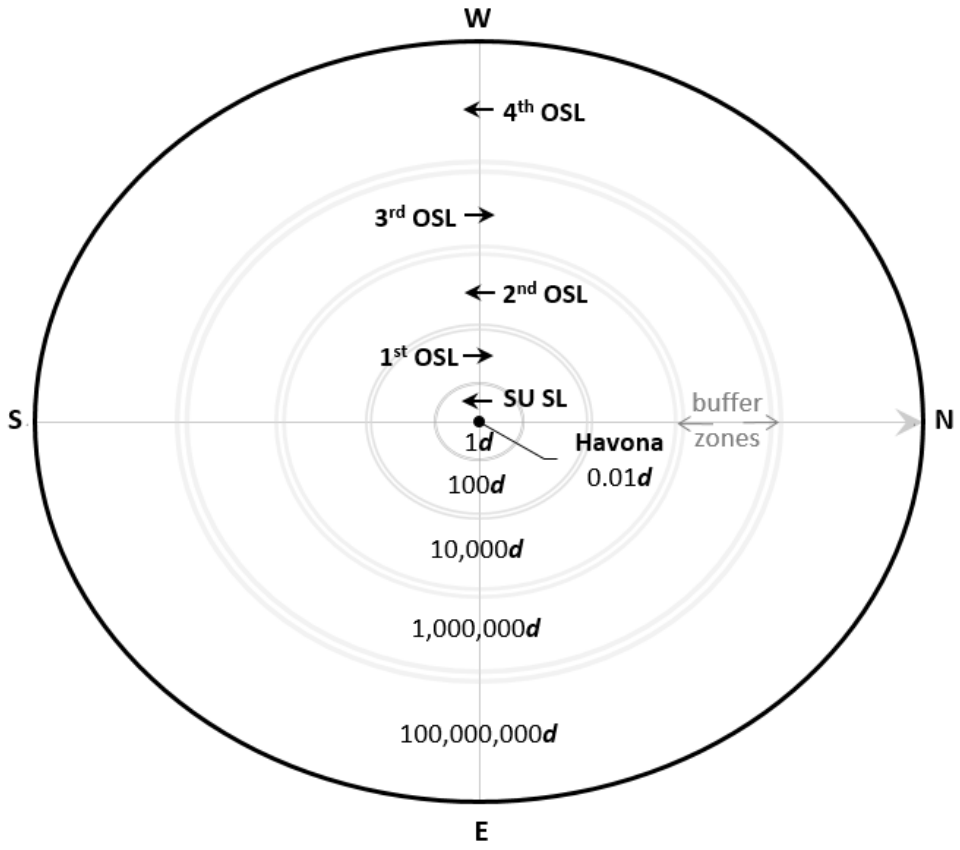
In 1920 there was a "great debate" over whether spiral nebulae, such as the Andromeda nebula, are galaxies or unresolved stars clusters within the Milky Way. By 1924 Hubble proved they are galaxies, which was a stunning discovery. A survey of astronomers on the most significant changes to astronomy in the 20th century identified this discovery of multiple galaxies as the most significant. The discovery of space expansion polled as the second most significant. (https://www.capjournal.org/issues/01/11_17.pdf) The universe went from a single galaxy to an estimated 100 billion galaxies in just a few years. In 1927 Jan Oort proved for the first time that the Milky Way is rotating. By 1930 the redshift-distance relation was almost universally interpreted as evidence of space expansion; space was no longer static and the universe was no longer eternal. By 1935 the expanding universe was thought to have a diameter of several billion light-years and to have no organization on large cosmic scales.

This rapid transition from a small, static, eternal, orderly universe with us at its center, to an immense, expanding, young, chaotic and centerless universe has been deeply disorienting. The conceptual confusion is initially addressed by focusing primarily on the concept of the space levels, since this is an original concept of *pure revelation*. "We may resort to pure revelation only when the concept of presentation has had no adequate previous expression by the human mind." (0:12.11) There is no record of any concept remotely similar to the space levels in any other cosmology. This revealed concept has the potential to clarify cosmological thought, since there are no evolutionary ideas with which it might be conflated. A description of the deocentric universe consisting of multiple space levels is built up from statements in the book. This description is sufficiently detailed and specific enough that it can be substantiated by recently available astronomical evidence. This evidence is presented in support of the existence of two of these space levels – the superuniverse space level and first outer space level.

Everything revolves around the absolutely stationary Isle of Paradise at the center of the master universe, which is "the only stationary thing in the universe of universes." (0:4.12) As shown in figure 8, which is taken from *A New Model of the Universe* [20], "…the master universe is existent in six concentric ellipses, the space levels encircling the central Isle." (12:1.3) Absolute direction is determined by the stationary location of Paradise and its elliptical form. The Eternal Isle is one-sixth longer in the north-south direction than in the east-west direction, and its thickness is one-tenth of the east-west diameter. (11:2.2) "These differences in dimensions, taken in connection with its stationary status and the greater out-pressure of force-energy at the north end of the Isle, make it possible to establish absolute direction in the master universe." (11:2.3) Paradise is "the

source and center of physical matter, and the absolute master pattern of universal material reality." (0:5.5) The elliptical form of Paradise is the pattern for "the elliptical space levels of the master universe." (11:8.2)

Figure 8: **The Six Space Levels of the Master Universe**
(space levels not drawn to scale)




Universal revolution around Paradise occurs in a "plane of creation." (11:7.6) "The universe of universes is not an infinite plane…; it certainly has dimensions." (12:1.1) The universe is both "circular and delimited." (12:1.1) The boundary of the fourth outer space level is where space ends and *midspace* begins. Midspace "encompass[es] the borders of all space." (11:7.3) "The relatively motionless midspace zones impinging on Paradise and separating pervaded from unpervaded space are the transition zones from time to eternity" (12:5.4) The finite plane of creation is divided into six concentrically arranged space levels. The eternal central universe of Havona surrounds the Isle of Paradise. This together with the created superuniverse space level encircling Havona is referred to as the grand universe. Surrounding the grand universe are the first through fourth outer space levels. The successive space levels revolve in alternating directions (11:7.9) and are separated from each other by quiet zones. "The relatively quiet zones between the space levels, such as the one separating the seven superuniverses from the first outer space level, are enormous elliptical regions of quiescent space activities. These zones separate the vast galaxies which race around Paradise in

orderly procession." (11:7.7) This function of separating galaxies appears to indicate there are no galaxies in these "quiet zones."

The revelators suspect that the mid-zone of the force center on nether Paradise, which is associated with the Unqualified Absolute (see 11:2.8), is the "control mechanism of the midspace or quiet zones which separate the successive space levels." (11:5.6) A quiet zone is apparently a type of midspace which permits more motion than the relatively motionless midspace coming in contact with Paradise. The quiet zones separating the space levels used to be more like the "relatively motionless midspace zones impinging on Paradise" (12:5.4) but "are now less quiescent." (11:7.2) The space levels are "bounded above and below by the midspace zones of quiescence and bounded on the inner and outer margins by relatively quiet space zones." (11:7.7)

Quiescent midspace and the relatively quiet space zones together fully encompass each of the space levels and tend to channel motion in them. "A space level thus functions as an elliptical region of motion surrounded on all sides by relative motionlessness. Such relationships of motion and quiescence constitute a curved space path of lessened resistance to motion…" (11:7.8) "…all forms of basic energy ever swing around the curved path of the space levels of the master universe…" (12:1.1) This curved space path prevents cosmic energies from shooting "off on a straight-line path into trackless space." (12:1.2)

The alternation of quiet zones and space levels, as well as the alternating directions of revolution of the space levels, contributes to the stabilization of gravity. "Motion as well as space is a complement or equilibrant of gravity." (12:4.16) "This alternate zoning of the master universe, in association with the alternate clockwise and counterclockwise flow of the galaxies, is a factor in the stabilization of physical gravity designed to prevent the accentuation of gravity pressure to the point of disruptive and dispersive activities." (11:7.9)

The quiet zones between space levels might also be called buffer zones, since they separate galaxies revolving around Paradise in opposite directions. Unlike the space levels, the quiet zones are apparently free of matter. "These space zones are free from star dust — cosmic fog." (12:1.14) There is an "energy action" in the first outer space level which is not observed in the 500,000 light-year (ly) wide quiet zone between it and the superuniverse space level. "…about one-half million light-years beyond the periphery of the present grand universe we observe the beginnings of a zone of an unbelievable energy action." (12:1.14) The absence of such "energy action" in this quiet zone implies an absence of matter.

The quiet zone between the first and second outer space levels is 50 million light-years (Mly) wide. "The Uversa physicists have detected early evidence of force manifestations more than fifty million light-years beyond the outermost ranges of the phenomena in the first outer space level." (12:1.15) These "force manifestations" are not present in the 50 Mly wide quiet zone between the first and second outer space levels. This absence of "force manifestations" also implies an absence of matter in this quiet zone.

The 50 Mly wide quiet zone between the first and second outer space levels is 100 times the width of the 0.5 Mly wide quiet zone between the superuniverse and first outer space levels. A reasonable supposition is that this increased width is related to the separation function of these quiet zones between oppositely rotating galaxies. The gravitational attraction of galaxies in the superuniverse space level acts on the galaxies in the first outer space level. If this attraction is strong enough, it will disrupt their orbits. This can be avoided, if the quiet zone separating the two space levels is wide enough. This potential for disruption by linear gravity is not present in the opposite direction, because of Newton's shell theorem; that is, gravitational forces originating in the first outer space level acting inwardly (toward the superuniverse space level) are neutralized, because all such forces are symmetrically opposed. (see *A New Model* pg. 7-11 [20]) If form follows function, the 100-fold increase in the width of successive quiet zones parallels a 100-fold increase in the width of the space levels they encircle.

The more galaxies there are in a space level, the wider the encompassing quiet zone needed to attenuate the attraction of linear gravity on galaxies in the next larger space level. Under this reasoning, the sizes of each successive space level and of its encircling quiet zone both increase by a factor of 100. The first outer space level is 100 times larger than the superuniverse space level, the second is 100 times larger than the first, and so on.

It can hardly be coincidental that this cosmic scale factor of 100 is implied by the stated relative masses of the superuniverse and first outer space levels. The first outer space level has "at least seventy thousand aggregations of matter, each of which is greater than any one of the present superuniverses." (31:10.19) The 70,000 aggregations of matter in this space level, therefore, have at least 10,000 times the total mass of all seven superuniverses. If the radius of the first outer space level is 100 times the radius of the superuniverse space level, its area is 10,000 times larger, the square of 100. This measure of mass by area is consistent with the planar organization of the space levels; that is, mass is proportional to area.

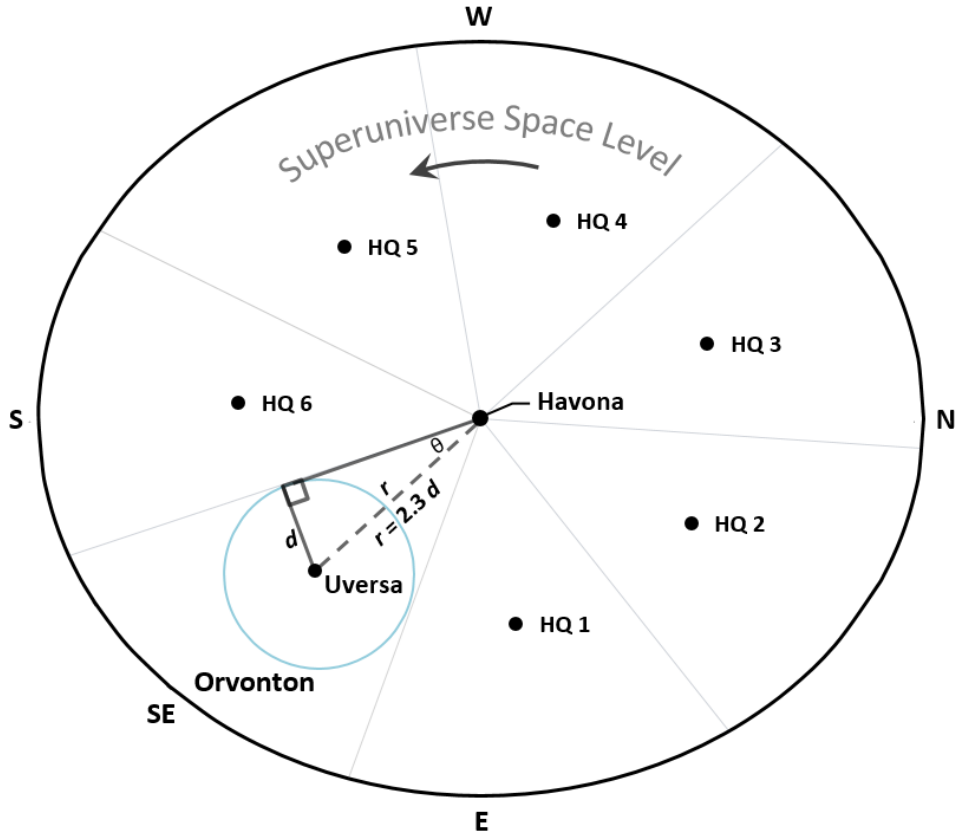
There is a gravitational relationship between the space levels. The force of gravity $F_{1st}$ between the mass $M$ in the superuniverse space level (SUSL) and the mass $m$ of a galaxy on the inner border of the first outer space level (1st OSL) is presumably too weak to disrupt the orbit of this galaxy. Assume $R$ is the distance from Paradise to the periphery of the SUSL and $r$ is the width of the quiet zone separating the SUSL from the 1st OSL. Then the weak gravity acting on this galaxy on the inner border of the 1st OSL is $F_{1st} = GMm/(R + r)^2$, where $G$ is the gravitational constant.

To prevent linear gravity from the 1st OSL from causing orbital disruptions to galaxies on the inner border of the 2nd OSL, the force of gravity $F_{2nd}$ acting on these galaxies should be equal to or less than $F_{1st}$. Assume the mass $M$ of the 2nd OSL is 10,000 times the mass of the 1st OSL, based on the pattern between the 1st OSL and the SUSL. If the distance from Paradise to the periphery of the 1st OSL is $100R$ and the width of the encircling quiet zone is $100r$, then the force of gravity acting at the inner border of the 2nd OSL is the same as that acting at the inner border of the 1st

OSL: $F_{1st} = GMm/(R+r)^2 = F_{2nd} = 10{,}000GMm/(100(R+r))^2$. The scale factor of 100 results in the same weak, non-disruptive force of gravity. If there is a size increase of 100 times and a mass increase of $100^2$ times from one space level to the next, this permits the segmentation of total creation into multiple concentric space levels in which there can be stable orbits. This cosmic scale factor is also consistent with the fact pattern that "The number ten—the decimal system—is inherent in the physical universe but not in the spiritual." (36:2.11)

From this description it can be predicted that the first outer space level has a radius that is probably 100 times greater than the radius of the superuniverse space level, and their total mass differs by a factor of about 10,000 times. It can also be predicted that these space levels of different sizes are annular in shape and concentrically arranged on the same plane around a single location. These predictions (scale, mass, form, nesting, and concentric arrangement of space levels) can be compared to observations made by automated sky surveys conducted over the last two decades. Before this can be attempted, however, it is first necessary to locate our solar system in the superuniverse space level and how its physical distance from Paradise. This is possible from the statements of the revelators.

Figure 9: **A Chart of the Superuniverse Space Level**




The superuniverse space level is diagrammed in figure 9, based on revelatory statements. "The first post-Havona creation was divided into seven stupendous segments, and the headquarters

worlds of these superuniverse governments were designed and constructed." (15:0.2) These seven wedge-like space segments are approximately equal in size. "Each superuniverse is simply a geographic space clustering of approximately one seventh of the organized and partially inhabited post-Havona creation, and each is about equal in the number of local universes embraced and in the space encompassed." (12:1.12) Orvonton "is the seventh segment of the grand universe." (15:14.7)

Orvonton has "not long since (as we reckon time) turned the southeastern bend of the superuniverse space level. Today, the solar system to which Urantia belongs is a few billion years past the swing around the southern curvature so that you are just now advancing beyond the southeastern bend…" (15:1.5) Our solar system is just now passing a point southeast of Paradise, as absolute direction is determined by Paradise. (see 11:2.2-3) The center of Orvonton, Uversa, turned this southeastern bend before we did, and we are not that far from Uversa, relatively speaking, which is about 200,000 light-years distant. (see 32:2.11) Superuniverse number one is about due east, number three has almost left the northern bend, number four is just entering the western turn, and number six is in the south. (see 15:1.4)

Uversa is the headquarters world of Orvonton. Headquarters worlds are "situated near the astronomical center of their respective superuniverses." (15:7.1) This center is halfway between the apex and base of a wedge-like space segment and halfway between the two radial boundary lines forming its sides. "The radial boundary lines of any one of the superuniverses do actually converge at the Paradise headquarters of the supervising Master Spirit," which is the "force-focal headquarters" on peripheral Paradise of "specialized power control and segmental energy distribution." (16:0.12) These are the locations of the seven Supreme Power Directors created by the Seven Master Spirits. "The Seven Supreme Power Directors are the physical-energy regulators of the grand universe." (29:1.1) The influences of the Master Spirits are like a "gigantic wheel, the hub being the eternal Isle of Paradise, the seven spokes the radiations of the Seven Master Spirits, the rim the outer regions of the grand universe." (15:0.1)

The above chart of the superuniverse space level has relative dimensions which can be determined. Everything in Orvonton is "in rotation around Uversa." (15:3.7) A circle drawn around Uversa that just touches the two radial boundary lines is the maximum possible radius of rotation for objects in Orvonton. In figure 9 the radius of this circle equals a line *d* drawn from Uversa that is perpendicular to a radial boundary line. This line *d* and a line *r* from Uversa to Paradise are two sides of a right triangle. We know that each superuniverse occupies one-seventh of a circle or $51.4°$ $(360°/7)$. (*vid.* 15:0.2) The angle $\theta$ bisects this and equals $25.7°$. The sine of $\theta$ equals *d* (opposite side) divided by *r* (hypotenuse): $\sin\theta = d/r$. Therefore, the distance *r* from Uversa to Paradise is 2.3 times the distance *d*: $r = d/\sin(25.7°) = d/0.434 = 2.3d$. The width of our space level from Paradise to the periphery of the superuniverse space level is twice this or $4.6d$. The distance to the far border of the space level is three times this or $6.9d$ (2.3 + 4.6). These scale dimensions can be transformed into actual sizes, if Orvonton can be identified with an astronomical object whose size is known.

We are 26,000 ly from the center of the Milky Way, which has a radius of about 50,000 ly. Our galaxy is at the center of Orvonton. "The vast Milky Way starry system represents the central nucleus of Orvonton." (15:3.1) It is notable that this center is referred to as a vast system, when they could have simply referred to the Milky Way. It is now known, in fact, that our Milky Way has about 60 satellite galaxies located within about one million light-years. Only eight of these were known in 1955. The Milky Way is the center of a vast starry system that has a radius of least one million light-years. (see "Satellite Galaxies of the Milky Way" in Wikipedia.) This "vast Milky Way starry system" can include Uversa. The center of the Milky Way appears to be the center of physical gravity in Orvonton. Uversa is 200,000 ly distant and appears to be the center of spiritual gravity. This separation between the physical and spiritual centers of Orvonton appears to reflect the separation between the spiritual upper plane of Paradise and its material nether plane. (see 0:3.13)

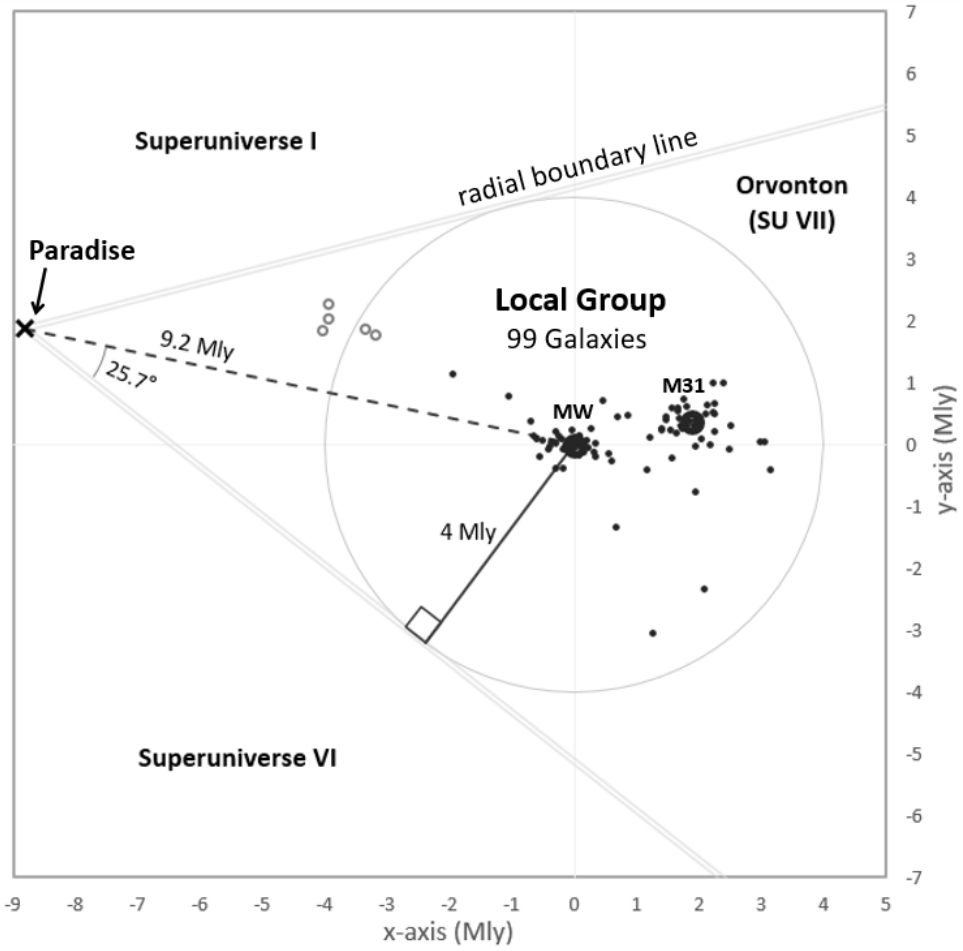
The radius of Orvonton is at least 1 Mly but could be significantly larger. There are several references to the presence of multiple galaxies in Orvonton. "…more powerful telescopes will disclose that many island universes formerly believed to be in outer space are really a part of the galactic system of Orvonton." (12:2.3) "Island universes" refers to an 18th century theory that spiral nebulae, like the Andromeda (M31) and Triangulum (M33) nebulae, are actually distant galaxies, instead of fuzzy patches of unresolved stars within the Milky Way. "Outer space" refers to the space levels beyond the superuniverse space level. (see 0:0.6) Many galaxies or island universes believed to be outside our superuniverse in outer space will be identified as part of the "galactic system of Orvonton." In this context "galactic system" signifies a grouping of galaxies, since island universes are galaxies and part of this system.

And in this same paragraph: "…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) Hubble discovered in 1924 that the Andromeda nebula is a galaxy which he calculated is one million light-years (Mly) distant. [17] This 1924 distance is the one cited in the book. (see 15:4.7) In his 1929 paper announcing the discovery of the redshift-distance relation, Hubble calculated a distance of 897,000 ly to Andromeda. [18] In 1936 he calculated an even shorter distance to Andromeda of 680,000 ly. [13b] In 1956 Walter Baade published his discovery that there are two types of Cepheid variable stars. [19] He recalculated the distance to Andromeda based on this discovery and found it was 2 Mly. Recent determinations give a distance of 2.5 Mly.

Hubble soon identified a number of other nearby extragalactic nebulae, which he thought were gravitationally bound to the Milky Way and travel along with it. As a result, Hubble identified the Milky Way as part of a small, isolated group of at least nine galaxies, which he called the Local Group in *The Realm of the Nebulae* (1936). "The galactic system is a member of a typical, small group of nebulae which is isolated in the general field." [12] Hubble suspected gravity binds this isolated group of galaxies together. [13] This has been confirmed. [14] The gravitational binding together of this group of galaxies led him to identify this collection as the Local Group. The Milky Way is part of both Orvonton and the Local Group. And there are multiple galaxies in both of these

cosmic structures, which are bound together by gravity. For these reasons it can be firmly concluded that the "galactic system of Orvonton" (12:2.3) refers to the Local Group of galaxies.

Figure 10: **The Local Group in the Superuniverse of Orvonton**




The Local Group is plotted as it lies on the equatorial plane in Orvonton in figure 10, which is from *A New Model of the Universe* [20, pg. 25]. As of 2019 there were 99 definite members in the Local Group. These are listed at the end of *The Law of Absolute Gravity.* [15, Appendix]

Each superuniverse has ten major sectors. (15:2.7) The major sectors of Orvonton are said to be readily apparent at a glance. "If you could look upon the superuniverse of Orvonton from a position far-distant in space, you would immediately recognize the ten major sectors of the seventh galaxy." (15:3.4) By context, "seventh galaxy" is used here in its secondary meaning of an assemblage of things; in this case, galaxies. We would "immediately recognize" the Milky Way galaxy from a far-distant position. This makes it our major sector of Splandon, "the fifth major sector of the superuniverse of Orvonton." (15:14.7) The other nine major sectors are also readily identifiable from the same far-distant position, which means they are galaxies as well.

The ten major sectors are called star drifts. "The whirl of the ten major sectors, the so-called star drifts, about the Uversa headquarters of Orvonton." (15:3.13) In conjunction with the previous

statement about the major sectors, these "star drifts" are immediately recognizable from a far-distant position, which makes them galaxies. The phrases "star drifts" and "vast star clouds" are comparable. "The vast star clouds of Orvonton should be regarded as individual aggregations of matter comparable to the separate nebulae observable in the space regions external to the Milky Way galaxy." (15:4.9) We should regard these vast star clouds as extragalactic nebulae; that is, as separate and distinct galaxies like the Andromeda and Triangulum nebulae.

This association with galaxies is further confirmed by the statement that eight of our ten major sectors were already identified in 1934. "Of the ten major divisions of Orvonton, eight have been roughly identified by Urantian astronomers." (15:3.4) Hubble identifies the Local Group and nine of its definite members in *The Realm of the Nebulae*. "The known members of the 'local group' are the galactic system with the Magellanic Clouds as its two companions; M31 with M32 and NGC 205 as its companions; M33, NGC 6822 and IC 1613." [12] Eight of these nine galaxies are apparently major sectors in Orvonton.

There are significant differences in the sizes of these nine galaxies. While it might be expected that all major sector galaxies should be about the same size, this does not appear to be the case. "The seven superuniverses are still growing; the periphery of each is gradually expanding; new nebulae are constantly being stabilized and organized." (12:2.3) The nine galaxies listed by Hubble are among the 13 brightest galaxies in the Local Group by absolute magnitude. Since luminosity is proportional to mass (the mass-luminosity relation), they are among the 13 most massive galaxies in the Local Group. The superuniverses are unfinished creations, and galaxies in Orvonton can increase in size due to the creation of new nebulae.

The unfinished status of the superuniverses includes the number of inhabited planets. The seven superuniverses are destined to host seven trillion inhabited worlds. Urantia became inhabited just one million years ago. (see 64:0.1) It is number 5,342,482,337,666 in the grand universe catalogue of inhabited worlds. (see 15:14.8) Each superuniverse is partially inhabited, since each one is "approximately one seventh of the organized and partially inhabited post-Havona creation." (12:1.12) Orvonton is *partially inhabited*. Our young local universe of Nebadon is also partially inhabited; it currently has 3,840,101 inhabited planets out of a projected 10 million. (see 32:2.9)

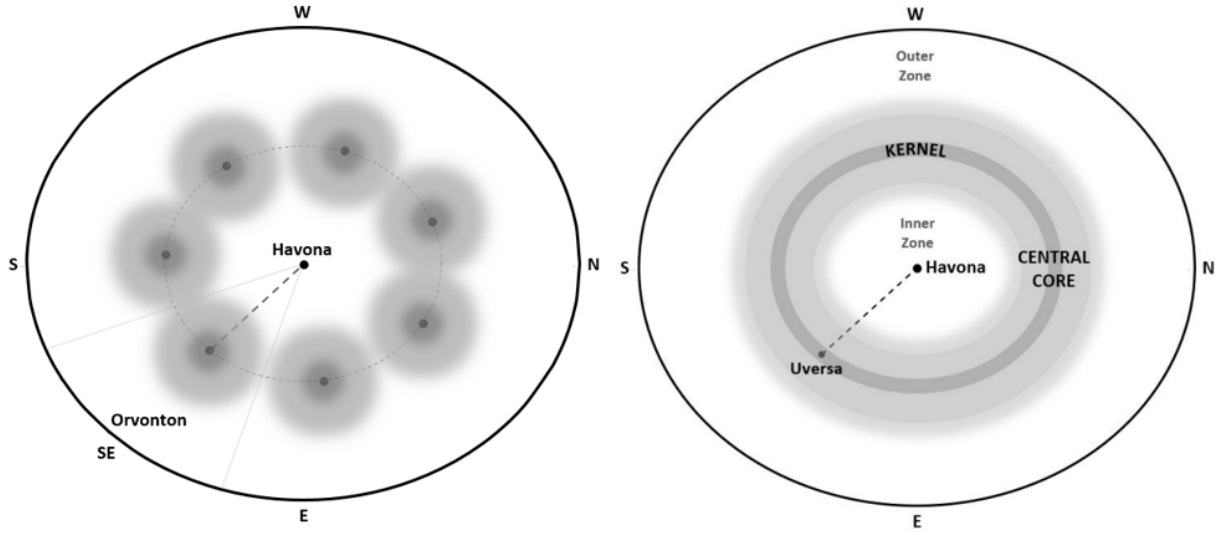
The partially inhabited status of Orvonton is further confirmed by a remark about Andromeda. "There are not many sun-forming nebulae active in Orvonton at the present time, though Andromeda, which is outside the inhabited superuniverse, is very active." (15:4.7) There is not much sun-formation activity in Orvonton currently, though Andromeda is very active; this clearly implies that it is part of Orvonton. The parenthetical comment that Andromeda is "outside the inhabited superuniverse" places it firmly in the *uninhabited* part of Orvonton, which is most of it.

The inhabited portion of Orvonton is relatively small compared to the extent of the galaxies in it. Moving outward from Paradise, "… we do, eventually, come to the outer limits of the organized and inhabited creation.... it is near this outer border… that your local universe has its eventful existence." (12:1.13) "… it is over two hundred thousand light-years to the physical center

of the superuniverse of Orvonton… From the outermost system of inhabited worlds to the center of the superuniverse is a trifle less than two hundred and fifty thousand light-years." (32:2.11) Uversa is about 200,000 ly from us, while the most remote inhabited worlds in Orvonton are within 250,000 ly of Uversa. We are less than 50,000 ly from the "outer border" of inhabited creation. On the other hand, galaxies already identified as major sectors in Orvonton, like Andromeda, are millions of light-years from us.

It is apparent from the above considerations that the superuniverse of Orvonton can be positively identified as the Local Group of galaxies. The Local Group has a radius of $3.8 \pm 0.5$ Mly ($1.18 \pm 0.15$ Mpc). [14] Using an approximate value of 4 Mly for Orvonton's radius, the distance to Paradise should be 9.2 Mly (2.3 * 4 Mly), as shown in figure 10. The width of our space level should be 18.4 Mly (2 * 9.2), and the distance to the farthest border of the superuniverse space level should be 27.6 Mly (9.2 + 18.4). Based on the revelatory chart of the superuniverse space level in figure 9, the galaxies in the other six superuniverses should begin beyond Orvonton at about 5 Mly and end before 32 Mly.

Figure 11: **Density of Galaxies around the HQ Worlds Forms a Central Core**



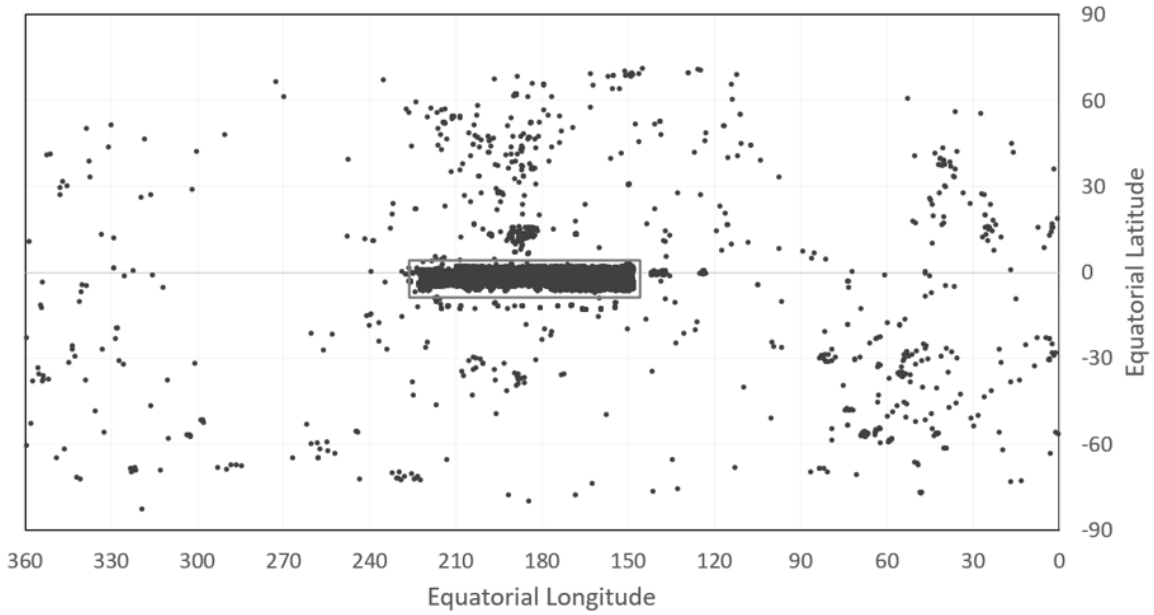

The galaxies in Orvonton orbit Uversa (see 15:3.13) and are gravitationally bound together. The same pattern should hold for the other six superuniverses, as shown in the left hand diagram of figure 11. These seven concentrations of galaxies together form a dense elliptical ring of galaxies. The higher galactic density in this ring can be referred to as the *central core*, which is shown in the right hand diagram of figure 11. The region between the outer borders of the central core and the superuniverse space level can be referred to as the *outer zone*. The region between the inner border of the central core and Havona can be referred to as the *inner zone*. (see [20], pg. 24). The higher concentration of galaxies forming the central core should include Orvonton (Local Group). If this ring is sufficiently well-defined by the data, it should form a 7X6 ellipse (see 11:2.2) with its major axis at 45 degrees to a line drawn between us and the center of the ellipse. This tilt

is due to our location southeast of Paradise or 135 degrees clockwise from Paradise north. (see 15:1.5 and figure 9)

There should be an annular concentration of galaxies with a center that is about 9 Mly distant, which is where Paradise is located. This ring of galaxies should also sweep around to include the Local Group, as shown in figure 11. This ring should form a belt of galaxies on the sky, because the seven superuniverses are located on a plane, and we are near the center of Orvonton on this plane. Based on our location, this belt should span less than roughly 180 degrees on the sky.

To test these predictions, a 2018 query for all galaxies within 32 Mly was submitted to NASA's Extragalactic Database. [This is the Hubble flow distance based on redshift, which is adjusted for our peculiar velocity of 371 km/s towards the CMB dipole. See Appendix for details.] This query found over 5,100 galaxies within 32 Mly, which includes a well-defined belt of over 3,700 galaxies. This belt spans 75 degrees of longitude and about 9 degrees of latitude in the equatorial coordinate system. A box outline is drawn around this belt in the all-sky chart in figure 12. This belt of 3,700 galaxies is approximately aligned with the celestial equator.

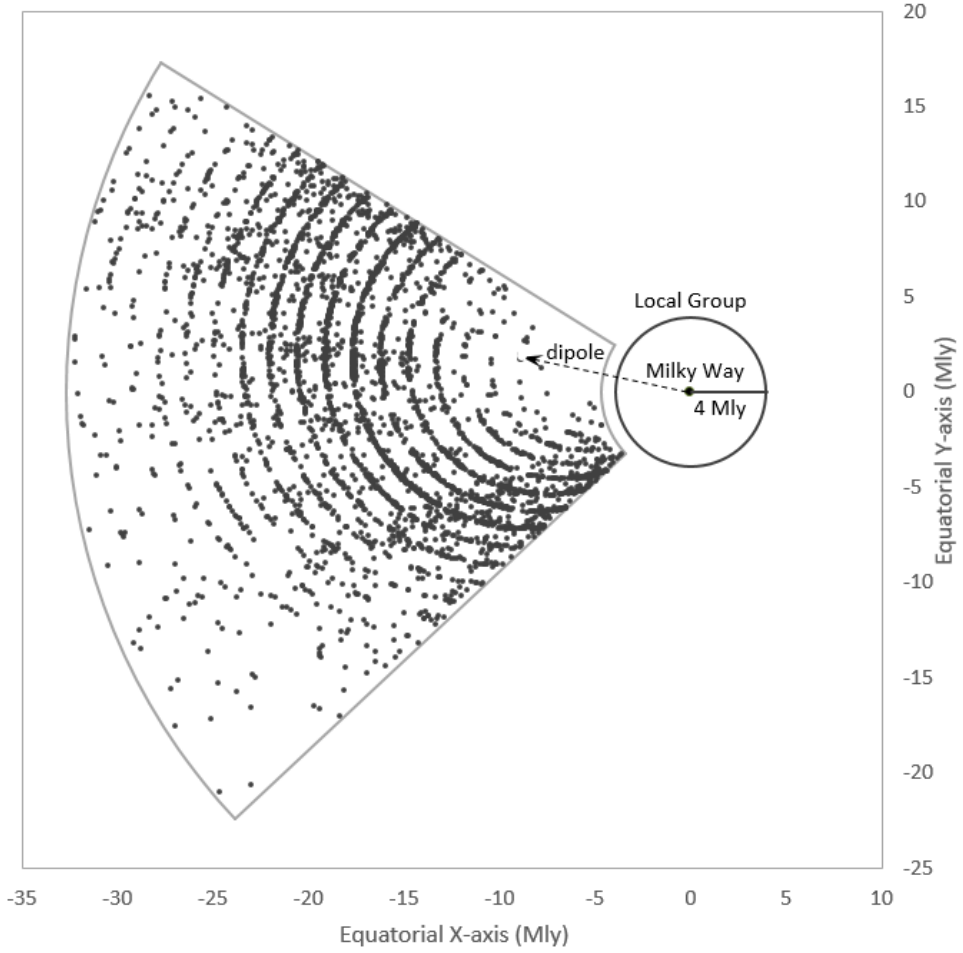
Figure 12: **All-Sky Chart Showing Galaxies at Distances Between 5 and 32 Mly**




Almost all of the galaxies in this belt were identified by the 2-degree Field Galactic Redshift Survey (2dFGRS) conducted between 1997 and 2002 by the Australian Astronomical Observatory. This was limited to a survey window that is essentially the same as the box outlining this belt. This limited survey window does not show us what galaxies this survey might have observed above and below this window. Nevertheless, this data is sufficient to determine if these galaxies form any sort of annular arrangement.

Figure 13 is a polar view of this belt of galaxies on the equatorial plane. It shows this belt of galaxies, its right and left longitudinal boundary lines (about 145° and 220° in equatorial longitude), and the limiting arc at a distance of 32 Mly. Looking down on this fan-like structure on the equatorial plane, it is apparent that the density of galaxies increases with distance to a maximum and then decreases with distance.

Figure 13: **Polar View of the 2dFGRS Belt of 3705 Galaxies at 5-32 Mly**

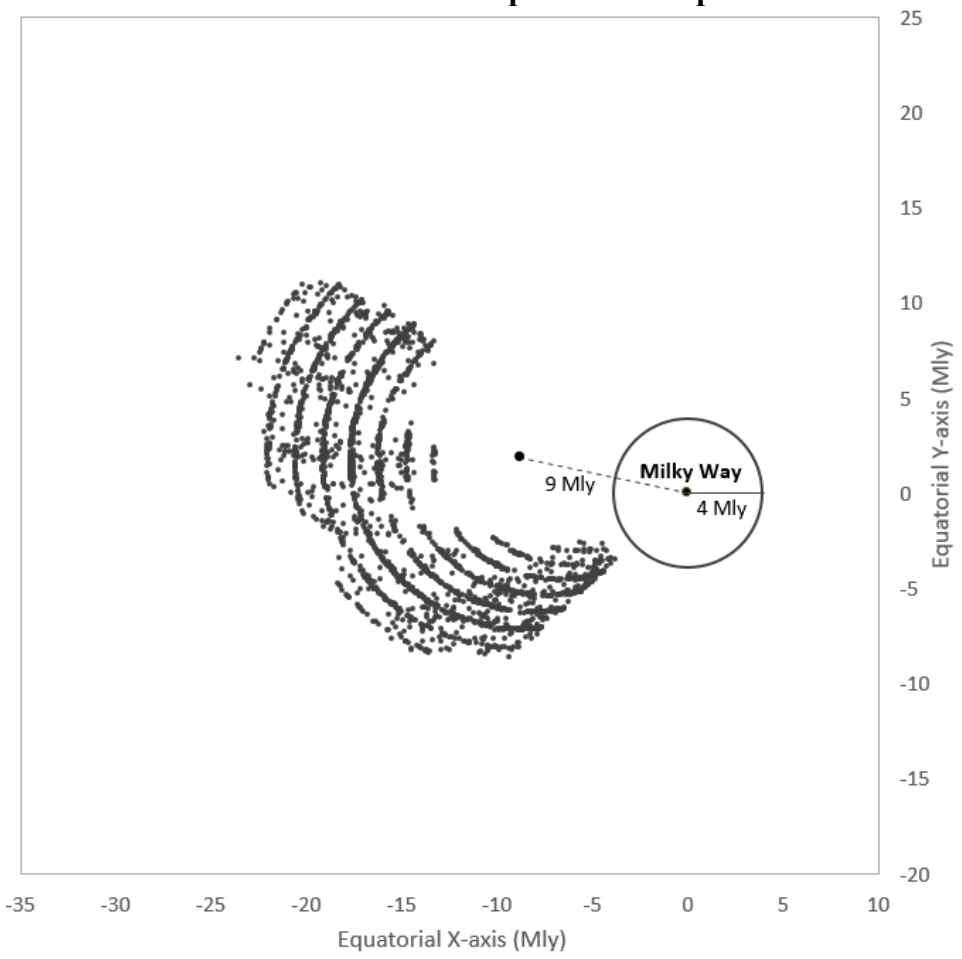



The evidence supports the conclusion that Orvonton is the Local Group, which is shown in figure 13 with a radius of 4 Mly. If this is correct, then the galaxies in the middle distance should be in other superuniverses. As described in the Appendix, distance is calculated from a galaxy's redshift which is then adjusted for an apparent velocity of 371 km/s by our solar system in the direction of the cosmic microwave background (CMB) dipole. This direction is the dashed line in figure 13 that is toward $\alpha = 167.94°,\ \delta = -6.95°$ in equatorial longitude and latitude or $\ell = 264.02°, b = 48.25°$ in galactic coordinates. The CMB radiation, discovered in 1964, has a uniform temperature of 2.725 degrees Kelvin (°K) in every direction. This uniformity is required, if this radiation was emitted 380,000 years after a big bang event. But in 1970 it was discovered that the temperature of this radiation is higher by 0.0035 °K in one direction, which is referred to

as the CMB dipole. Since this contradicts theory, it was proposed that the sun's velocity in the direction of the dipole causes this slight increase in temperature.

In the revealed model, this slight increase in CMB temperature might be related to the expansion of space from "just underneath nether Paradise," (11:6.2) which occurs during the 2-billion year cycle of space respiration. "You fail to recognize the present outward and uniform expansion of the physical creations of all pervaded space." (12:4.12) This does not refer to the standard model idea of a space expansion which increases in proportion to distance. It refers to the expansionary phase of space respiration with its "uniform expansion." This suggests a uniform velocity, which would be consistent with a velocity of 371 km/s. If the expansion phase of space respiration explains the CMB dipole, then Paradise should be just above a point that is 9 Mly from us in the direction of the dipole.

**Figure 14: Density Map ≥ 85 Gal/Mpc$^3$ showing 2,340 galaxies In the Central Core of the Superuniverse Space Level**

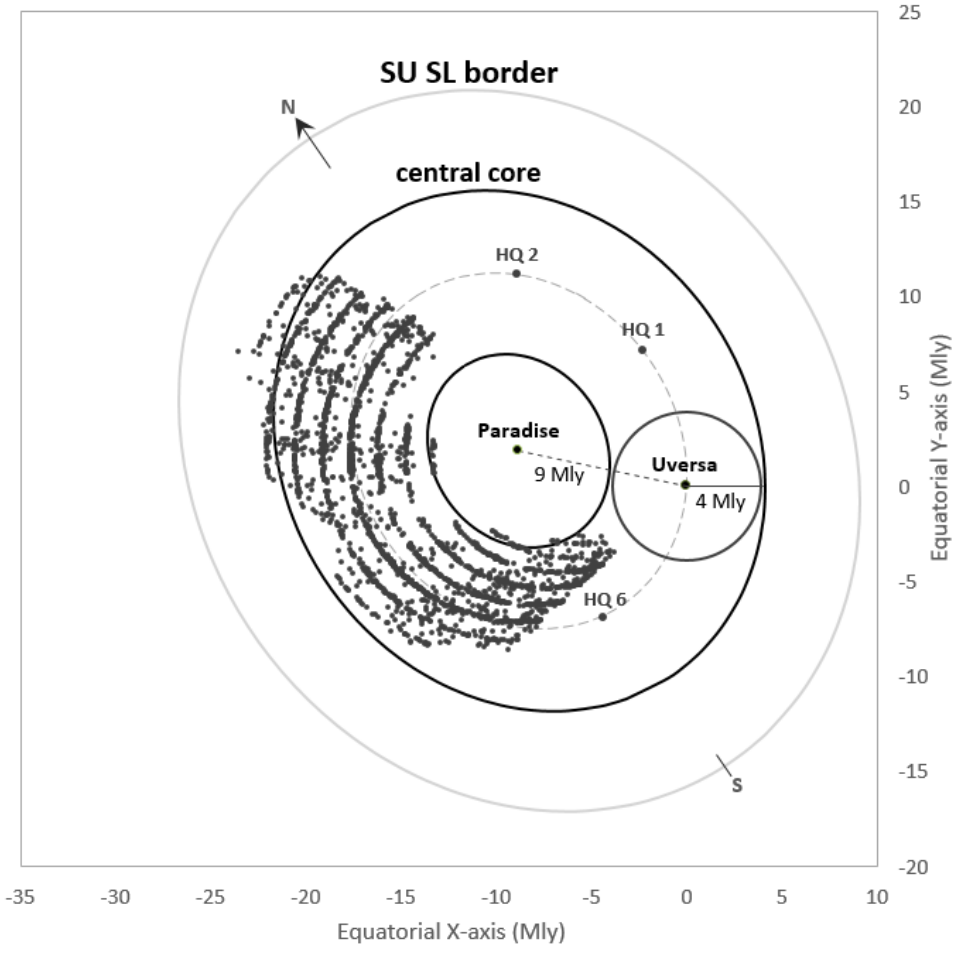



This is a rather speculative idea. But if there is a ring of galaxies in the data whose center coincides with a point 9 Mly from us in the dipole's direction, this would be substantial evidence for the existence of both the superuniverse space level and of the Isle of Paradise. This ring can be identified by the higher galactic density in its central core, as diagrammed in figure 11. The galactic density per megaparsec at the location of each galaxy can be determined by counting the number

of galaxies in a cubic megaparsec, where each galaxy is located at the center of its own such cube. Filtering out galaxies where the density is below some minimum leaves only those galaxies where the galactic density is greater. Such a filter is applied to the galaxies in figure 14 for a minimum galactic density of 85 galaxies per cubic megaparsec.

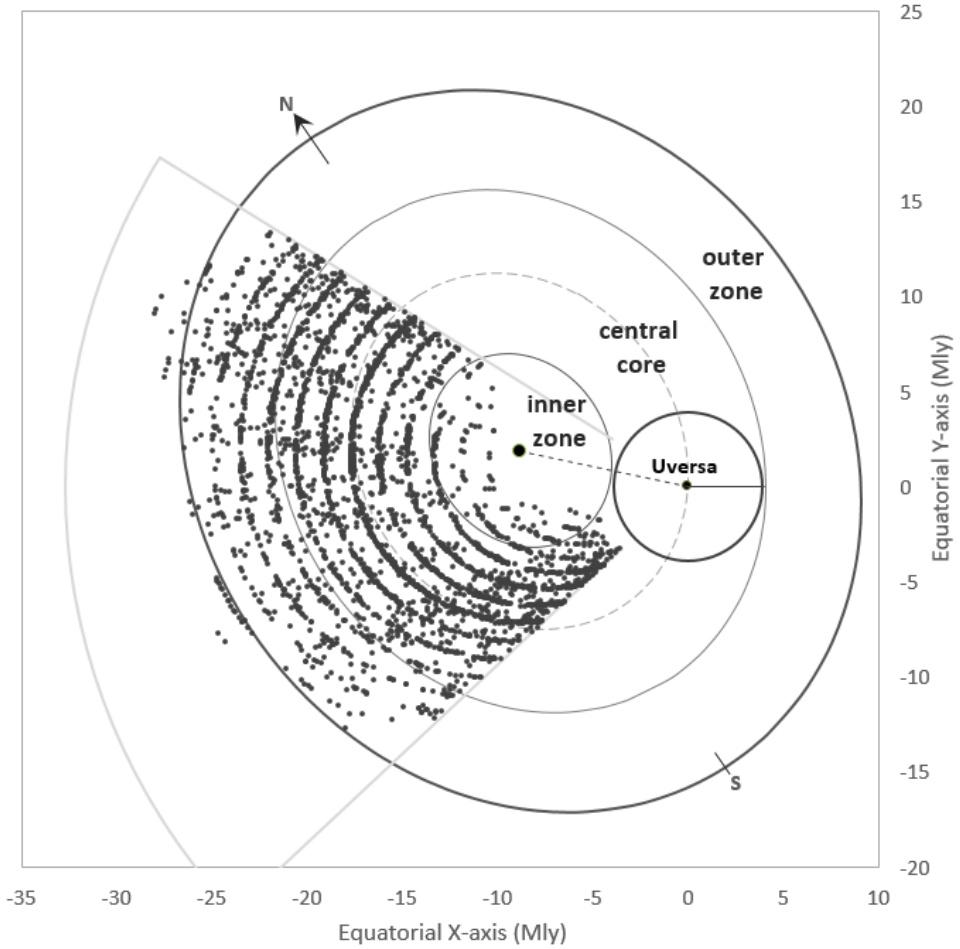
This minimum density of 85 gal/Mpc$^3$ shows an arc made up of 2,340 of the 3705 galaxies in the 2dF belt. They form roughly half of a ring-like structure of galaxies, consistent with expectations. The absence of any other galaxies outside this arc demonstrates the defining character of this density. The proposed location of Paradise 9 Mly in the direction of the CMB dipole does appear to be near the center of this annular structure. This can be checked by using the 7X6 major-minor axis ratio in figure 9 to plot ellipses for the inner and outer borders of the central core, where these are scaled to a distance between Uversa and Paradise of 9 Mly. These ellipses can then be rotated counterclockwise 123° and their common center displaced to coincide with the predicted location of Paradise (-8.81 Mly along the x-axis and +1.87 Mly along the y-axis). The Paradise north axis is then up and to the left, as shown in figure 15, instead of being to the right along the positive x-axis.

**Figure 15: Elliptical Central Core of the Superuniverse Space Level Is aligned with a minimum density of 85 Gal/Mpc$^3$ and is centered on The Location of Paradise**



Almost all of the 2,340 galaxies where the density is greater than or equal to 85 gal/Mpc$^3$ are contained within the inner and outer boundaries of the central core of the superuniverse space level. The elliptical form of this central core with its width of 8 Mly is a very good fit for this annular arrangement of galaxies; it is an exact fit for Orvonton (Local Group). Since the major axis of this ellipse is 16 percent longer than its minor axis, the ellipses would be a poor fit for the data, if these boundaries were circles instead of ellipses or they were not rotated 123°. The predicted elliptical inner and outer borders of the central core could fit this well by accident. The most scientifically plausible explanation for this arc of galaxies is gravitational revolution. This explanation is consistent with the proposed location of Paradise, its absolute gravity, and the gravitational revolution of the superuniverse space level.

**Figure 16: The Elliptical Outer Border of the Superuniverse Space Level Is aligned with a minimum density of 20 Gal/Mpc$^3$ and is centered on The Location of Paradise**




As shown in figure 16, the elliptical outer border of our space level is a good fit for the density contour of 20 galaxies per Mpc$^3$. The average density from the outer border of the superuniverse space level out to a distance of 32 Mly is 10.5 galaxies per Mpc$^3$. The galactic density in the outer zone is about twice this and about 8 times greater than this in the central core. This ring-like

structure of galaxies has the elliptical form, size, density profile, center, and cosmic orientation consistent with descriptions for the superuniverse space level.

There was no evidence in 1955 of this ring of galaxies. Milton Humason, who was a colleague of Hubble's, published a comprehensive list of all known galaxies with measured redshifts in 1956. Of more than 800 galaxies in this list only 122 are within 32 Mly of us. Plotting these on an all-sky chart discloses nothing like an organized structure of galaxies. This plot can be found in *The Law of Absolute Gravity.* [15, pg. 7] There was no human knowledge of this cosmic structure in 1955. No one could have guessed there is a ring of thousands of galaxies which incorporates the Local Group and whose center is at a distance that is 2.3 times the radius of the Local Group.

The first outer space level is an annular structure that is like the superuniverse space level and on the same plane, but much larger. "You may visualize the first outer space level, where untold universes are now in process of formation, as a vast procession of galaxies swinging around Paradise…" (11:7.4) This procession forms "a continuous belt of cosmic activity encircling the whole of the known, organized, and inhabited creation." (12:1.14) This cosmic belt encircling the seven superuniverses is a "clustering of at least seventy thousand aggregations of matter, each of which is greater than any one of the present superuniverses." (31:10.19) This clustering of 70,000 aggregations of matter apparently describes the central core of the first outer space level. Based on the scale factor of 100, the distance to the middle of this central core should be about 900 Mly or 100 times 9 Mly.

Figure 18: **All-Sky Map Showing the Sloan Great Wall**

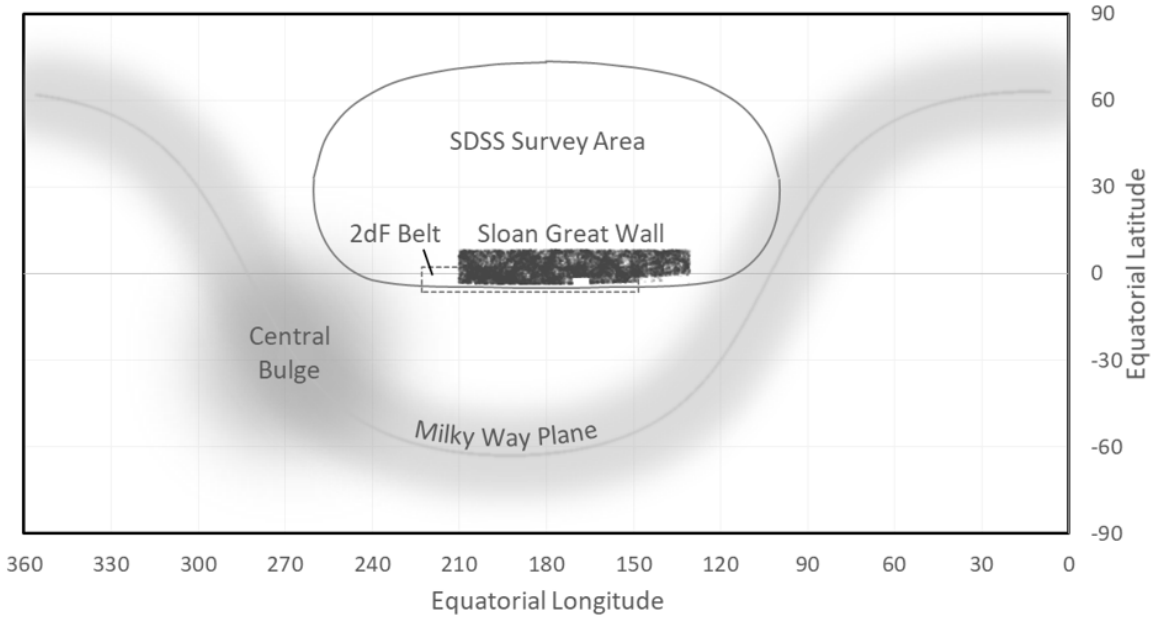
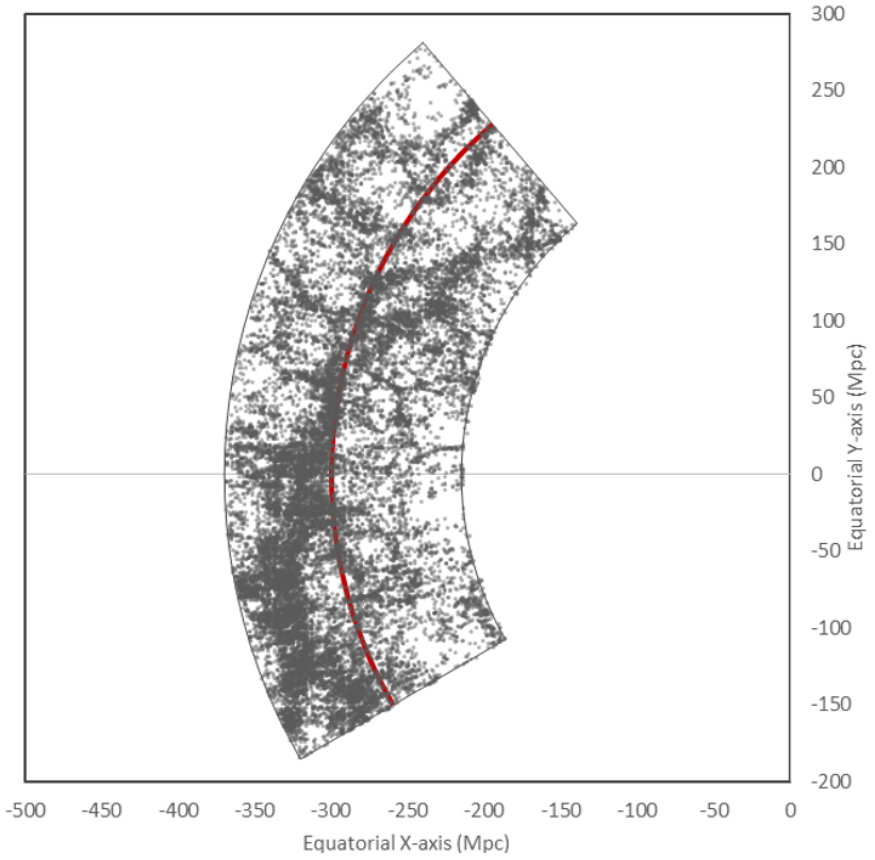


Figure 19: **Polar View of the Sloan Great Wall**



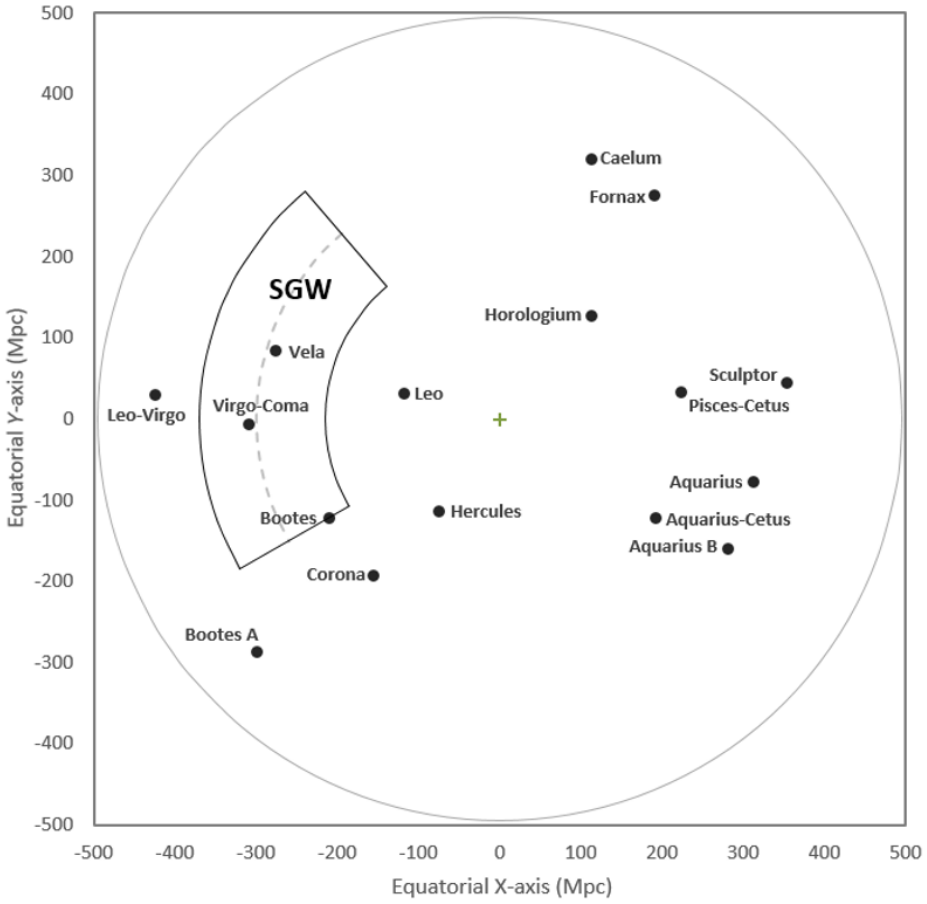

As detailed in *A New Model* [20 pg. 31-33], evidence of something like part of this encircling central core was discovered in 2003 by J. Richard Gott of Princeton University. He found a stupendous belt of galaxies in the Sloan Digital Sky Survey (SDSS) data release of that year, which he named the Sloan Great Wall, which is shown in figure 18. This very large planar structure is 1.4 billion light-years (Gly or Giga-light-years) long and spans about 80 degrees of longitude and 10 degrees of latitude. It is aligned with the equatorial plane and the superuniverse space level (2dF Belt of galaxies), which is consistent with the text. Figure 19 is a polar view of the Sloan Great Wall.

This cosmic structure begins at 701 Mly (215 Mpc) and ends at 1207 Mly (370 Mpc) and is about 500 Mly wide (155 Mpc). There are over 28,000 galaxies in it. Gott found the median distance, shown by the red line, for the galaxies in this arc-like structure is 978 Mly (300 Mpc or $z = 0.073$). This is 109 times the radial distance of 9 Mly from Paradise to Uversa. This is within 10% of the expected distance of 900 Mly to the middle of the central core of the first outer space level. The density of galaxies in it is about six times the average density within 800 Mpc.

The Sloan Great Wall is part of a much larger disk-like structure called the Dominant Supercluster Plane, shown in figure 21. It is about 3.2 Gly in diameter. This is almost 90% of the predicted diameter of 3.6 Gly for the first outer space level, based on 100 times the diameter of 36 Mly for the superuniverse space level. This planar arrangement of superclusters was identified in

1997 by Maret Einasto of the Tartu Observatory. This was six years before the discovery of the Sloan Great Wall. He identified this structure in conjunction with cataloguing 220 superclusters located within a distance of 1.6 Gly or 500 Mpc. (*A New Model* [20 pg. 34-36]) This included 90 superclusters identified for the first time.

Figure 21: **Polar View of the Dominant Supercluster Plane**




Einasto found that only 25 of these 220 superclusters can be classified as very rich superclusters. This type of supercluster has a minimum of 8 Abell clusters. An Abell cluster contains a minimum of 50 galaxies within a radius of 2 Mpc from its center. These 25 very rich superclusters contain 319 Abell clusters.

He further found that 16 of these 25 very rich superclusters are concentrated in a disk with a diameter of 3.2 Gly and a thickness of 0.46 Gly (140 Mpc). These 16 superclusters are contained in a disk whose diameter is much greater than its thickness. Einasto investigated the possibility that this disk-like concentration of superclusters occurred by random chance. He found that the chance arrangement of superclusters in such a disk is excluded at the 99% confidence level. This led him to conclude that these 16 very rich superclusters are part of a single structure which continues through the region of the celestial sphere that is obscured by the Milky Way. He called this concentration of superclusters the Dominant Supercluster Plane.

A polar view of this plane is shown in figure 21, along with the outline of the arc of the Sloan Great Wall, which is contained in the Dominant Supercluster Plane. This planar concentration cannot be explained in the expanding model; a big bang followed by an extremely short period of cosmic inflation does not permit organized concentrations of matter this large. The standard model cannot explain this planar structure.

Figure 22: **The Central Core of the First Outer Space Level**

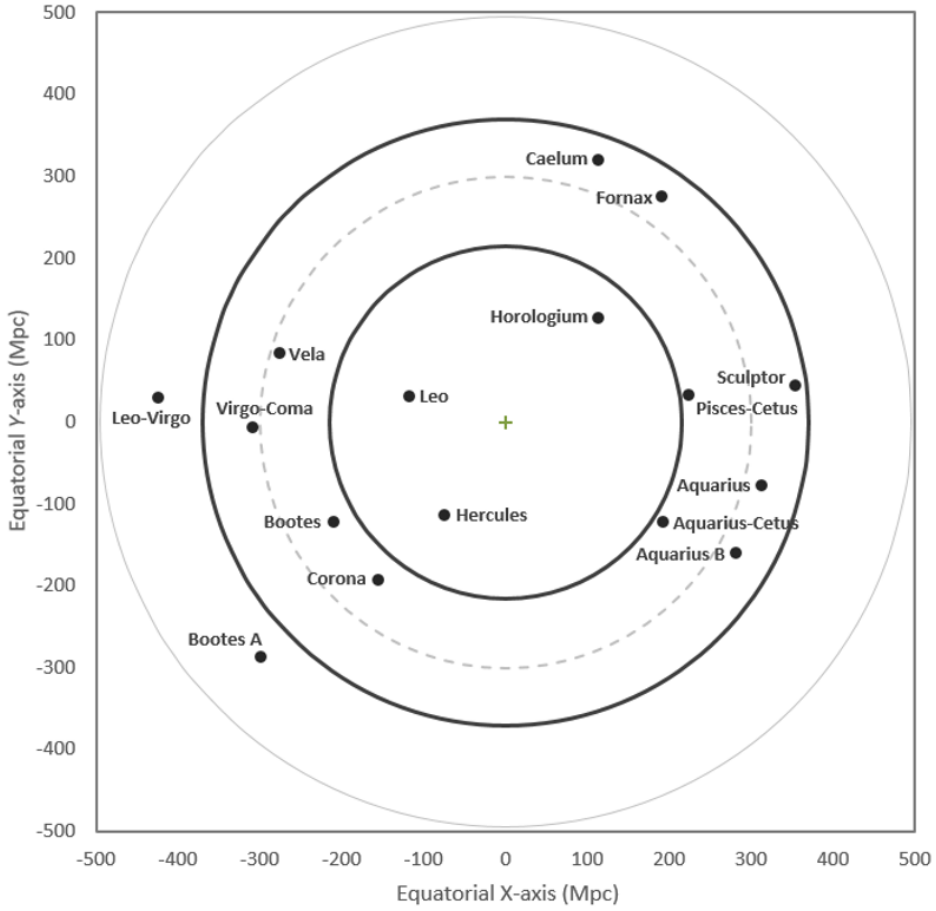



Figure 22 shows that 11 of the 16 very rich superclusters (68%) in the Dominant Supercluster Plane are contained within a 500 Mly wide ring centered on Paradise. This ring is formed by extending the inner and outer borders of the Sloan Great Wall, which is contained within this planar concentration of superclusters. The width (500 Mly) and height (460 Mly) are approximately the same, which forms a ring torus. This is consistent with the prediction that the first outer space level is "a continuous belt of cosmic activity encircling the whole of the known, organized, and inhabited creation." (12:1.14) As predicted, this ring torus is on the same plane as the superuniverse space level, which is also a ring torus. It is concentrically arranged around it, and about 100 times larger, as predicted. The discoveries of these two cosmic structures were completely independent of each other.

The circumference of this larger structure is 6.15 Gly ($2\pi * 0.978$ Gly), based upon the distance to the middle of its central core found by Gott. This is 50% larger than the current largest cosmic structure discovered at the beginning of 2024 called the Big Ring. [16] The circular arrangement called the Big Ring has a circumference of about 4 Gly, a diameter of 1.3 Gly, and is about 9.2 Gly distant. This circumference of 4 Gly is more than 3 times larger than what is supposedly possible. "Cosmologists calculate the current theoretical size limit of structures to be 1.2 billion light-years…" [16] This is the size limit in the expanding model, which is homogeneous and isotropic at all times during its evolution. The 6.15 Gly circumference of the circular structure in the Dominant Supercluster Plane is about 5 times greater than this size limit of 1.2 Gly. In a static non-expanding universe there is no apparent limit to the size of organized cosmic structures.

When *The Urantia Book* was published in 1955, the static universe model was considered obsolete. But the results of the 2022 angular size-redshift test using JWST high redshift galaxies are consistent with a static universe, and wholly inconsistent an expanding one. "JWST observations of high-redshift objects cannot be explained by the expanding-Universe model." Additional studies of these high redshift galaxies show that a significant number of them cannot be explained by the expanding (ΛCDM) model: Some galaxies are impossibly massive, impossibly early; there are far more galaxies in the early universe than predicted; and some early galaxies have disks and bulges, when there is not enough time for these to evolve. These additional findings are consistent with a static universe model, in which the universe can be very many times older than 14 billion years.

Two ring-like structures containing thousands and tens of thousands of galaxies have been found that match descriptions in *The Urantia Book,* which is the one and only place they are mentioned. These space levels are unlike any concept found in any other cosmology. There was no evidence of either one when the book was published, so the accurate descriptions of them must have been based on a knowledge of them. One is 36 Mly in diameter and has a radius of 9 Mly to the middle of its central core. The other has a radius of 978 Mly to its central core. As predicted, they are concentrically arranged on the same plane, where one is roughly 100 times larger than the other.

Gravitational revolution around a common center appears to be the only plausible explanation for these two concentric rings of galaxies. Their form is consistent with the prediction that the galaxies in them are in orbit around a universal center of gravity. Gravitational revolution involves gravitational potential. This potential increases with large distances due to a uniform mass density in a static universe and Newton's shell theorem. The increase in gravitational potential with distance results in an increase in gravitational redshift that is proportional to distance. This can explain the redshift-distance relation discovered by Hubble. Gravitational potential can also

explain the time dilation-redshift relation in a static universe, which has been empirically verified by Type Ia supernovae.

The discovery of the redshift-distance relation was the original reason for abandoning the static model in favor of the expanding model. Space expansion appeared to be the only plausible explanation for this relation. This reasoning is less persuasive now, since the JWST data strongly supports a static universe and cannot be reconciled with an expanding universe. And gravitational redshift is a plausible explanation for the redshift-distance relation in a static universe.

The revelatory presentation of cosmology fosters the comprehension of the Supreme, because the grand universe is the living domain of the Supreme Being. In some major religions the Supreme Being is conceived as the Eternal and Infinite Creator. A different conception of the Supreme Being is found in this epochal revelation.

> During the past dispensations of partial understanding, your priests and prophets failed clearly to differentiate between Planetary Princes, System Sovereigns, Constellation Fathers, Creator Sons, Superuniverse Rulers, the Supreme Being, and the Universal Father. (4:5.2)

The difference between the eternal and infinite Universal Father and the temporal and finite Supreme Being is made clear to this world for the very first time. This revelatory record presents the concept of the Supreme Being as the evolving Deity of the grand universe.

> The Supreme Being is even now evolving as a subeternal personality unification of the sevenfold manifestation of Deity in the time-space segments of the grand universe. (0:7.8)

> The grand universe is the threefold Deity domain of the Trinity of Supremacy, God the Sevenfold, and the Supreme Being. (0:8.10)

> Though man's spiritual nature reaches up in the worship experience to the Father who is infinite, man's intellectual comprehension capacity is exhausted by the maximum conception of the Supreme Being. (115:3.4)

> Mortal man must, through the recognition of truth, the appreciation of beauty, and the worship of goodness, evolve the recognition of a God of love and then progress through ascending deity levels to the comprehension of the Supreme. (56:6.3)

## Appendix: Calculating Hubble Flow Distances Adjusted for the CMB Dipole Motion

The cosmic microwave background (CMB) radiation should have exactly the same temperature in every direction, because we are located at the center of the frame of space expansion. However, relative to the sun, CMB temperatures are not precisely uniform. Temperatures slightly increase to a peak temperature in a direction toward a longitude of $\boldsymbol{l}_0 = 264.14 \pm 0.15°$ and a latitude of $\boldsymbol{b}_0 = 48.26 \pm 0.15°$ in galactic coordinates.

This systematic change in temperatures is explained by the sun having a peculiar motion in this direction of $371 \pm 1$ km/s. This velocity causes the CMB dipole temperature, which causes a blueshift in measured frequencies for objects observed in this direction. For objects in the opposite direction, the sun's peculiar receding motion causes a redshift in frequencies.

In order to calculate the proper Hubble flow distance from the heliocentric redshifts of galaxies beyond the Local Group, the sun's peculiar velocity of $371 \pm 1$ km/s relative to the CMB must be taken into consideration. By factoring out this peculiar motion, the velocity of an object is adjusted to the stationary frame of the CMB. NASA uses a standard formula to convert the observed velocity ($V_{obs}$) calculated from heliocentric redshift into a velocity relative to the CMB reference frame ($V_{CMB}$).

$$V_{CMB} = V_{obs} + V_{dpl}[\sin(\boldsymbol{b})\sin(\boldsymbol{b}_0) + \cos(\boldsymbol{b})\cos(\boldsymbol{b}_0)\cos(\boldsymbol{l} - \boldsymbol{l}_0)]$$

The observed velocity ($V_{obs}$) is given by Hubble's law, $v = H_0 D$, or by the heliocentric redshift times the velocity of light, $v = cz$, for small redshifts ($z < \sim 0.01$). The velocity of the sun towards the CMB dipole ($V_{dpl}$) is constant at 371 km/s. The portion of the formula in brackets $[\ldots]$ gives the cosine of the angle of separation between the direction to the object and the direction to the CMB dipole. The cosine of this angular separation gives that portion of the sun's peculiar velocity toward the dipole which is directed toward the galaxy. The longitude and latitude of the dipole, $\boldsymbol{l}_0$ and $\boldsymbol{b}_0$, are the constant values given above. The galactic longitude and latitude of the galaxy are represented by $\boldsymbol{l}$ and $\boldsymbol{b}$.

Adding the observed heliocentric velocity ($V_{obs}$) to the cosine of the sun's peculiar velocity toward the CMB dipole ($V_{dpl}$) gives the velocity of the object relative to the CMB ($V_{CMB}$) frame of reference. The distance to the object in Mpc is then simply $D_{CMB} = V_{CMB}/H_0$. This is the Hubble flow distance as measured in the CMB frame. A positive CMB velocity is valid. A negative CMB velocity is invalid, since space expansion only results in receding velocities in the CMB frame.

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