

## Scientific Predictions of the Urantia Book

by Geoffrey L. Taylor

2017 update on the 1987 paper coauthored with Dr. Irwin Ginsburgh

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### Introduction

As a younger man, I had dismissed mainstream Christianity and the bible as unscientific and contradictory. I would have ignored *The Urantia Book (UB)* if not for the fact that a well-respected person like Dr. Irwin Ginsburgh (a PhD physicist with 45 patents) had introduced it to me with enthusiasm in 1985. (By contrast, I am a practicing engineer and I only have 26 patents.) But reading the *UB* soon led me to rethink my life's purpose. Before long, its cosmology and science seemed plausible and the internal consistency of its teachings began to amaze me. Two years later (in 1987) I was on board, and Irwin and I decided to coauthor a paper that provided a list of 31 scientific predictions or very specific scientific assertions of the *UB*. In this essay written three decades later, I am revisiting and updating these predictions and statements to see whether the book's science is getting closer to today's scientific discoveries, or if it has become more divergent. What I found, as you will see below, is that 20 percent more of these predictions or assertions can now be moved out of disagreement with today's science than were the case in 1987. In other words, they can be moved into a category of either agreement with or plausibility to the current thinking of science today.

Irwin passed on many years ago, so I am now flying solo here. I don't have the same depth of understanding that Irwin had, and I may be more liberal in my search for correlations than he was, so please take that into consideration when reading this essay. But even with that caveat, I think you will agree after reading this essay that the science of the *UB* is increasingly converging with today's science, rather than deviating from it as many would have thought—although some of the *UB*'s science still disagrees with many of today's theories. Also, bear in mind that there are many, many other scientific and cosmological facts that are asserted or predicted in the *UB* that are not covered herein; I leave these for other investigators. But I believe our list of 31 are easily among the most significant and the objective of this update is to see if there is a convergence.

As an inventor and a technologist, I am able to give *The Urantia Book* credibility for its spiritual content (which must be accepted on faith along with the application of reason and philosophic inquiry), but I had to be convinced that it does not have bad science content (which can be proven or disproven with math and other forms of logic based on physical evidence). I had to be able to believe that the science, even if it is not the currently accepted theory, was at least credible or plausible. The subject range of the science of the book is huge, ranging from creation of the universe to biology, physics, astronomy, geology, and many other fields of natural science; and, the places where the book differs from today's theories cannot always be easily tested. These assertions in the text should at least be plausible. Having said that, one should not use the presence of its science to validate or invalidate *The Urantia Book*. The spiritual and philosophical content should stand on its own and is the primary measure of its true value. Also providing credibility to the *UB* is its accounts of archeology and history, a large subject that is beyond the scope of this essay.

*The Urantia Book* contains a lot of good scientific information that was known but was not mainstream in 1935—which is the ostensible date of the completion of the Urantia manuscript. Although the book was first published in 1955, reliable historical sources make clear that by 1942 it was “fixed” (fully proofread) and by 1946 the final versions of the first edition plates were in the vault of the printer in Chicago, ready to produce 10,000 copies. For the purposes of this essay, I will hold to the 1935 date because, by all accounts, the final set of papers appeared during that year.

We're told in the book that theories evolve as science matures and “crystallizes” (UB: 132:3.3). I now am able

to report that the advancing theories in all the scientific disciplines, because they increasingly match what the *UB* states, are generally leading me to believe more wholeheartedly in the plausibility of the science in *The Urantia Book*.

Looking back, we now know that the scientific information in the book generally agreed with the science of the day; in fact, much of it seemed to parrot the most advanced science of those times (as shown nicely by Mathew Block's work). On the other hand, some of it differed markedly from the scientific theories of 1935. One of Block's findings in this connection is interesting: the celestial authors of the text omitted the errors of those human scientific authors from whom they were lifting and sifting quotes from the available science texts of that era, as one part of its policy of harvesting of human sources.

As we proceed in this discussion, let's keep these quotes in mind in thinking about the science of the *UB*:

"The scientist, as such, is limited to the discovery of the relatedness of material facts. Technically, he has no right to assert that he is either materialist or idealist, for in so doing he has assumed to forsake the attitude of a true scientist since any and all such assertions of attitude are the very essence of philosophy."<sup>132:1,2</sup>

"Scientists may someday measure the energy, or force manifestations, of gravitation, light, and electricity, but these same scientists can never (scientifically) tell you what these universe phenomena *are*. Science deals with physical-energy activities; religion deals with eternal values. True philosophy grows out of the wisdom which does its best to correlate these quantitative and qualitative observations. There always exists the danger that the purely physical scientist may become afflicted with mathematical pride and statistical egotism, not to mention spiritual blindness."<sup>133:5,4</sup>

### Limitations of Disclosure and Terminology

*The Urantia Book* warns of the limitations on transmitting scientific ideas in a revelatory context. For example, in dealing with the future of scientific discovery, the terms that will be used in the future (and the precise definitions of these terms) are of course not known, and this may hinder clarity. For example, the book discusses "continental drift" on the earth's surface, while science today talks only of "plate tectonics." Also, today's physicists use the term "meson" instead of the word "mesotron" used by the revelators.

In addition, the book clearly states that there is a time limitation on the information that can be presented. They proclaim that they "can't anticipate the discoveries a thousand years." Further, they make clear that correlations between their statements and current science will be possible, but they make clear that such revelatory scientific information is provided in the text only if we will soon be able to prove this fact or theory ourselves. The converse also seems to be true: they are permitted to share plenty of information about ideas or facts we could never humanly discover on our own (e.g., the unique concepts of the *ultimaton* and *segregata*, for instance).

All that said, here are the 31 predictions from the 1987 paper that we will now have a second look at:

1. Healing chemicals for wounds.
2. Plate tectonics or continental drift.
3. Source of the sun's energy.
4. Temperature at center of sun.
5. Density of the sun.
6. Creation of the sun.
7. Chemical element with atomic number 101.
8. Neutrino particle.
9. Mass of the meson particle.
10. Surface temperature of the sun.
11. Creation of the Earth and the moon.

12. Creation of matter and energy.
13. Creation of our solar system.
14. Life implanted on Earth 550 million years ago.
15. End of Cretaceous age.
16. Breakup of fifth planet from the sun (asteroids).
17. Dark matter in the universe.
18. Organization of matter in a superuniverse.
19. Use of DNA for human evolution.
20. Reduced gravity effect on calcium ion.
21. Reduced gravity effect on free neutron particles.
22. Origin of sunspot cycle.
23. Twelve planets in our solar system.
24. Cause of wave action of light.
25. Speeds greater than speed of light.
26. Two kinds of gravity.
27. Anti-gravity.
28. Unknown form of energy
29. Ultimatron particle.
30. Neanderthal to Cro-Magnon transition.
31. Life span of a star.

Let's update each of these assertions and predictions. (Note that I list the scientific category or categories and the pertinent section in the *UB* for each item):

#### 1. Healing Chemicals for Wounds (medicine, biology; 65:4.3-5)

*The Urantia Book* describes the natural process by which an injured cell can heal itself by eliciting from its neighboring cells "the secretion of certain substances which facilitate healing processes in the wound." It further states that these healing chemicals for wounds will later be understood by our scientists. At the time of its writing, chemicals that fight infection and thereby speed up the healing process were indeed in the process of being discovered. Penicillin was discovered in 1928, but serious work on its properties did not start until ten years later; sulfa drugs were discovered in 1935 but didn't come into use until five years later. Both of these chemicals were essentially unknown in 1935 but were soon to be understood; however, these substances may or may not relate to the healing chemicals the *UB* refers to that involve the cells themselves.

The book also hints at other discoveries of this type that will be made in the future. (See 65:4.3.) Perhaps this future is soon upon us, because recent advances in the areas of connective and soft tissue diseases and damage have led to vascularization- and collagen-enhancing drugs to promote healing at the cellular level. Also, we now have immunotherapy drugs (i.e., immune-system stimulants and suppressants) and my personal favorite: the new cancer-killing chemical known as 3 bromopyruvate.

#### 2. Plate Tectonics or Continental Drift (geology, geophysics; 58:5)

Perhaps one of the most notable scientific claims of the *UB* that was proven after its publication is its teaching that the continents drift slowly over the surface of the Earth and that the drift of the continental plates. This general thesis had been proposed in the early years of the twentieth century, but by 1935 no significant evidence for the drift of the continents had been found. While it is true that a look at the shape of the east coast of South America and the west coast of Africa readily shows the ancient fit between these two land masses, science requires material proof. Such proof only came in 1969 by matching subsurface earth layers on the two continents, along with the discovery of ocean floor cracks between the continents. These trenches at the bottom of the oceans generate the energy that propagates the slow movement of the plates in opposing directions. However, there is one discrepancy: the book states that the drift started about 700 million years ago, while it

was recently computed by geologists to have begun 200 million years ago, based on the oldest ocean rocks that have been found at the bottom of the Atlantic Ocean.

### 3. Source of the Sun's Energy (physics, astrophysics; 41:8.1–2)

The book says that the sun generates energy by fusing four hydrogen atoms to form one helium atom, using carbon as a catalyst. This process, known as nuclear fusion, is a form of mass-to-energy conversion that liberates huge amounts of energy in the form of heat and luminosity. Physicists worked out this understanding of the sun's energy conversion process in 1939, soon after the Urantia Papers were finalized.

### 4. Temperature at the Center of the Sun (physics, astrophysics; 41:7.2)

The *UB* states that the temperature at the center of the sun is 35 million degrees Fahrenheit. In the mid-1930s, science had only guessed at a temperature of millions of degrees, but an estimate of 29 million degrees was made in the late 1930s. Today we have an accurate and reliable measurement because of the work of the Solar and Heliospheric Observatory (SOHO) satellite, which was first launched in 1995 and has ever since been orbiting the sun. The SOHO reading is 28 million Fahrenheit, not too far from the claim of the Urantia text.

### 5. Density of the Sun (Physics; 41:4)

*The Urantia Book* says "The mass of your sun is slightly greater than the estimate of your physicists, who reckoned it as about 2 octillion ( $2 \times 10^{27}$ ) tons." The current SOHO data puts the sun's mass at  $2.2 \times 10^{27}$  tons. This latest measurement by the SOHO satellite corroborates the claim made in the *UB* in 1935.

### 6. Creation of the Sun (Cosmology, Stellar Physics; 57:1, 5:7.5.1)

The book says that the sun originated from an enormous cloud of dust and gas known as the Andronover nebula, which disappeared long ago. Whereas science dates the universe as less about 14 billion years old, the *UB* states that the universe is far older, claiming for instance that the Andronover nebula that gave birth to our sun has undergone about 800 billion years of development. As this mother nebula contracted by the force of gravity, it threw off over a million suns, a fact unknown to current science; also unique to the *UB* is the idea that our sun originated toward the far end of this epic process of "sun disgorgement." Both science and the *UB* agree that the sun is of origin from a nebula and that, having been ejected, heated itself because of gas compression due to gravity until the sun attained nuclear fusion status. This basic description of our sun's origin generally agrees with current science, except for the timing of nebular evolution that the Urantia text says preceded it, where there is a great discrepancy. The *UB* also says the sun's creation occurred about 6 billion years ago, whereas science puts it at 5 billion.

### 7. Surface Temperature of the Sun (Stellar Physics, 41:7)

The book says that the surface temperature of the sun is "almost 6,000 degrees" Fahrenheit. Today's science measures the temperature as 9,941 degrees Fahrenheit. But it should be noted that there is contention as to what exactly is the "surface" of the sun. Science has identified five principal zones: the temperature minimum region, the chromosphere, the transition region, the corona, and the heliosphere. The chromosphere, transition region, and corona are much hotter than the surface of the Sun. The coolest layer of the Sun is the temperature minimum region about 500 km above the photosphere, with a temperature of about 4,100 K or 6,900 F. So we should be able to give this one an affirmative.

### 7. Creation of the Earth and Moon (Astronomy, 57:6-7)

The book says that the earth and the moon coalesced as a pair of twin planets after the giant Angona Nebula came close to the sun and pulled away enough material to form all the planets. (For further background, see

item 12 below.) At first, the earth was about a tenth of its current size (around 2.5 billion years ago). Thereupon, the *UB* states, the sun and the moon both grew by “meteoric accretion”, but the earth grew faster compared to the moon. For example, the earth had become two-thirds of its present size a by 1.5 billion years in this manner, and became its present size about a billion years ago. By contrast, current science has a rather different origin theory. It says that the Earth and the sun condensed at the same time and that the earth picked up a relatively much smaller amount of material by accretion of meteors and “planetesimals” (large meteors). Further, the *UB* states that the moon was created when a planetesimal hit the Earth and ejected enough material to coalesce to form the moon. Interestingly, an old, discredited theory said that the moon was torn away from the Earth, leaving the pacific basin, but this theory did not specify the cause.

#### 8. Chemical Element with Atomic Number 101 (Nuclear Physics; 42:7.4-7)

The book says that, if it existed in theory, a very heavy element that would be classed as number 101 on the atomic chart would be so unstable that it would disintegrate radioactively almost instantaneously. (The atomic number of an element is based on the structure and electric charge of the atomic nucleus and the number of electrons present). In 1935, the heaviest naturally occurring element known was Uranium—at number 92—and it disintegrates slowly. Experiments to make heavier elements were done in the late 1930s, but with little success—and certainly not up to number 101. But such a feat was finally accomplished in 1955. This man-made element was labeled Mendelevium, and it turned out to be stable for 1.17 hours—which is instantaneous, relatively speaking. The following quote from the *UB* provides background on this issue: “The local universes are of decimal construction. There are just one hundred distinguishable atomic materializations of space-energy in a dual universe; that is the maximum possible organization of matter in [our local universe]. . . . When one hundred and one [electrons] have been artificially introduced into [an atom’s] orbital field, the result has always been the instantaneous disruption of the central proton with the wild dispersion of the electrons and other liberated energies.” (See 42:7.4-7)

#### 9. Neutrino Particle (Nuclear Physics; 41:8.3, 42:8.5)

In its explanation of stellar collapse, the book mentions a small, unnamed, and chargeless particle that could be the particle that science calls the *neutrino*. The particle was theoretically predicted in 1931 and was labeled the neutrino at that time, but because it was so difficult to detect, it was not found until 1953—and some would set the date to 1959. The *UB* also states that these particles have mass, but only in 1998 did our scientists discover that neutrinos have mass. Current nuclear physics calls the radioactive emission of neutrinos by the term *beta decay*. Here is how the *UB* introduces this particle: “The gravity-electric changes give origin to vast quantities of tiny particles devoid of electric potential, and such particles readily escape from the solar interior, thus bringing about the collapse of a gigantic sun within a few days.”

#### 10. Mass of the Meson Particle (Nuclear Physics, 42:8)

The *UB* has interesting things to say about atomic cohesion, such as in this passage: “The integrity of the nucleus is maintained by the reciprocal cohering function of the mesotron, which is able to hold charged and uncharged particles together. . . .” The book uses here the term *mesotron* instead of the presently used word *meson*. The mesotron term was used in the 1930’s when the early theoretical work was done on this particle, and the presenters of the *UB* were evidently familiar with this research. The book claims the mesotron has a mass that is 180 times the mass of the electron. (It is worth noting here an electron has 1/1836 the mass of the proton). Science has since found 32 types of mesons whose masses currently measure from 139 to 9,460 units, so the closest match would be that a meson would have a mass of more like 272 times that of an electron. You can see that the *UB* is far afield here, so we’ll have to state that it does not harmonize with science in this regard.

#### 11. Creation of Matter and Energy (Cosmology, Physics, 3:4.2, 4:1.5, 42:1)

The concept of *space potency*, which is unique to the Urantia text, can be defined as “universe force-space potential” (42:2.3). The *UB* states that matter and energy has been and can be continuously brought into space-time manifestation, a process which requires in part the presence of specialized and ubiquitous beings generally known as “force organizers.” It also teaches that the physical universe came into being hundreds of billions of years ago. Science offers instead the Big Bang theory, which states that all energy originated about fourteen billion years ago in an instant and in one place; this energy has been spreading out ever since and has greatly evolved in complexity, resulting in the entire known present universe. The red shift is the main driver for today’s theory; by contrast, the notion of space respiration, as suggested by *The Urantia Book*, provides a satisfactory explanation of this phenomenon of red shift. (The term “red shift” refers to how light changes as objects in space, such as stars or galaxies, recede from us.) In general, we can say that there is not much harmony of the *UB* with science on these points.

It is worth noting in this connection that in October 2017, the proton and the anti-proton were found (by CERN) to have identical magnetic properties. This profound finding, plus other matter/anti-matter conundrums of current physics, and also the time required to form supermassive black holes, could make scientists rethink the Big Bang.

## 12. Creation of Our Solar System (Cosmology, 57:5)

In the 1930s, one of science’s proposed theories of the origin of our solar system was that a massive body had come close to the sun and pulled out huge amounts of matter that later coalesced to form the planets. *The Urantia Book* offers a similar depiction of the creation of *Monmatia*, its coined name for the solar system. It states that an “enormous system [called] Angona” (that is unknown to today’s astronomy) came close to the sun and tore away lots of matter that coalesced to form the planets. Significantly, the *UB* also tells us that “The planets do not swing around the sun in the equatorial plane of their solar mother. . . . Rather, they travel in the plane of the Angona solar extrusion, which existed at a considerable angle to the plane of the sun’s equator.” (57:5.12) The *UB* offers this account to explain the seven-degree tilt of the sun’s axis to the plane of the planets. Today’s best scientific theory puts the age of our solar system at 4.5 billion years (as opposed to the *UB*’s age of 5 billion in this same passage) and suggests that the planets were created by the coalescence of matter adjacent to the sun at the same time the sun coalesced; most of the collapsing mass collected in the center, forming the sun, while the rest flattened into a protoplanetary disk out of which the planets, moons, asteroids, and other small Solar System bodies evolved. This theory of origin does not explain the tilt, but instead relies on the so-called *giant-impact hypothesis* (a great collision that created the moon) to account for the tilt.

## 13. Life Implanted on Earth 550 Million Years Ago (Paleontology, 58:4)

The book says that life was implanted on Urantia 550 million years ago by specialized beings known as *Life Carriers*, but it does not specify exactly what was implanted. It states, “[We] initiated the original life patterns of this world and planted them in the hospitable waters of the realm. All planetary life. . . had its origin in our three original, identical, and simultaneous marine-life implantations.” (58:4.2) Science theorizes that life started 3.6 billion years ago as single-cell life. But today’s biologists also say that multi-cellular life with DNA structures that controlled all phases of cell life appeared 600 million years ago; if the implantation by the Life Carriers was itself a form of DNA, this date is not far off from the *UB*’s 550 million figure. Also according to science, complex animal life differentiated 541 million years ago in the so-called “Cambrian explosion”. The Cambrian explosion resulted when animal life developed the ability to exist in the shade.

Note: Self-Assembled Silica-Carbonate Structures and Detection of Ancient Microfossils Juan Manuel Garcia-Ruiz, et al. 2007 and growth of synthetic stromatolites and wrinkle structures in the absence of microbes - implications for the early fossil record McLoughlin, Brasier 2008. This could impact the earliest dates.

## 14. End of the Cretaceous Age: 65 Million Years Ago (Geology, 61:2.5-6)

Byron Belitsos 1/14/2018 9:47 PM

**Comment [1]:** Suggest delete—too arcane! Or else explain it.

Geoff 1/18/2018 8:22 AM

**Comment [2]:** Something that looks like single celled organisms can form like crystals.

Byron Belitsos 1/22/2018 10:46 PM

**Comment [3]:** I still can’t follow this!

Geoff 1/23/2018 7:25 AM

**Comment [4]:** Early on, scientist thought these regular patterns were signs of single celled organisms but they may have just been crystals forming.

Science has conclusively determined that all of the dinosaurs and many other classes of life—about three-quarters of the plant and animal [species](#) on the planet—went extinct about 65 million years ago, an event which marked the termination of the Cretaceous Period. The *UB*, by contrast, states that the Cretaceous closed 50 million years ago and that the dinosaurs slowly died out by about 35 million years ago—which was also the general view among paleontologists at the time of the book’s writing. Today, science has considered three competing theories or the great mass extinction 65 million years ago:

1. A 4-to-9-mile-wide meteor struck the Earth creating a long-lasting dust cloud that blocked out sunlight worldwide. This event had a catastrophic affect on plant growth and thus on most other living species, and is known as the [Alvarez hypothesis](#). The very likely location of such a meteor strike is near the Yucatan Peninsula in Mexico, at Chicxulub.
2. Climate change dropped the temperature, killing many plants and consequently the dinosaurs.
3. Massive volcanic activity caused the demise of the dinosaurs, as *The Urantia Book* and other early sources have stated.

The crucial clue in this discussion is the presence of a high concentration of the heavy element, iridium, that can be observed worldwide in the boundary layer of deposits at the end of the Cretaceous, which was first observed in 1980 by the Nobel prize-winning physicist Luis Alvarez and his geologist son, Walter Alvarez. Iridium is rare at the Earth’s surface; it is mainly found deep in the Earth. It is plausible that the anomalous iridium layer could have been caused by either volcanic activity or an asteroid strike. But in March 2010 the question was likely settled. “An international panel of scientists endorsed the asteroid hypothesis as being the cause of the extinction. A team of 41 scientists reviewed 20 years of scientific literature and in so doing also ruled out other theories such as massive volcanism,” states Wikipedia. Further, in 2016, a scientific team that was watched with excitement worldwide was able to drill deep into the [peak ring](#) of the [Chicxulub impact crater](#) to obtain [rock core](#) samples from the impact itself. The discoveries made were widely seen as confirming the Alvarez hypothesis. Nonetheless, we need not yet entirely rule out the *UB*’s assertion, and will rate this one as still plausible.

#### 15. Breakup of the Fifth Planet from the Sun (Astronomy, Cosmology, 57:6.6)

Our solar system has an asteroid belt located between the orbits of Mars and Jupiter. The book offers an apparently original theory of how large bodies of planetary matter can be disrupted, stating: “If space bodies are similar in size and density, collisions may occur. But if two space bodies of similar density are relatively unequal in size, then, if the smaller progressively approaches the larger, the disruption of the smaller body will occur when the radius of its orbit becomes less than two and one-half times the radius of the larger body.” It then goes on to say that the original fifth planet from the sun underwent such a process when it was slowly attracted by the superior gravity of the giant sixth planet, Jupiter. “The fifth planet of the solar system of long, long ago,” says the *UB*, “traversed an irregular orbit, periodically making closer and closer approach to Jupiter until it entered the critical zone of gravity-tidal disruption, was swiftly fragmentized, and became the present-day cluster of asteroids.” A similar theory was also proposed by early German astronomer Heinrich Olbers in 1802, but has since been set aside because most astronomers now believe that the breaking up a planet in this manner would require an enormous amount of energy. Current astronomy also thinks that, in addition, the low density of the asteroid belt (less than 4% of the mass of the moon) and the differing elemental make up of these asteroids suggest that they are just pieces of space matter (“planetesimals”) that never coalesced to form a planet.

#### 16. Dark Islands in the Universe (Astronomy, 15:6.11, 41:3.6)

The book introduces the unique phrase “dark islands of space,” and predicts that we will discover them soon. Of course, we have since discovered these bodies—they are the “black holes”—and they have the same set of characteristics offered in the *UB* along with many others. Another dark island of space discovered much later are X-ray stars. The first black hole, Cygnus X1, was found when looking for an invisible (X ray) star. Stephen

Hawking is credited with creating the first robust theory of black holes in the 1970s. Hawking and the rest of today's cosmologists, if they were to read the *UB*, may also agree with this additional description of these dark islands: "[In some stars]. . . this process of cooling and contraction may continue to the limiting and critical explosion point of ultimatic condensation." We now realize that most galaxies have a massive black hole at the center that controls the shape of the galaxy. Interestingly, the *UB* seems to corroborate this finding: "The density of some of these large masses is well-nigh unbelievable. And this great concentration of mass enables these dark islands to function as powerful balance wheels, holding large neighboring systems in effective leash." (15:6.11) Along with our discovery of black holes, we now realize that they are not anomalous entities, but essential features of the cosmos. Indeed, only a small fraction of the universe is actually visible—a mystery not broached in the *UB*.

It is worth noting also that the only criteria for a "dark island" are that a certain mass be packed within a certain radius. A mass that collapses to a volume smaller than its so-called event horizon meets science's criterion for being a black hole. Cygnus X1 has a mass of 15 solar masses; our Milky Way galaxy has a black hole 26,000 light years away towards Sagittarius that weighs in at 4.1 solar masses.

#### 17. Organization of Matter in a Superuniverse (Astronomy, 15:3)

The book is unique in describing the organization of matter in seven superuniverses containing trillions of inhabited material planets rotating in an orderly way around a stable universal center. Science has largely accomplished the mapping of the visible universe, but there does not appear to be any segmentation that approaches this precise description. (In addition, the *UB* describes what it calls *outer space levels* that extend vastly beyond the seven superuniverses, which complicates this notion of galactic groupings further.) It should be noted in this connection that today's techniques for distance measuring are complicated by the assumption of universal Big Bang expansion and the well-evidence idea of cosmic background radiation (emanating from the Big Bang). As noted earlier, stellar distance is presumed to be proportional to the amount of red shift.

#### 18. Use of DNA to Evolve Human Species (Genetics, 65:3)

The book states that the human species will no longer evolve genetically by natural means and suggests that we become active participants in conscious evolution: "Mankind on Urantia must solve its problems of mortal development with the human stocks it has—no more races will evolve from prehuman sources throughout all future time. But this fact does not preclude the possibility of the attainment of vastly higher levels of human development through the intelligent fostering of the evolutionary potentials still resident in the mortal races." (65:3.6) Scientific knowledge of genetics has long been used to improve numerous species, including the cloning of species, but the idea of human eugenics has been rejected in the modern world. On the other hand, we have mapped the entire human genome and we understand much about how genes function as well as the mechanisms of epigenetics—which provides proof that human behavior can modify gene expression in present and future generations. We are just now starting to attack some genetic diseases and "edit" the gene segments which cause conditions such as cystic fibrosis. Today's advances in genetics and epigenetics could one day become Urantia's alternative to eugenics—at least until the advent of higher beings on our world who would be qualified to carry out eugenic programs.

#### 18. Reduced Gravity Effect on Calcium Ion (Physics, 41:6)

The book states that calcium ions are able "ride the light beams [of the sun] for varied distances," and suggests that this accounts for the higher concentration of calcium atoms on the sun's surface, as well as their very high concentration in space. Why do they bother to tell us that? "Our whole superuniverse is sprinkled with minutely pulverized stone [that] is literally the basic building matter for the planets . . . [This tiny material] consists for the most part of the modified atoms of calcium." (41:6.2) The *UB* says further that the calcium ion possesses these characteristics because of the way it achieves reduced gravity: by "tossing [its] nineteenth electron back and forth between its own orbit and that of its lost companion more than twenty-five thousand times a second."



This allows them to ride the beams of stars so that they pervade all space. “Calcium is, in fact, the chief element of the matter-permeation of space. . . .” Calcium atoms usually have two outermost electrons that are electrically balanced. But at very high temperatures, one of the negatively charged electrons can be removed resulting in a positively charged ionic form. Today these ions are called cosmogenic isotopes of Ca (the symbol for Calcium) and are known to have a stable radioactive half life of 103,000 years. In 1997, Skulan and DePaolo observed that calcium isotopes are lighter than the solutions from which they precipitate. Also, the 20% range in relative mass among naturally occurring calcium isotopes is greater than for any element except hydrogen and helium, suggesting that they indeed may demonstrate some variable gravity ability.

### 19. Reduced gravity effect on unattached, and uncharged electronic-energy particles (Physics, 42:6)

“Local or linear gravity becomes fully operative with the appearance of the atomic organization of matter,” we are told. But the book goes on to say that “no measurable linear-gravity pull is exerted on free, uncharged, unattached electronic-energy particles.” We can assume that such an unattached electronic energy particle is a gluon, then this massless gauge boson that carries the strong force by be what they are talking about. These were first observed in 1979 using the PETRA collider.

### 20. The Origin of the Sunspot Cycle (Astronomy, 41:4, 57:5)

The book says that our eleven-year sunspot cycle is a slow remnant of the shorter variable phase of the sun of 3.5 years. Such variability is called the Cepheid phase of a star, which is a cyclic variation of the brightness of the star. The *UB* puts it this way: “Your own sun still carries a diminishing legacy of the mighty upswellings of its younger days, but the period has lengthened from the former three and one-half day pulsations to the present eleven and one-half year sunspot cycles.” (41:3.9) SOHO has confirmed the 11-year periodicity of our sun and its findings indicate that the cycle is determined by magnetic variation. While science has not confirmed the *UB*’s claim of an earlier variability of 3.5 years, this assertion of the *UB*’s authors is at least plausible.

### 21. Twelve Planets in Our Solar System (Astronomy, 57:5)

*The Urantia Book* counts 12 planets in Monmatia, while science has counted only nine planets until recently, when it was decided that Pluto is too small to be counted among the planets. However, if we were to include all the “dwarf planets”—Pluto, Haumea, Makemake, and Eris (Kuiper Belt objects)—the total actually is 12. However, a recent ninth planet has been proposed to account for the asymmetry of the other planet’s orbits. So, the *UB*’s claim is in the realm of possibility.

### 22. Cause of the Wave Action of Light (Physics, 41:5.7)

The book says that light does not travel in waves but rather proceeds in “direct lines,” implying that light is made up only of particles. Further, it states that if a secondary energy impinges on the original stream of light, then it “appears to travel in wavy formation.” One such secondary energy, says the *UB*, is present in space regions but has yet to be discovered. However a recent article in the *European Physical Journal* suggests that the vacuum contains “particle pairs such as electron-positron or quark-anti-quark” that affect the speed of light and presumably may be responsible for its wave-particle nature. Research by Nigel Nunn, a trained physicist who is a *Urantia Book* student, is showing some real promise in making this one more plausible, but will we have to give this one a “no” for now.

### 23. Speeds Greater than the Speed of Light (Physics, Theology, 23:3)

We’re told in the *UB* that very high beings known as *Solitary Messengers* are available for “quick transmission of important and urgent messages” at a speed of 841,621,642,000 miles per second. Very recently, science has demonstrated superluminal communication with the propagation of information. In the summer of 2011,

Byron Belitsos 1/21/2018 2:10 PM

**Comment [5]:** But is the UB right that they pervade space?

Geoff 1/23/2018 7:32 AM

**Comment [6]:** Yes In part this generates the UV rays that we see.

Byron Belitsos 1/22/2018 8:47 PM

**Comment [7]:** No idea what this means. Please supply an interpretation. Seems to mean that there is a lot of gravity pull on neutrons (?)

Geoff 1/23/2018 7:40 AM

**Comment [8]:** Agreed.

Geoff 1/23/2018 7:53 AM

**Deleted:** “Local or linear gravity becomes fully operative with the appearance of the atomic organization of matter,” we are told. But the book goes on to say that there is no gravity pull on “no measurable linear-gravity pull is exerted on free, uncharged, unattached electronic- energy particles.” If we can assume that such an unattached electronic energy particle to be a neutron. - Oak Ridge lab scientists J. Dabbs, A Harvey. D. Paya and H. Horstmann (Ref) in 1965 measured the gravitational acceleration of free neutrons to be from  $g = 975.4 \text{ cm/sec}^2$  to  $g = 973. \text{ cm/sec}^2$  as compared with the local value of  $g = 979.74 \text{ cm/sec}^2$ .

researchers involved in a small neutrino experiment in Europe called OPERA (Oscillation Project with Emulsion Racking Apparatus) made the announcement that they had clocked neutrinos travelling just a few fractions of a second faster than the speed of light. This may in fact be an error but it seems that current scientists believe that the [Lorentz-violating](#) variants of [quantum gravity](#) might allow faster-than-light neutrinos. [at least consider it a possibility](#). There is science suggesting that light signals have a “bow wave” which is a precursor to the arrival of the light and implies that it travels faster than the beam itself. Perhaps most important, in 1964 physicist [John Stewart Bell](#) introduced Bell’s Theorem, which upended the idea that no physical effects in the universe can move faster than the speed of light. The theory states that *quantum entanglement* can occur wherein a pair of photons emitted from the same source, but moving in opposite directions, can experience simultaneous shifts in polarization which implies some form of instantaneous communication between them. Bell’s experiment has been replicated numerous times. This important theorem has given rise to the theory of “quantum nonlocality,” which some say is supported in the Urantia text. All told, it would appear that speeds greater than the speed of light are indeed possible.

#### 24. Two Kinds of Gravity (Physics, 11:8)

The book indicates that there are two kinds of gravity: linear and Paradise gravity. “Absolute gravity is Paradise gravity. Local or linear gravity pertains to the electrical stage of energy or matter; it operates . . . wherever suitable materialization has taken place.” (11:8.3) Science is familiar with the gravitational attraction between two physical bodies, but it does not understand the fundamentals of how gravity works. Physicists have conducted experiments to see if linear gravity affects light energy and have confirmed that it does; however, to date there is no evidence of Paradise gravity. It is however, possible that the Higgs Field could be considered a precursor to linear gravity and that, in the same sense, Paradise gravity may also be a precursor to linear gravity. (The Higgs field is a field of energy that is thought to exist in every region of the universe. The field is accompanied by a fundamental particle known as the Higgs boson, which is used by the field to continuously interact with other particles, such as the electron.) So, we can plausibly say that discovery of Paradise gravity may one day be possible.

#### 25. Antigravity (Physics, 9:3)

We are taught in the Urantia text that “the Infinite Spirit possesses a unique and amazing power—*antigravity*, [which is] the ability to withstand the pull of material gravity. . . . Antigravity can annul gravity within a local frame; it does so by the exercise of equal force presence.” (9:3.2) We are also taught in the book that some particles (e.g., a single ultimatron) can be affected by antigravity and that antigravity is available to the Conjoint Actor (i.e., the Third Person of the Trinity) for the purpose of “slowing down energy to the point of materialization.” This ability is also delegated to “power-control creatures” whose work “has to do with the regulation and stabilization of physical energies.” (9:3.6) It is also interesting to note that scientists can now slow down light, which implies that someday we may be able to slow down gravity. Perhaps most important is that some scientists now believe that dark energy exhibits antigravity effects, and because of that finding I will rate the *UB*’s assertions about antigravity as generally agreeing with current science. It should be mentioned that many so-called frontier scientists are working in the field known as *electrogravitics*, which claims to have demonstrated antigravity effects in propulsion systems.

#### 26. Unknown form of Energy (Physics, 42:1.3)

The book says that “there is innate matter and present in universal space a form of energy not known on Urantia.” It also states that matter and energy are just different manifestations of the same thing, which of course is also described in Einstein’s equation,  $E=mc^2$ . Although scientists knew about nuclear fusion in 1920, nuclear fission was not discovered until 1938.

#### 27. The Ultimatron Particle (Physics, (42:6.4)

Byron Belitsos 1/22/2018 9:45 PM

**Comment [9]:** These sounds weak, suggest delete. And it is disproven entirely: [https://en.wikipedia.org/wiki/OPERA\\_experiment](https://en.wikipedia.org/wiki/OPERA_experiment)

Byron Belitsos 1/22/2018 10:51 PM

**Comment [10]:** I find this very incomplete. I’d like to suggest you upgrade this one in consultation with the UB student Joel Garbon, former president of the Free Energy Movement: <http://www.newenergymovement.org/> I can put you in touch.

The book is unique in that it introduces a fundamental particle known as the *ultimaton*. We are told that the ultimaton is the first particle with mass that energy can be converted to, and that one hundred ultimatons make up an electron. This is probably a result of the fact that “ultimatons function by mutual attraction.” It could be the case that what current science calls *gluons* (which is a vector-gauge boson like the photon) are the same thing as ultimatons. Gluons act as the strong interaction force between quarks, and quarks are thought to be the constituent parts of neutrons and protons. Nigel Nunn’s work (see reference below) may also help here. (42:6.4)

#### 28. Neanderthal to Cro-Magnon Transition (Anthropology, 8:1)

The book says that the descendants of Adam and Eve, known as the Andites, engaged in warfare and crossbred with indigenous peoples to create modern European races, who wiped out the aboriginal groups known as the Neanderthals. Science is aware that there was a rapid change from Neanderthal types of humans to Cro-Magnon or modern man about 35,000 years ago. Science does not know how this happened so quickly, since evolution cannot account for such a quick transformation. We’ll have to call this one a “no”—not enough scientific support yet and not likely even plausible to today’s researchers.

Note: This topic became Irvin’s personal introduction to *The Urantia Book*, as he had proposed that Adam and Eve were extraterrestrials who had been preceded by earlier humans in his book *First Man then Adam*. Some of his readers introduced him to the *UB*.

#### 29. Life Span of an Ordinary Star (Stellar Physics, 15:6, 41:8-9)

The book says that an ordinary star, like the sun, can shine for billions of years. Science agrees, also calculating that stars can generate enough energy to shine for billions of years. But the book adds something unknown to current science, stating that stars that are in the mainstream of “space energy flow” can acquire more energy and shine indefinitely. *The Urantia Book* also claims star life of trillions of years. Current science even agrees that a few trillion years is possible.

#### Conclusions:

Here is our final tally in 2017. Those assertions or predictions that turned out to agree with current science get a “yes.” Those that still contradict today’s science get a “no.” The remainder merit a “possible” rating, meaning that these items are at least plausible.

Healing chemicals for wounds. YES  
Plate tectonics or continental drift. YES  
Creation of the sun. POSSIBLE  
Source of the sun’s energy. YES  
Temperature at center of sun. YES  
Density of the Sun. YES  
Surface temperature of the sun. YES  
Chemical element with atomic number 101. YES  
Neutrino particle. YES  
Mass of the meson particle. NO  
Creation of the Earth and the moon. POSSIBLE  
Creation of matter and energy. NO  
Creation of our solar system. POSSIBLE  
Life implanted on Earth 550 million years ago. POSSIBLE  
End of Cretaceous age. POSSIBLE  
Breakup of fifth planet from the sun (asteroids). POSSIBLE

Dark matter in the universe. YES  
Organization of matter in a superuniverses. POSSIBLE  
Use of DNA for human evolution. YES  
Reduced gravity effect on calcium ion. YES  
Reduced gravity effect on free neutron particles. YES  
Origin of sunspot cycle. POSSIBLE  
Twelve planets in our solar system. POSSIBLE  
Cause of wave action of light. NO  
Speeds greater than speed of light. YES  
Two kinds of gravity. POSSIBLE  
Anti-gravity. YES  
Unknown form of Energy. YES  
Ultimaton particle. NO  
Neanderthal to Cro-Magnon transition. NO  
Life span of a star. YES

**Summary:** Out of the 31:

15 yes (Urantia Book's assertions agree with current science)  
10 possibly (Urantia Book's assertions are scientifically plausible)  
6 don't agree

Ratio of agree or plausible to total:

**1987 - 19/31 = 61.3%**

**2017 - 25/31 = 80.6%**

**Closing comments:** It was credible science that intrigued me to read *The Urantia Book*, and now having read the book for 32 years and followed the science controversies, I realize that the book cannot be proven or disproven by its science. The real value is in the book's spiritual and philosophic guidance and not whether the science agrees. From a scientific perspective, I also came away with an appreciation of the incredible balance of the *UB*'s concepts. Unity/trinity, God the sevenfold, material/spiritual, ascending/descending and of course the incredible balance of the personality of Jesus. There is an amazing amount of balance in everything from the cells of our bodies to the so called "goldilocks numbers" of universal stability. I will close with a few poignant quotes from the Urantia text:

"The universe is not like the laws, mechanisms, and the uniformities which the scientist discovers, and which he comes to regard as science, but rather like the curious, thinking, choosing, creative, combining, and discriminating *scientist* who thus observes universe phenomena and classifies the mathematical facts inherent in the mechanistic phases of the material side of creation." (195.7:22)

"The scientist, not science, perceives the reality of an evolving and advancing universe of energy and matter." (195.7:23)

#### Reference:

If the any one of the following "Goldilocks" numbers changed even a tiny fraction of a percent, we would not exist.

**Speed of Light (more appropriately speed of causality)  $c = 299,792,458 \text{ ms}^{-1}$**

**Gravitational Constant  $g = 6.673 \times 10^{-11} \text{ m}^3 \text{ kg}^{-1} \text{ s}^{-2}$**

**Planck's Constant  $= 1.05457148 \times 10^{-34} \text{ m}^2 \text{ kg s}^{-2}$**

**Planck Mass-Energy  $= 1.220 \times 10^{22} \text{ MeV}$**

**Mass of Electron  $= 0.551 \text{ MeV}$**

**Proton** 938.3 MeV,  
**Neutron** 939.6 MeV,  
**Mass of Up Quark** 2.4 MeV,  
**Down Quark** 4.8 MeV,  
**Strange Quark** 104 MeV,  
**Ratio of Electron to Proton Mass** =  $(1836.15)^{-1}$ ,  
**Gravitational Coupling Constant** =  $5.9 \times 10^{-39}$ ,  
**Cosmological Constant** =  $(2.3 \times 10^{-3} \text{ eV})^{-4}$ ,  
**Hubble Constant** = 71 km/s/Mpc.

Note: "Goldilocks" if you take the "i" (ego) out of the word you get – "God" "Locks"

The Urantia Book (Paper: Section. Paragraph)

#### Addendum: Some Science "errors" in the UB:

##### Cosmology/astronomy:

UB: (57:6.2) "Mercury and by the moon, which always turns the same face toward Urantia."

Mercury spin orbit resonance is 3.2 rather than 1:1 caused by the large orbit eccentricity.

In 1935 observations showed this to be true however it was because of the coincidence of the times when Mercury is observable that this appeared to be the case.

UB: (15:4.7) The Andromeda Galaxy is claimed to be "almost one million" light years away, repeating the understandings of the 1920s, but the galaxy is now felt to be 2.5 million light years away.

UB: Universe age is uncountable trillions of years.

Science: Universe began about 13.8 billion years ago, the so-called big bang.

UB: Havona area has gravity influence on Superuniverses and far flung systems but is not visible.

Science: Motion of nearby galaxy groups seems to be toward the 'great attractor' in the Virgo direction.

UB: Red shift of light caused by "angles of observation and other time-space distortions."

Science: Cosmological red shift caused by space/time expansion.

##### Geology/Earth science:

UB: (151:5.2) "There are steep gorges leading up from the lake into the hills, and as the heated air rises in a pocket over the "lake" (should say "land") during the day, there is a tendency after sunset for the cooling air of the gorges to rush down upon the lake. "

UB: Ice sheets fully retreated by 35 thousand years ago, in agreement with the view of a prominent geologist at the time.

Science has the glaciers at a maximum at 25 thousand years ago, and fully retreated about 12 thousand years ago. This conflict implications because it is tied into the UB's story of human migration.

##### Paleontology:

UB: Sudden appearances of new species.

Science: Slow progress from more primitive life forms.

UB: Humans first appeared in Mesopotamia about 1 million years ago.

Science: Humans began in Africa.

##### Physics:

UB: (11:8.3) Force/action of gravity is instant.

Science: Force/action of gravity travels at light speed.

UB: Light is substance and has mass.

Science: light has no mass.

UB: Background temperature of interstellar space attributed to gravity.

Science: attributes it to mostly microwave radiation permeating space, presumably the greatly attenuated afterglow of a primordial, small, hot plasma universe.

Byron Belitsos 1/22/2018 10:32 PM

**Comment [11]:** I don't think this should be added here. The essay is complete now.

Geoff 1/23/2018 8:03 AM

**Comment [12]:** OK

Byron Belitsos 1/22/2018 10:22 PM

**Comment [13]:** Suggest delete for now. These need to be better written to include here. Also, many Ubers would disagree with you on some of these.

Geoff 1/23/2018 8:03 AM

Comment [14]: OK

Byron Belitsos 1/22/2018 10:28 PM

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## Related Writings on Science and the *UB* by Urantia Book Students

“Scientific Predictions of The Urantia Book” (1987) by Irwin Ginsburgh, Ph.D., and Geoffrey L. Taylor  
<http://urantia-book.org/archive/science/ginsss2.htm>

“The Coming Scientific Validation of the Urantia Book”  
by Philip Calabrese  
[http://urantia-book.org/archive/readers/coming\\_sci\\_val\\_abstr2.htm](http://urantia-book.org/archive/readers/coming_sci_val_abstr2.htm)

Video introductions to *The Urantia Book* with special reference to science and cosmology, by Nigel Nunn:  
<https://urantia-association.org/2012/video-introduction/>

See also the work of Ken Glasziou, Matt Neibaur, Richard Bain and Frank Wright