

Journal of The Brotherhood of Man Library, an Information, Telecommunication and Lending Service  
Resource for Students of *The URANTIA Book*.

## *Prophecy and Error in*

### The Urantia Book



## Continental Drift

Summary

A number of articles have been written on the subject of continental drift in recognition that the concept was violently opposed by the vast majority of academic geologists over the period 1920 to about 1960, when it began to be accepted after the mid-Atlantic ridge was discovered and mapped. Excerpts from three of them follow.

But besides the fact of the breakup of continents, secondary evidence existed that should have caused disquiet amongst geologists who so violently opposed continental drift. Among them was the proposal that collision of continents was the underlying cause of mountain building so evident along from top to bottom of the west coast of the Americas. Secondly Australia had no placental mammals that suckled their young, but did have a large variety of marsupials, some of which had close relatives in South America. The Urantia Papers state that 35 million years ago a southern land bridge reconnected the enormous Antarctic continent with Australia, South Africa, and South America. Marsupial fossils have been found in Australia in strata designated as Upper Oligocene (35-40 million years ago) and in strata back to the Cretaceous period (65 million years ago) in South America. Marsupial fossils have also been found on Seymour Island in Antarctica. No evidence exists for marsupial migration to Australia from the North. How else could their peculiar distribution occur other than through continental drift?

\*\*\*\*\*

In detailing their account of life and land evolution on our planet in Urantia Papers 57, 58, 59 and 60, the authors have wholeheartedly embraced the concept of continental drift, an idea first touted by Alfred Wegener in 1910. Take away continental drift from these four Papers and they collapse as a

### In this issue...

In this issue discussion is continued of the side by side existence of both prophetic and erroneous material in the text of the Urantia revelation.

Because of the knowledge explosion that has occurred over the past fifty or more years, a modest level of High School education is now the only requirement to ensure that new readers become aware of many of these erroneous statements.

However a deep study of both the prophetic and erroneous material will surely evoke the thought that the revelators must have included such material deliberately.

In the previous issue, examples of the prophetic material were given. That continues but in this errors are the major topic—and speculation is offered upon the manifold possible reasons for their deliberate inclusion.

Suggested annual donation - \$10

Please address donations and submissions to:  
USA: David Biggs, 4040 Beecher Rd., Flint MI 48532, USA

Internet: [elsnerr@comcast.net](mailto:elsnerr@comcast.net)

All other countries:

Ken Glasziou, 2/9 Fig St., Maleny 4552 Australia

Internet: [kglaszio@ozemail.com.au](mailto:kglaszio@ozemail.com.au)

Web: [www.ozemail.com.au/~kglaszio](http://www.ozemail.com.au/~kglaszio)

*No revelation short of the attainment of the Universal Father can ever be complete.*

*All other celestial ministrations are no more than partial, transient, and practically adapted to local conditions in time and space. (1008)*

somewhat messy heap.

Over the period in which the Urantia Papers were received and published (1921-1955), the concept of continental drift was held only tenuously, and by very few geologists. Antipathy to the concept is stated to have been particularly strong in the USA. This antipathy lasted through from the early 1920's to well into the 1960 period.

A review of "plate tectonics," the new name for "continental drift," appears in the recent CDROM edition of Encyclopedia Britannica and states, "...disbelief (in Wegener's continental drift) was so strong that it often bordered on indignation. One of the strongest opponents was the British geophysicist Sir Harold Jeffreys, who spent years attempting to demonstrate that continental drift is impossible because the strength of the mantle should be far greater than any conceivable driving force....It was in **North America**, however, that opposition to Wegener's ideas was vigorous to the point of excess and **very nearly unanimous**....Wegener was attacked from virtually every possible vantage point, his paleontological evidence attributed to land bridges, the similarity of strata on both sides of the Atlantic called into question, the fit of Atlantic shores declared inaccurate, and his very competence doubted...."—and much more.

In further support of our view that opposition to the theory was extremely strong, we cite a recently published book by science historian, H.E. Le Grand, as well as earlier criticisms of Wegener's theory by eminent geologist, R.T. Chamberlin in which he listed 18 points that he considered were destructive of the hypothesis.

In our view, if the Urantia Papers had actually been written by human authors, it would have been quite irrational for them to go against the grain of prevailing strong professional opinion in making their story of life and land evolution so highly dependent upon the truth of the continental drift theory.

For the continental drift story of the Urantia Papers, the major "prophetic" item is the actual starting date for drift, given as 750 million years ago. (P.663)

As his starting date for drift, Wegener had suggested 200-300 million years ago, a view that remained dominant until the 1980's when the commencing date was pushed back to 500 million years or more. A recent estimate actually coincides exactly with the 750 million years given in Urantia Paper 57.

[Note: Up to the discovery and use of the zircon techniques, geological dating of this kind was by no means an exact science. Where modern technology is used, it can be so.]

*All finite knowledge and creature understanding are relative. Information and intelligence, gleaned from even high sources, is only relatively complete, locally accurate, and personally true. (42)*

If the authors of the Urantia Papers were human, we need an explanation of how they were able to come up with their extraordinary concepts on the timing of the continental drift phenomenon. A then-discredited Wegener put 200 million years as the start of break-up of a super-continent, the Urantia Papers' authors put it at 750 million years, and it appears that both are correct, the explanation being that the super-continent reformed, then broke up a second time. Wegener had some evidence to support his ideas. There appears to have been absolutely no evidence whatever to support the 750 million years breakup at the time the Urantia Papers were written or published.

A lucky guess seems to be the only alternative. But the odds against guessing correctly are enormous.

## References

Le Grand, H.E. "Drifting Continents and Shifting Theories." (Cambridge University Press, 1988)  
Encyclopedia Britannica (CDRom edition)

## Continental Drift—2.

The prophetic nature of The Urantia Book's account of continental drift and some of its consequences have now received approval in a book by professor of geology, M.A.S. McMenamin, entitled "The Garden of Ediacara," reported by Larry Mullins in the recent "Spiritual Fellowship Journal." The following quotes coming from McMenamin's book followed upon that author having his attention drawn to The Urantia Book's content:

"The anonymous members of the Urantia Corps hit on some remarkable scientific revelations in the mid-1930's. They embraced continental drift at a time when it was decidedly out of vogue in the scientific community. They recognized the presence of a global super-continent (Rodinia) and superocean (Mirovia), in existence on Earth before Pangea...The concept of a billion year old supercontinent (the currently accepted age for the formation of Rodinia) that subsequently split apart, forming gradually widening ocean basins in which early marine life flourished, is unquestionably present in the book.

"Orthodox scientific arguments for such a proposal did not appear until the late 1960's, and a pre-Pangea supercontinent was never described until Valentine and Moores made the attempt in 1970. The Urantia Corps not only had the age of formation of Rodinia approximately correct at 1 billion years, but they were the first to link breakup of Rodinia to the emergence of animals...One wonders how the Urantia Book authors arrived at the concept of a Proterozoic supercontinent and the link between the breakup of this supercontinent and the emergence of complex life in the ensuing rift oceans 30 years before most geologists accepted continental drift—and nearly four decades before any scientist had any inkling that Rodinia existed."

So why this strange mixture of highly prophetic material set in a background of early 1900's science and cosmology that has since become outdated or untenable?

We can only guess at the truth. Being aware that much of this material is a component of a "universe frame" that provides a background in which we can fit the kind of universe career set out for us ascending mortals by the revelators may be helpful for some. The necessity for such a "frame-in-which-to-think" is suggested in:

"Partial, incomplete, and evolving intellects would be helpless in the master universe, would be unable to form the

first rational thought pattern, were it not for the innate ability of all mind, high or low, to form a universe **frame in which to think**. If mind cannot fathom conclusions, if it cannot penetrate to true origins, then will such mind unfailingly postulate conclusions and invent origins that it may have a means of logical thought within the frame of these mind-created postulates. And while such universe frames for creature thought are indispensable to rational intellectual operations, they are, without exception, erroneous to a greater or lesser degree." (P. 1260)

This paragraph verifies the fact that the revelators have provided a framework for their presentations. Additionally, the terms of the mandate (P. 1109) explain the presence of error and out-datedness. But we are still left without any obvious explanation for the provision of certain prophetic material that **does not appear to comply with the terms of the mandate as key or lost information**. Why was it included?

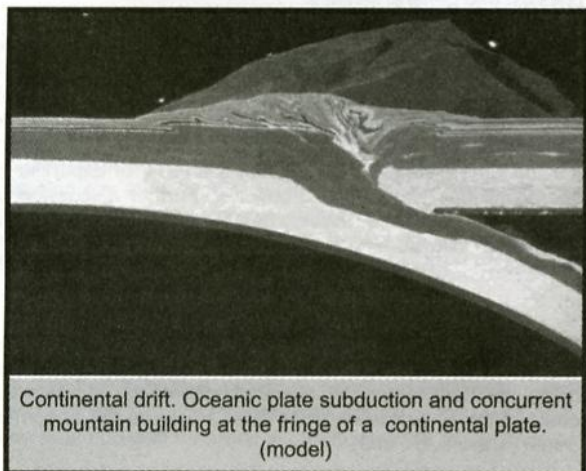
One answer is that it is there to help those who are new to this unusual 2000-page book to make their decision to undertake a serious study of its content. But with the passage of time, the problem will arise that what was initially prophetic will become common place—in fact, has already done so. Hence, if The Urantia Book is to last as a useful revelation for an extended period, **perhaps a succession of revised editions will be a necessity**.

Obviously there are many sections in the book that must remain as originally provided. However, it would appear to be an act of intellectual vandalism to reject, out-of-hand, the proposal that there are some sections of The Urantia Book that will stand in need of revision or even deletion. In fact, the time for that need to eventuate is already upon us.

*"What a sorry sight for successive generations of the professed followers of Jesus to say, regarding their stewardship of divine truth: 'Here, Master, is the truth you committed to us a hundred or a thousand years ago. We have lost nothing; we have faithfully preserved all you gave us; we have allowed no changes to be made in that which you taught us; here is the truth you gave us.' But such a plea concerning spiritual indolence will not justify the barren steward of truth in the presence of the Master. In accordance with the truth committed to your hands will the Master of truth require a reckoning."* (P.1927)

### Continental Drift 3—Secondary Effects

"There is a curious parallel history between the histories of black holes and continental drift. Evidence for both was already non-ignorable by 1916, but both ideas were stopped



At the San Andreas fault the Pacific plate slides under the North American plate

in their tracks for half a century by a resistance bordering on the irrational...but resistance to both began to crumble around 1960." (Werner Israel, quoted in Thorne<sup>1</sup>)

"...disbelief (in continental drift) was so strong that it often bordered on indignation. One of the strongest opponents was the British geophysicist Sir Harold Jeffreys, who spent years attempting to demonstrate that continental drift is impossible because the strength of the mantle should be far greater than any conceivable driving force....It was in North America, however, that opposition to Wegener's ideas was vigorous to the point of excess and very nearly unanimous....Wegener was attacked from virtually every possible vantage point, his paleontological evidence attributed to land bridges, the similarity of strata on both sides of the Atlantic called into question, the fit of Atlantic shores declared inaccurate, and his very competence doubted."<sup>2</sup>

In the light of such opposition one must wonder what would have caused the authors of the Urantia Papers to base the whole of their report on the evolution of continents and life on this planet upon the truth of continental drift—unless they had access to some special source of knowledge.

Moreover they were not simply following Wegener's version of drift. Wegener began his story with a single continent that he called Pangea that commenced to break up in the order of 200 million years ago. The story presented in the Papers commenced with a single continent that commenced to break up 750 million years ago. Wegener's views prevailed until around 1970 when some geologists began to voice a different opinion which is reported in a book entitled "Genesis" published in 1982<sup>3</sup>. In this, it was proposed that there may have been a pre-existing continent, a Pangea 1, roughly 600 million years ago that had broken up into four new continents by about 450 million years ago, at the end of the Ordovician age. Then, about 250 million years later, these continents were thought to have converged to form Pangea 2 which quickly broke up again as proposed by Wegener. Variations on this theme have continued to appear and were pulled together in 1995 in a review article<sup>4</sup> proposing the breakup of a pre-Cambrian supercontinent named Rodinia around 750 million years—exactly coincidental with the time given by the Urantia Papers.

There are other features of the Urantia Papers' story of our planet that are quite remarkable. Remembering the fierce opposition against continental drift that existed during time of receipt and publication of the Papers, their authors nevertheless associated the collision of the continental land mass and the oceanic floor with the formation of "the whole vast north and south mountain range extending from Alaska down through Mexico to Cape Horn." (P. 689) The collision of tectonic plates and subduction of the oceanic plate is now accepted as a major component of the forces involved in mountain building in areas like the west coast of the Americas.

The Papers also tell of features such as land bridges connecting Australia, and the Antarctic continent with South America and South Africa that would have allowed primitive placental (marsupial) animals that flourished 50 million years ago to move between these continents.

The presence of marsupial fossils in Oligocene strata (about 35 to 40 million years old) in Australia and in America in the Cretaceous strata dating as far back as 65 million years ago, together with the recent discovery of marsupial fossils on Seymour Island in Antarctica provide remarkable evidence for statements (P.695) about the ancestors of Australia's kangaroos and the land bridges of 35 to 45 million years ago. Yet when the Papers were written in the 1930's, geologists or paleontologists who supported the notion of continental drift would have been labeled as mavericks. All of which raises the question of why the authors of the Urantia Papers would have written such material except they possessed knowledge unavailable on Urantia.

## References

1. K.S. Thorne, (1994) *Black Holes and Time Warps*. (Picador, London)
2. Encyclopedia Britannica (2000)
3. J. Gribbin, *Genesis*, (1982)
4. W.D. Dalziel, *Earth before Pangea*, Scientific American 272 (1) 28. (1995)
5. L.J Mullins and M.J. Sprunger. (2000) *A History of the Urantia Papers*. (Penumbra Press, Boulder.)

## Radiometric chemistry: Age of the Earth

Prior to about 1955-6, the most popular guess at the age of our Earth was 3 to 3.4 billion years. All was about to change with the advent the use of radioisotopes in dating procedures.

At the beginning of Paper 57 in which the breakup up of a supercontinent and continental drift is introduced, there is another remarkable snippet of information. In this Paper we are told that the beginning of our solar system occurred 4.5 billion years ago. Until the mid-1950's no firm evidence existed that could confirm or deny such a statement, a range being given from about six thousand years by Creationists to the most favored age of 3 to 3.4 billions and as high as about 6 billion by some cosmologists. The first radiometric dating of meteoric material was performed in 1953 by C. C. Patterson

*Partial, incomplete, and evolving intellects would be helpless in the master universe, would be unable to form the first rational thought pattern, were it not for the innate ability of all mind, high or low, to form a universe frame in which to think. If mind cannot fathom conclusions, if it cannot penetrate to true origins, then will such mind unflinchingly postulate conclusions and invent origins that it may have a means of logical thought within the frame of these mind-created postulates. And while such universe frames for creature thought are indispensable to rational intellectual operations, they are, without exception, erroneous to a greater or lesser degree.*

who studied the lead isotopes in chondritic meteorite material. However, this work was published in an obscure journal and in the words, "The minimum age of the Earth is about 4.5 billion years and is probably somewhat older." By 1956 Patterson thought enough data were available to clinch the argument for 4.5 billion years.

The result indicated an age of about 4.5 billion years as given in the Urantia Paper of 1934/5. This remains as the accepted age at 2003 AD.

## Comments

There is absolutely no way that in 1955, the printing plates of The Urantia Book (published 1955) could have been altered to accommodate Dr Patterson's work. For starters it would have been foolish to do so for there was no certainty that the dating of a chondritic meteorite gave the correct age for the solar system. Secondly, the making of a metal printing plate was a time consuming and expensive business. For The Urantia Book, each circular plate was cast so as to turn out sixteen pages with each turn of the press. Lastly, in the 1950's a considerable group of people was both studying the Papers and checking for possible typographic errors that could be corrected in a later printing. It would have been impossible to accomplish such a change in secrecy. At this stage of proceedings any attempt to make substantial changes to the plates would have resulted in a furor and would have been well known throughout the Urantia movement..

## Reference

- Brown, S.G. (1996) *A History of Modern Planetary Physics; Transmuted Past*. Vol.2. Cambridge University Press.  
L.J Mullins and M.J. Sprunger. (2000) *A History of the Urantia Papers*. (Penumbra Press, Boulder.)

## What If?

### What if the Urantia Papers had been written by a human committee bent on saving the world?

#### Summary

What if the Urantia Papers had actually been written by a human committee bent upon saving the world? Such a committee would need to have included expert-level knowledge of the Bible, the archaeology and history of the first century Palestine area, a substantial knowledge of the Roman world, plus expertise in chemistry, geology, history, physics, and general science.

The writing of the 2000-page Urantia Book would have required an enormous amount of time and effort. Hence it would be logical for the authors to have been highly selective in making guesses about future discoveries that could come within the scope of the "missing gap" information allowed by the mandate. Material that requires a degree of expertise to appreciate has already been covered. Further discussion of some of this supposed "missing gap," unearned, but prophetic information follows.

\*\*\*\*\*

**Mountain Building.** The Urantia Papers associate the processes of mountain building and drifting continents as being responsible for the chain of mountains on the west coast of the Americas reaching from Alaska to the bottom of South America. (P. 689)

Modern readers probably do not give the statement a passing thought. But until the mid-1950's and even later, continental drift was classified as a no-go heresy amongst the great majority of geologists. So why was it included it as a major factor for mountain building?

**Marsupial migration.** The Papers say that the ancestors of kangaroos roamed Australia 45 million years ago, and that 35 million years ago there was a land bridge re-connecting Australia, Antarctica, South Africa, and South America.

Marsupial fossils are found in Upper Oligocene strata (35-40 million years ago) in Australia and as far back as the Cretaceous in South America (about 65 million years ago). Marsupial fossils have also been found on Seymour Island in the Antarctic. Fossil evidence indicates that marsupials did not reach Australia from either Asia or Africa. And it is highly unlikely they evolved in isolation.

Again, most modern readers would pass over this information without realizing that, when written, the concept of continental drift up until the 1960's, was still a major heresy. Now the linking of these three continents constitutes an accepted part of the theory.

**Double star Supernova Explosion.** *The most recent of the major cosmic eruptions in Orvonton was the extraordinary double star explosion, the light of which reached Urantia in A.D. 1572. This conflagration was so intense that the explosion was clearly visible in broad daylight.* (P. 458)

The explosion of a supernova in 1572 was a brilliant spectacle visible in broad daylight, and became known as Tycho Brahe's nova. The Urantia Papers say that this nova was due to the explosion of a double star. The first serious theoretical description of novas and supernovas was presented in 1957 by Burbidge, Fowler, and Hoyle and indicated both single and double star nova and supernova can occur. The remnant of the Tycho Brahe supernova was re-discovered in 1952 by use of the newly invented radio telescope but could not be shown to be a single or double star explosion until it was extensively mapped by the orbiting Einstein X-ray observatory in 1967 when its double star status was demonstrated.

**X-Rays from the Sun.** *The interior of your sun is a vast X-ray generator.* (P. 460)

The Sun was the first celestial object determined to give off X-Rays; rocket-borne radiation counters measured X-ray emissions from its corona in 1949. In the "Physics-Astronomy Front" by Hoyle and Narlikar we find, "One of the authors remembers how, in the middle 1940's, the question of whether the sun might emit X-rays was considered by astronomers to be highly speculative.

**Crab nebula.** *"...the Crab nebula, which had its origin about nine hundred years ago, and which still exhibits the mother sphere as a lone star near the center of this irregular nebular mass."* (P.464)

The Urantia Paper states that the Crab nebula had its origin in a nova explosion occurring 900 years ago. The existence of a neutron star at its center was demonstrated in 1967 with the detection of a pulsar which pulsed at a rate of 30 per sec. This was far too high for it to originate from a white dwarf which would disintegrate if spinning at that speed. It could only be from a neutron star.

Comments

Except that they had access to privileged information, the authors of the Urantia Papers went out on a long light limb when they opted to embrace such phenomena as continental

drift, the break-up of a super continent 750 million years ago, the consequential mountain building along the west coast of the Americas plus a land bridge enabling migration of marsupials between Australia, Antarctica, and South America. Then there is the neutron star story with its tiny particles devoid of electric potential, the figures they put to the radii of electron and proton, the suggestion of the still to be discovered strong force stabilizing protons and neutrons in the atomic nucleus, and so on.

However, a word of caution. The chances of correctly guessing for this small selection of prophetic material are so slight that only a totally shut mind would reject their significance. But the reason for including prophetic material is not so obvious.

In terms of what was known in the 1930's period, even a flawed cosmology content of the Papers would have been quite adequate to provide a conceptual "universe frame in which to think" (P. 1260) that would have been suitable for the next thirty or so years. Today it is outdated and will become increasingly so.

The good side of this is that it will ensure that a label of infallibility and divine authority cannot be sustained—for even those with a reasonable level of high school education will recognize the now badly outdated state of its cosmology.

The bad side is that many may turn away from the book without having given it due consideration—and thus miss out on its genuinely unique religious and spiritual value. Apparently the powers that be have adjudged that losing readership is preferable to the Book becoming the foundation stone for yet another fundamentalist religion.

\*\*\*\*\*

## Error in the Urantia Papers Life on Urantia

### Summary

The only way to reconcile the Urantia Book's story about life implantation with that of modern archaeology is to assume that the authors' definition of life includes the potential to develop 'intellect.' However, for even the genome of the most primitive bacteria to be spontaneously self-generating from a pool of readily available nucleotides (DNA consists of a long polymer of four nucleotides strung together in a specific order) appears to be an impossibility. The reason? The chances of even a single gene arising spontaneously in such a situation is one chance in  $10^{150}$ —a number far larger than the number of stars in the visible universe.

Which is indicative that not even the spontaneous generation of the most primitive life form is a rational possibility.

\*\*\*\*\*

*"That we are called Life Carriers should not confuse you. We can and do carry life to the planets, but we brought no life to Urantia. Urantia life is unique, original with the planet. This sphere is a life-modification world; all life appearing hereon was formulated by us right here on the planet...."*

*"550,000,000 years ago the Life Carrier corps returned to Urantia. In co-operation with spiritual powers and superphysical forces we organized and initiated the original life patterns of this world and planted them in the hospitable waters of the realm."* (P.667)

The fact that what we call life has been upon this planet for billions of years is widely known. Hence the above declaration must come as a puzzle.

Evidence for the occurrence of ancient life forms comes from the deposition of certain kinds of sedimentary red sandstone deposits, the red coloration being due to a coating of the sand grains with fully oxidized iron. This process is thought to have been due to the water-soluble ferrous form of iron in the seas being used as a recipient for the oxygen formed during photosynthesis by various life forms. The product, the red ferric iron, was insoluble and was deposited on the sand grains. This kind of deposit dates as far back as 2.5 billion years ago.

In later years the deposition of red sedimentary rocks in which the color is due to the ferric form of iron occurred when the oxygen content of the atmosphere rose to levels sufficiently high to trigger oxidation of soluble ferrous iron and the deposition of the insoluble ferric form.

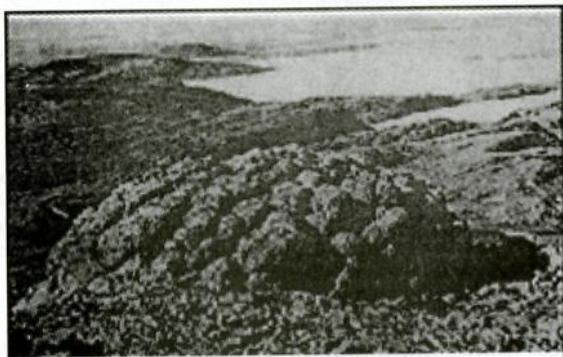
The only known process to bring about such high levels of atmospheric oxygen is photosynthesis by living organisms. Many, possibly all, of these deposits date from times prior to 550 million years ago, and present evidence for the occurrence of life forms that pre-date the introduction of life plasm by the Life Carriers. Further evidence comes from the occurrence of several kinds of microfossils thought to be evidence for bacterial or algal cells.

The Urantia Papers state, "*Life does not originate spontaneously but is constructed...it appears on the inhabited worlds either by direct importation or as a result of the operation of the Life Carriers.*" (P.396)

That statement rules out the possibility that some primitive life forms, originating from other inhabited planets, are able to survive in outer space, and, after floating around among the galaxies, they seed new planets when conditions become favorable.

There is no universally accepted definition of what constitutes life. However the vast majority of us do accept that animals and plants are life forms, a large majority also includes bacteria and fungi as life forms, while almost all think of viruses and disease-causing entities like prions as non-living. If we accept majority opinion, then "life" appears to have been present on our planet for something close to four billion years.

Perhaps the oldest evidence for life on our planet comes from the presence in ancient rock formations of complex structures termed stromatolites, structures that may be three meters high that are still being formed today. Stromatolites are found on many continents and in rocks dating back as far as



**Fig. 1. Precambrian stromatolite exposed in northern Canada.**



**Fig. 2. Modern stromatolites in the Bahamas.**

almost four billion years. They are formed from a mat of what used to be called blue-green algae but have now been shown to belong to a simpler and more primitive group of prokaryote bacteria, the photosynthetic cyanobacteria.

Prokaryotes differ from eukaryotes in that they do not have their DNA isolated in chromosomes in a cell nucleus that undergoes division during cell replication. All of the multicellular organisms now found on our planet are eukaryotes.

The cyanobacteria are photosynthetic. They trap light from the sun using chlorophyll, and utilize the sun's energy to split water into hydrogen and oxygen. The hydrogen is then combined with carbon dioxide gas of the atmosphere to generate the complex organic molecules necessary to form a living cell. Oxygen is a by-product of the process. Most of this oxygen finds its way into the atmosphere. Water plus living organisms are virtually the sole source of our atmospheric oxygen.

Unless cyanobacteria had their origin from some non-planetary source, they are far too complex to have been the first living organism on this planet. In fact they are so complex that, from a biochemical standpoint, it is virtually impossible to imagine how they could have come into being so soon after our 4.5 billion year old planet cooled sufficiently to allow for the possibility of life forms on its surface.

The eukaryotes are even more complex but had to wait for the time when sufficient oxygen had accumulated in the earth's atmosphere from photosynthesis to permit their further development.

This oxygen level appears to have been reached more than two billion years ago. Evidence for the existence of these ancient prokaryotes and eukaryotes is found in fossilized form in many places—such as the Gunflint iron formation in the Huronian Basin of Southern Ontario. There, 30 different types having spheroidal, filamentous and sporelike forms have so far permitted classification of 16 different species from 14 genera. Both red and green algal fossils occur. The red algal species *Eosphaera* and *Huroniospora* fossils, both 1.9 billion years old, bear close resemblance to the living genus *Porphyridium*.

The earliest evidence for the existence of the eukaryotes comes from 2.7 billion year old shales in West Australia in which hydrocarbon molecules called steranes have been found. These are produced exclusively by eukaryotic organisms.

The first fossils that unequivocally indicate the existence of more highly developed species are the crawling trails of sea-bottom-dwelling worm-like creatures, and are found among the Ediacaran fossils that occur as early as about one billion



**Spriggina.**

Intensive studies have led to the conclusion that the Ediacaran "Spriggina" was a primitive worm having distinctive head and tail parts.

years ago—but disappear as the Cambrian explosion of life forms gained ground around 550 million years ago. Also found among the Ediacaran fossils are "dwelling tubes" composed mainly of calcium carbonate (lime) that were most probably secreted by sessile, filter feeding worm-like creatures.

The name Ediacaran comes from the discovery of the fossils of a group of strange, until then unknown, creatures in the Ediacaran mountain range in South Australia. The first discoveries came from rocks about 575 million years old and were of jelly-fish like creatures. Such fossil animals had never been found in rocks older than 550 million years—the beginning of the Cambrian period. Since that first discovery, other fossils classified with this group have been discovered on every continent except Antarctica and are dated as early as almost one billion years ago.

The mystery of these strange creatures deepened when Dr Mary Wade of Adelaide University unearthed a curious specimen which she was sure was a segmented animal. Named Spriggina after the geologist, Reginald Sprigg, who first discovered the Ediacarans, it was so primitive, yet so undeniably complex, that it appeared to be the missing link between the complex creatures of the Cambrian and the known single-celled creatures of the pre-Cambrian era.

Initially these Ediacarans were pronounced to be an entirely separate group of organisms and were given the name Vendobionts. However, the more that was learned about them, the more they came to be accepted as the probable ancestors of today's animal kingdom. Though very primitive, some of these animals are now believed to have possessed muscles, internal organs, and head and tail regions.

How then do we account for The Urantia Book's claim that the Life Carriers first brought life to this planet only 550 million years ago?

One possibility is that this was part of the revelators' cosmology stated to be "not inspired" that may consist of a "universe frame" by which to aid our understanding of our place in the universe scheme of things. (1260)

Alternatively, it may be covered by the following statements: "The original life plasm of an evolutionary world must contain the full potential for all future developmental variations and for all subsequent evolutionary changes and modifications." (398)

*"The material self, the ego-entity of human identity, is dependent during the physical life on the continuing function of the material life vehicle, on the continued existence of the unbalanced equilibrium of energies and intellect which, on Urantia, has been given the name life." (1229)*

It is quite possible that the genetic potential of cell forms prior to the beginning of the Cambrian period was quite incapable of eventually generating "intelligent" living organisms. And that only an organism having a genome with the potential of ultimately evolving to have "intellect" comes within the definition of what the Life Carriers understand as "life."

If so, the probable function of the Life Carriers would have been to re-arrange existing genetic material so that, at some distant date, life having "intellect" would have a high probability of evolving. If this is true then the likelihood is that these Ediacaran organisms were the main source of the genetic material used to accomplish this task.

## Human Life—Andon and Fonta

### Summary

The Urantia Papers have it that about one million years ago, twins named Andon and Fonta, became the founders of the human race. It appears highly likely that this is a "frame in which to think" type of story for there is no fossil evidence to indicate that modern man emerged earlier than about 200,000 years ago.

\*\*\*\*\*

Conventional wisdom on the origin of the human species is that, 4 million years ago in Africa, a little creature just over a meter tall emerged from the evolutionary melting pot, and stood up.

The first such creature to be discovered received the name "Lucy"—later changed to Australopithecus afarensis. Lucy had knee joints that allowed her to straighten her legs. Also she made footprints that confirmed that she stood up. Dating of fossils beyond 200,000yrs old is not easy. It is generally done indirectly by dating the ground where they are found—for Lucy at about 4 million years B.P. (before the present). (Note: radio-active dating has since been revolutionized by the discovery of zircon technology)

Lucy had a skull more ape-like than human and was probably no smarter than the average ape. Fossil remains of two other primate-like species found in Africa, Paranthropus boisei and Paranthropus robustus are thought to have been evolutionary dead ends. Supposedly Lucy and her buddies gave rise to the next step, named Homo habilis (handy man). H. habilis was a tool maker, may have appeared about 2.5 million years B.P., looked something like Lucy, but had a larger brain. He/she was about 1.5 meters tall, under 45 kg, probably a scavenger, and supposedly gave rise to the next evolutionary jump called Homo erectus. This guy was more advanced so is measured in feet and inches—5ft 6in. to be precise. He was almost indistinguishable from modern man except for a flattened forehead, prominent brow ridges and no chin. Conventional wisdom has him originating in Africa around 2 million B.P. He was supposed to have taken a long time to get out of Africa and to migrate to Java (1 million B.P) and Peking. When Java man was re-dated to 2 million B.P. in 1970, the work was at first ignored. New dating puts two Java fossils at 1.8 and 1.7 million B.P., is probably reliable, but was unwelcome as it did not fit conventional wisdom.

How does this tie in to Andon and Fonta (about 1,000,000 B.P.) or Adam and Eve (37,898 B.P.)?

Many (most?) readers think that the Urantia Book claims that Andon and Fonta were the sole ancestral parents of all of us. In fact, it does not. It says: "Even the loss of Andon and Fonta before they had offspring, though delaying human evolution, would not have prevented it. Subsequent to the appearance of Andon and Fonta, and before the mutating potentials of animal life were exhausted, there evolved no less than **seven thousand** favorable strains which could have achieved some sort of human type of development. And **many of these better stocks were subsequently assimilated by the various branches of the expanding human species.**" (734).

## So how and where did mankind arise?

There appears to be little doubt that the origins of mankind were in Africa for there is to be found there, a group of hominid fossils belonging to the genus *Australopithecus*, any one of which may have been a forebear of the genus *Homo*—the one to which we belong, and fossils from which is also widely represented in Africa.

The Urantia Book informs us that man arose just under 1 million years ago, and denies that it had a direct African ancestry. Also it places the origin of the modern types of simian—monkeys, baboons, chimpanzee, and gorilla—in the vicinity of one million years ago, and not in Africa but on a Mesopotamian peninsular. Science places this divergence as occurring in Africa about 5 to 6 million years ago.

There are two main schemes for human ancestry, one, the 'out of Africa alone' hypothesis, the other 'the multi-regional' hypothesis, meaning that the ancient ancestors of various human groups lived where they are found today. Included is the possibility that the so-called Neanderthal man, a specialized form of man well adapted to the climate of an ice-age, could interbreed with modern man. An extreme view is that the Neanderthal was the progenitor of modern man.

Both main theories have their deficiencies. For the 'out of Africa' theory there was a big hole in the African fossil record extending from between 300,000 and 100,000 years ago—in which period the transition to morphological modernity was expected to have occurred.

New light was thrown upon the origins of man with the publication in June, 2003, of a paper in *Nature* by T.D. White et al. that describes three skulls, reliably dated at nearly 154-160,000 years old, and said to be the earliest near-modern

humans on record.

Found at a site called Herto in Ethiopia, these fossils exhibit such modern traits as a globular brain case equal in volume to our own, but also retaining ancient features, a prominent brow ridge, for example. Given the sub-species name *Homo sapiens idaltu*, this species forms a link between earlier African archaic forms and later fully modern ones—and so provides strong supporting evidence that Africa was the birthplace of our kind.

These Herto hominids are also indicative of whether the Neanderthals were the forebears of modern man. Whereas the 'out of Africa' theorists contend that such archaic hominids as the Neanderthals did not contribute significantly to the modern human gene pool, many multiregionalists have argued that they interbred with or merged with modern humans.

The Neanderthals were around from about 200,000 years ago until around 27,000 years ago when they disappeared. The fact that these near-modern Herto humans were already present in Ethiopia while the Neanderthals were still developing their distinctive characteristics in Europe is indicative that, at most, only trivial amounts of Neanderthal genetic material would have 'leaked' to the modern human.

Further evidence that the Neanderthals contributed little to the gene pool of modern humans comes from mitochondrial DNA (mtDNA) studies from two early modern European fossils that were shown to be markedly different from the mtDNA sequences recovered from four Neanderthal specimens. Nor is Neanderthal mtDNA closer to that of Europeans than it is to a 2000-persons sample from around the world.

[Plant and animal cells contain large numbers of mitochondria, the 'factories' that break down sugars and provide the cell with energy. Each has its own piece of DNA that is independent of nuclear DNA. Offspring inherit their mitochondria from their mother only, and are copies of themselves. Variation comes from mutation only.]

Herto man (pictured on left) is dated to 154-160,000 years BP, and is the earliest fossil evidence for someone approaching the modern type of human. Andon and Fonta lived close to 1,000,000 yrs BP. The story of Andon and Fonta does not fit well to modern anthropological thought but is certainly adequate as a 'frame for thinking.' (p. 1260)

## 48 Chromosomes? Or Jumping to Conclusions!

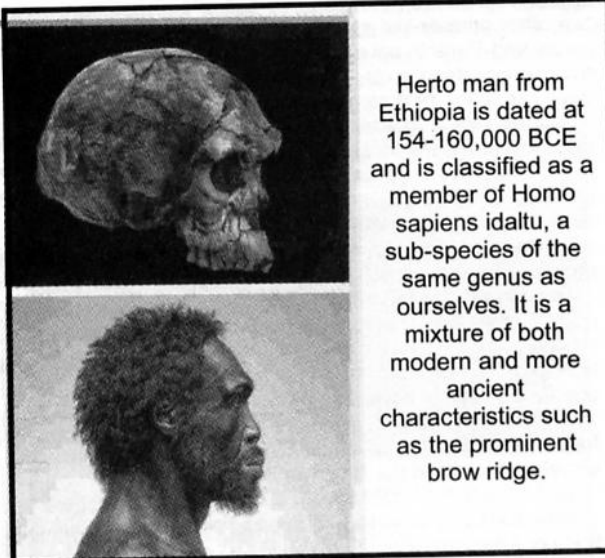
### Summary

The statements below from The Urantia Book gave rise to a vast outburst of contentious declarations. When, long after, the dust settled, most either agreed to forget it, or else settled for consigning them to the too hard basket.

If the number sequence is based upon 12 and the series starting with twelve includes the human chromosome number, then the chromosome fusion that reduced our chromosome number to 46 appears to have been part of what makes us human. The discovery of that reduction did not occur until 1954, the year before The Urantia Book was published.

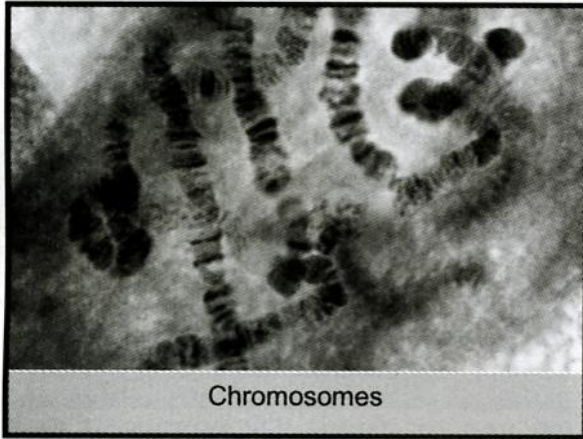
\*\*\*\*\*

"There were, originally, twelve distinct and divine concepts of transmissible life. This number twelve, with its subdivisions and multiples, runs throughout all basic life patterns of all



Herto man from Ethiopia is dated at 154-160,000 BCE and is classified as a member of *Homo sapiens idaltu*, a sub-species of the same genus as ourselves. It is a mixture of both modern and more ancient characteristics such as the prominent brow ridge.





Chromosomes

seven superuniverses. There are also seven architectural types of life design, fundamental arrangements of the reproducing configurations of living matter. The Orvonton life patterns are configured as twelve inheritance carriers. The differing orders of will creatures are configured as 12, 24, 48, 96, 192, 384, and 768. On Urantia there are forty-eight units of pattern control—trait determiners—in the sex cells of human reproduction. (397)

"On Urantia there were twenty-four such custodian commissioners, two for each fundamental or parent pattern of the architectural organization of the life material. On planets such as yours the highest form of life is reproduced by a life-carrying bundle which possesses twenty-four pattern units. (398)

"These life circuits caused the chromosomes of the specialized Urantia pattern to re-organize..." (857)

There are several ways by which these statements from the book may be misinterpreted. That there are 48 units of pattern control in the sex cells could mean that each of the two types of sex cell (egg and sperm) has 48 units, or it could mean that together the two types have 48 units. The statement that the highest form of life on Urantia is reproduced by a life-carrying bundle possessing 24 pattern units favors the interpretation that the 48 units are distributed as 24 units in each of the two types of sex cell. But perhaps we humans are not that form of life! A further possibility is that the 48 units could be taken to mean 48 chromosomes.

The mention of chromosomes on p. 857 shows that the revelators were familiar with the term and may indicate that trait determiners or units of pattern control are not necessarily synonymous with chromosomes. We should also note that equating "trait determiners," "units of pattern control," and "inheritance carriers" with one another may not be a valid assumption.

It was not until 1954 that it was realized that the human chromosome number, until then thought to be 48, was in actuality 46. It is 48 in our cousins, the monkeys and the apes, but due to the fusion of two of our chromosomes, we now only have 46. Some readers have been concerned that the revelators made an error.

It is now known that only about 5% of the DNA in our chromosomes actually codes for the one to two hundred thousand genes that make us a functional being. Our DNA is comprised of about three thousand million DNA letters and the average gene uses the information coded in only a few thousand bases.

We can get an idea of what might be reality by making some approximations. Let's assume that the 12 fundamental "inheritance carriers" are not chromosomes but units of

pattern control critical for morphogenetic development. Let's also assume that each unit consists, on average, of twenty genes bundled together as an entity.

Together then, the 12 units of pattern control account for  $12 \times 20 = 240$  genes. Hence the Urantia mortal's 48 units of pattern control would require 960 genes—a little less than 0.5 to 1 percent of our gene complement of 1 to 2 hundred thousand genes. The extreme value of 768 units of pattern control would then require about 7.5 to 15 percent of the gene complement.

Why would any creature require 64 replications of the basic 12 units of pattern control? One reason might be that there is a marked increase in the rate of copying mistakes under the extreme conditions experienced on some planets and a large number of copies of the control units is required to ensure survival of the individual (note: there is some evidence that polyploid plants have a degree of hardiness not present in their diploid ancestry).

Perhaps also we are missing something that has deep significance in the apparent coincidence of "seven architectural types of life design" and the seven doublings in the sequence 12, 24, 48, 96, 192, 384, 768?

There appears to be no essential reason to equate a unit of pattern control with a chromosome and certainly no good reason to distribute the units on the basis of one per chromosome. The only requirement appears to be that these units behave as pairs in much the same manner as do pairs of genes during cell division. Hence the confusion caused by equating the 48 units of pattern control with the erroneous chromosome number of 48 may be a simple case of "jumping to conclusions."

**Reference:** Jones, S. "The Language of the Genes." (Flamingo Press, London, 1993)

## 100 stable elements.

### Summary

The key to whether The Urantia Book statement (below) on production of new elements of atomic number greater than 100 is the word "naturally." New elements are formed "naturally" under conditions of high temperature and pressure. Laboratory conditions may be quite different. To date mendelevium 258 is the only artificially produced element having a reasonable degree of stability—half-life 54 days. But if you were hoping to build a dwelling place out of mendelevium, within two years, almost all your new home would have decayed to something else. All other "artificial" have miniscule life times.

However most new, knowledgeable readers will know about the production of new elements but will have little information on stability. So will probably consider the Urantia Book comment to be wrong.

\*\*\*\*\*

"In Orvonton it has never been possible **naturally** to assemble over one hundred orbital electrons in one atomic system. When one hundred and one have been artificially introduced into the orbital field, the result has always been the instantaneous disruption....(478)

The text above is from the first printing, someone having taken the liberty of adding the words "well-nigh" before "instantaneous" in subsequent printings. The important word to keep in mind is "naturally."

It had been known since the 1930's that new elements should be produced by neutron bombardment of an element

which would be followed by a beta decay process in which an atomic nucleus with a captured neutron loses an electron. In doing so, one of the nuclear neutrons becomes a proton. Such an element moves to be the next element upwards in the periodic table.

In the 1940's Bohr made a prediction (that turned out to be true) that the beta decay process would cease with element 100. Thus no element above this atomic number could be produced by the neutron capture, beta decay process. This appears to be the process that the revelators regard as natural.

Elements as high as 112 have been produced by other means and all are highly unstable. Element 101, (mendelevium-256) was produced in 1955 by helium ion bombardment of einsteinium-253. Element 102 (nobelium) was produced by bombarding element 96 (curium) with carbon atoms.

It is doubtful whether this type of reaction occurs "naturally" even in supernova explosions. That it can be done in the laboratory is a tribute to the ingenuity of the people involved. In a recent publication, it was stated that new elements with half lives less than 10 microseconds can be identified even if, out of 10 billion trials, only two nuclei fuse together once to form a superheavy new element. The single atom so produced will be both detected and identified!<sup>1</sup>

The possibility for these superheavy elements occurring naturally in novae explosions may be remote. And even if they were produced, the product would usually decay in an instant.

The Urantia papers use that word "instant" and its derivatives in many different contexts. For example, they say that human beings, "from a cosmic perspective, are born, live, and die in a relative **instant** of time." In terms of a cosmic perspective, elements above 100, and quite a few below, can exist for only a relative instant of time and many scarcely or not at all.

The important point about the 100 elements comment is that, when made, it was "prophetic." The Fermi theory about neutron capture and beta decay had been established in 1937 with the production of technetium from molybdenum. However its cessation at element 100 was not empirically established until the mid-1950's. Hence there was only very meager evidence to use the concept in the Papers.

So although, technically speaking, the authors' statement can be defended as correct, a major section of new readers will probably see it as erroneous.

## Reference

1. Armbruster, P., and F.P. Hessberger, "Making New Elements." Scientific American 279 (3) 50. (1998)

## How far to Andromeda

Dick Bain, USA

## Summary

This appears to be one of those Urantia Book errors in which the authors have simply used the current value since, for our 'framework in which to think' (P.1260) the true distance to Andromeda is of little consequence, but as an error that would quickly become widely known, its useflessness as an inhibitor of fundamentalism is quite large.

\*\*\*\*\*

Astronomers use various types of standard candles or cosmic yardsticks to measure distances to stars and galaxies.



Andromeda galaxy

One of these yardsticks is the class of stars known as the Cepheid variable stars. One of the apparent errors in *The Urantia Book* comes from using the distance to the Andromeda galaxy that astronomers held in the 1930's. This distance was determined using Cepheid variable stars in M31, also called the Andromeda galaxy.

Henrietta Leavitt, a Harvard astronomer, determined in 1917 that there is a direct relationship between the luminosity (brightness) of Cepheid variable stars and the length of their period. The longer between periods of peak brightness, the greater the absolute luminosity of these stars. Using this relationship, astronomers can determine the distance to other galaxies by noting the period and apparent luminosity of the Cepheid variable stars in these other galaxies.

In 1924, the well known astronomer Edwin Hubble presented a paper to the American Astronomical Society showing that M31, the great spiral galaxy in Andromeda, is about 750,000 light years from earth. This distance is now known to be about 2.2 million light years from earth. Hubble got the wrong distance to M31 because he was using Shapley's calibration of a period luminosity (P-L) relationship for Cepheid variable stars—which was in error because Shapley was unaware that there were actually two types of Cepheid variable stars (now known as Type 1 and Type 2 populations) having differing P-L relationships..

Discussing M31 (Andromeda) the authors of *The Urantia Book* inform us:

*"This far-distant nebula is visible to the naked eye, and when you view it, pause to consider that the light you behold left those distant suns almost one million years ago."* (P.170)

It is interesting that the authors extol the use of the Cepheid variable stars by astronomers to make this measurement: "*In one group of variable stars the period of light fluctuation is directly dependent on luminosity, and knowledge of this fact enables astronomers to utilize such suns as universe lighthouses or accurate measuring points for the further exploration of distant star clusters. By this technique it is possible to measure stellar distances most precisely up to more than one million light-years.*" (P. 456)

When astronomers first started using the Cepheid variables as standard candles, two million light years was about the limit of distances they could measure using this technique due to atmospheric distortion. Now, with improved terrestrial telescopes and the now repaired space-based Hubble telescope, that range has been pushed out to 60 million light years or more. Recently, this improvement in seeing has enabled astronomers to measure the distance to a galaxy in the Virgo cluster. The distance actually measured using Cepheid variable stars in the M100 galaxy was 56 million light years. Being able to measure galaxies at this distance also

allows astronomers to determine a value for Hubble's constant, which is important in determining the age of the universe.

As recently as five years ago, the value of Hubble's constant so obtained, when combined with so-called critical density measurements, indicated that the age of universe was less than 10 billion years. This was rather embarrassing because there were stars in globular clusters calculated to be as much as 13 or 14 billion years old. Will the cosmologists be able to apply another patch to keep the Big Bang theory limping along, or are their backs up against the wall?

#### A Galaxy Too Far?

Using the latest generation telescopes, new technologies such as 100 megapixel CCD cameras plus many new measurements on type 1a supernovas have conjointly made it possible to conclude that the expansion of our universe is actually accelerating. Also evidence has been obtained for the existence of mysterious dark matter and dark energy components, the latter presently believed to account for more than two thirds of cosmic mass-energy.

For the universe's most favored scenario today the picture has emerged of a flat universe having a Hubble constant of 72 (plus or minus 10%) and, including the effects of dark matter and dark energy, the time back to the Big Bang is put at 13.5 billion years, again with a 10% error range. Also the most accurately known oldest age for ancient stars in globular clusters now puts that age at about 12.5 billion years, again with an error range of 10%. This result is a consistent picture having good agreement among the various cosmic chronometers. However, until dark energy is fully understood, the fate of our universe will remain uncertain.

#### References

- R. Cowen, "Keck goes the distance." *Science News*, January 14, 1995.  
 Freedman, Wendy L. and M. S. Turner, *Sky and Telescope*, Vol. 106, No. 4, 2004.

## "Prove it to yourself for yourself"

#### Summary

Herein lies a set of errors for which individuals need only simple high school mathematics to check the error content for themselves. And the level of intellect displayed by the authors throughout their book is such that this error content has to be deliberate, thereby demanding we think about why.

"When a religion becomes fundamentalist, it inevitably becomes counter-productive, counter-intuitive, and an impediment to the social and spiritual progress of its adherents."

This summation has certainly proven itself true for Jewish, Islamic, and Christian fundamentalism—all of which have committed heinous acts of barbarism in the name of their supposed God.

\*\*\*\*\*

Features of fundamentalism are the assumption of infallibility at the expense of truth-seeking, rigorous indoctrination of potential adherents, and the assumption of authority by the dominant hierarchy.

The revelators of the Urantia Papers would have been well aware of the potential for their revelation to come under the

*Physical facts are fairly uniform, but truth is a living and flexible factor in the philosophy of the universe. Evolving personalities are only partially wise and relatively true in their communications. They can be certain only as far as their personal experience extends. (42)*

control of those preaching fundamentalism. Thus, they took steps to reduce the risks, among them, these declarations:

*"It has appeared to be wise from time to time to provide instruction in cosmology. And always has this made trouble for the future. The laws of revelation hamper us greatly by their proscription of the impartation of unearned or premature knowledge. Any cosmology presented as a part of revealed religion is destined to be outgrown in a very short time. (1109)*

*"Mankind should understand that we who participate in the revelation of truth are very rigorously limited by the instructions of our superiors. We are not at liberty to anticipate the scientific discoveries of a thousand years. (P.1109)*

*"We full well know that, while the historic facts and religious truths of this series of revelatory presentations will stand on the records of the ages to come, within a few short years many of our statements regarding the physical sciences will stand in need of revision in consequence of additional scientific developments and new discoveries. These new developments we even now foresee, but we are forbidden to include such humanly undiscovered facts in the revelatory records. Let it be made clear that revelations are not necessarily inspired. The cosmology of these revelations is not inspired. (P.1109)*

*"Partial, incomplete, and evolving intellects would be helpless in the master universe, would be unable to form the first rational thought pattern, were it not for the innate ability of all mind, high or low, to form a **universe frame in which to think**. If mind cannot fathom conclusions, if it cannot penetrate to true origins, then will such mind unflinchingly postulate conclusions and invent origins that it may have a means of logical thought within the frame of these mind-created postulates. And while such universe frames for creature thought are indispensable to rational intellectual operations, they are, without exception, erroneous to a greater or lesser degree." (P.1260)*

There is, of course, much more. However, a mind that is able to twist these statements to suit the individual's belief system, will also twist anything else that could be added.

One favored ploy is to cite occasions when science has been wrong in order to justify dismissing all the assertions of science. The fear of dedicated fundamentalists is that the discovery of even a single error in the Urantia Papers would throw doubt upon their authority, hence the need to find ways to cover up, ignore, overlook, or explain away apparent error.

Contrary to this attitude, the open-minded student of the

revelation will not only accept what is stated in the above quotations but, with the passage of time, will henceforth expect to find an increasing error content in cosmological material, and also to discover similar error accumulating in what has been provided as a "universe frame in which to think."

For those who are troubled by occurrences in which science and The Urantia Book express contrary views, but who do not have that special expertise to enable them to make a rational judgment among the alternatives, the revelators have included sections in the Papers for which it is possible for virtually every reader to make their own decision on the veracity of the information supplied. And surely when the Papers are wrong, this error is nevertheless in accord with universe rules and purposes for revelation as outlined on pp. 1109 and 1260 of the Urantia Papers.

Ultimately however, these errors must operate to prevent the revelation being presented to the world as divinely authoritative or being used as a basis for fundamentalism. And perhaps this is universe policy for all revelation everywhere?

One section of the Papers that requires only a minimal knowledge of arithmetic in order to be able to check its veracity concerns the revelators' description of the concurrent development of our planet and its moon by an accretion process:

"2,500,000,000 years ago the planets had grown immensely in size. Urantia was a well-developed sphere about **one tenth its present mass** and was still growing rapidly by meteoric accretion." (P. 658)

"2,000,000,000 years ago the earth began decidedly to gain on the moon. Always had the planet been larger than its satellite, but **there was not so much difference in size until about this time**, when enormous space bodies were captured by the earth. Urantia was then about **one fifth its present size....**" (P. 659)

"1,500,000,000 years ago the earth was two thirds its present size, while **the moon was nearing its present mass.**" (P. 659)

The story the revelators have given us is that our planet and its moon developed together from a meteoric cloud surrounding the sun by the process of co-accretion—and were approximately the same size until 2 billion years ago. At the -2.5 billion years mark we are told that the earth was one tenth its present mass. And since the revelators state the moon was about the same size as the earth at that time, it, too, must have been about one tenth the present mass of the earth.

At the -2 billion years mark, we're told the earth and its moon

were still about the same size, and by then, about one fifth the earth's present mass.

But by 1.5 billion years ago, their story has it that **the moon was near its present mass**, and that the earth had captured enormous space bodies and grown much more quickly than the moon.

Figures quoted in Microsoft Encarta, Encyclopedia Britannica and elsewhere give the present mass of the earth as  $5.94 \times 10^{21}$  metric tons with its radius at 6378 km, while the present mass of the moon is given as about  $7.5 \times 10^{19}$  metric tons with a radius of 1738 km.

Remembering that the revelators story has it that 2.5 billion years ago the earth and moon were about the same size and about one tenth the earth's present mass, that is both are about  $5.94 \times 10^{20}$  metric tons, we have the problem that this makes the moon about 8 times larger than it now is!

Worse still, a half billion years later, 2 billion years ago, the moon and the earth were about one fifth the earth's present mass, so about  $1.2 \times 10^{21}$  metric tons—which makes the moon 16 times larger than its present mass!!

At present the moon is about  $1/80^{\text{th}}$  the mass of the earth, and would have to have shed almost all its mass during the period between -2 and -1.5 billion years of its existence.

Presently the whole of the moon's surface is pock-marked by impact craters and gigantic lava flows and, thanks to the Apollo missions, the basaltic rock sampled from these flows on the surface of the moon has been dated back to from 3.1 to 3.9 billion years ago. These are facts that are simply incompatible with the story provided in the Papers.

The factuality of our present analysis is readily confirmable by almost anyone prepared to take the trouble. No knowledge of science or any other specialized knowledge is required to see that The Urantia Book's account of the evolution of the earth-moon system is simply impossibly wrong.

An important question we must ask is why the revelators appear to have been at such pains to ensure that, over time, it would progressively become more and more impossible for the Urantia Papers as a whole, to be imposed upon intelligent people as the authoritative word of God.

One reason may be because of the sovereignty of our free will: "Having thus provided for the growth of the immortal soul and having liberated man's inner self from the fetters of absolute dependence on antecedent causation, the Father stands aside...No other being, force, creator, or agency in all the wide universe of universes can interfere to any degree

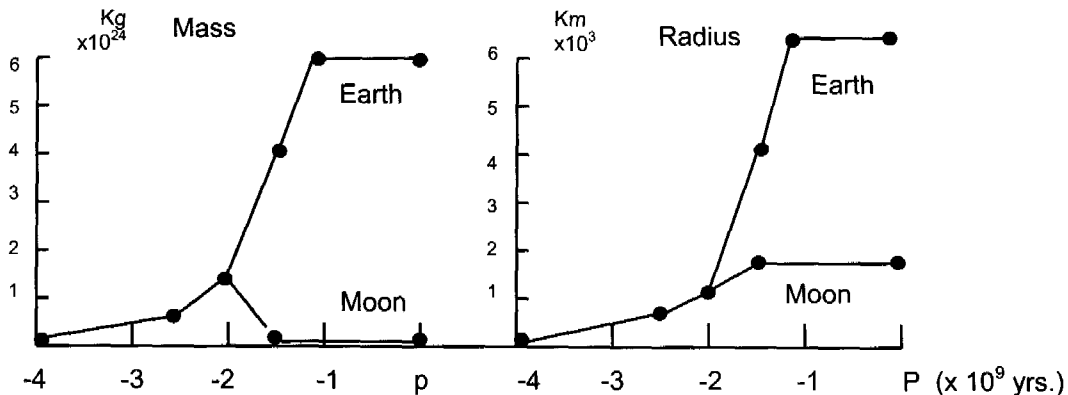


Fig. 1. Origin of the Earth-Moon System according to The Urantia Book. (pp.658-660)

with the absolute sovereignty of the mortal free will, as it operates within the realms of choice, regarding the eternal destiny of the personality of the choosing mortal. As pertains to eternal survival, God has decreed the sovereignty of the material and mortal will, and that decree is absolute." (P. 71)

Imagine this: We live under a despotic king who has informed us that provided we accept doing his will absolutely in every detail, we will be rewarded with a knighthood and a castle—but if we reject his offer, we face certain death. Do we really have a free will choice??

Any absolutely certain knowledge we might have about even the existence of a God restricts our free will—for if there is a God, surely we have to ask ourselves what might he want from us?

At the other extreme, if our desire is for a God who is perfect goodness and perfect love and we are prepared to live our lives according to what we believe his will to be, even if he may eventually prove to be non-existent, then surely we would have made a truly meritorious free will decision—one with no thought of reward, no dangling carrot.

If you were God, what would you want of your created children? Anyone prepared to delve deeply into that question will surely come to understand why we, God's earthly children, cannot be given a divine, authoritative revelation, and why we must labor midst uncertainty in order to ultimately attain a truly worthwhile goal of eternal life.

But does that not still leave us floundering with an unanswered question—how can we mere mortals be expected to distinguish revelation from error and the mundane? Simple—revelation always has spiritual value. And error? Never!

#### Reference

The Scientific American, 289, No. 6., 2003., *The New Moon*. (December issue)

## The Ridiculous—Passenger Birds and Secondary Midwayers

### Summary

Just in case the earth-moon story was not enough to test our gullibility, the Book's authors have progressed from the absurd to the absolutely ridiculous in introducing us to passenger birds and secondary midwayers.

\*\*\*\*\*

Let's first consider the "passenger birds." The Papers have these incredible creatures being employed like taxis to ferry Adam and Eve to meeting places in the garden. If this was not remarkable enough we are told: "*These enormous birds are able to carry one or two average-sized men for a nonstop flight of over five hundred miles...These birds are most intelligent, very obedient, and unbelievably affectionate.*" And they were "*often able to speak many words of the languages of the realm.*" (P. 590)

Can you imagine that? Intelligent birds, able to speak the language of the realm, take-off and land with a 2-man payload and, as well, fly 500 miles non-stop with that same payload? They must be joking.

A second example of deliberately stretching human gullibility beyond all reasonable limits is the origin of those invisible creatures known as the secondary midwayers. Their grandparents are given as Adamson and Ratta, both labeled

Let it be made clear that revelations are not necessarily inspired. The cosmology of these revelations is not inspired. It is limited by our permission for the co-ordination and sorting of present-day knowledge. (1109)

as belonging to a type of superhuman being who looked and acted "normal" and were able to interbreed with ordinary humans—hence were matched with us genetically and would qualify as the same species as ourselves.

However the Papers have this remarkable pair marry one another, then have sixty seven children. All seemed to be normal except that one out of very four was **born invisible!** Adamson, apparently being of scientific bent and noting that there were eight males and eight females among the sixteen invisible offspring, paired them off and embarked on a breeding program to see what would happen.

The results must have amazed him. The pairs were able to reproduce themselves every seventy days, their offspring not only being invisible but were born fully developed and fully mature—"though they never ceased to grow in wisdom and experience."

These unusual offspring were called the secondary midwayers. Though incapable of procreation, they have no need for sleep nor for earthly material food, being energized from "space emanations" that are a mystery to us humans. And they are immortal! (PP. 862,865)

If Urantia Book readers read such material in the Bible or the Koran they would likely collapse in raucous laughter. So surely these two examples must force us to consider whether the revelators have repeatedly challenged our intellects, virtually begging us to refrain from converting their precious revelation into an infallible icon.

## Miscellaneous erroneous material summarized

The best known 'errors' in the Papers are the distance to the Andromeda galaxy, the "instantaneous disruption" of elements higher than the one-hundredth, the planet Mercury always turning the same face to the sun, and the human chromosome number. All of them were simply direct quotations of the then current knowledge.

**Page 658.** "2,500,000,000 years ago the planets had grown immensely in size. Urantia was a well-developed sphere about one tenth its present mass and was still growing rapidly by meteoric accretion."

**Comment:** The fact that evidence is available for the occurrence of sedimentary rocks and oceans dating back to from 3.8 to 4.4 billion years ago and for life forms existing close to 4 billion years ago is impossible to reconcile with this statement. And there is much convincing evidence indicating the Earth and its moon were close to their full size by about 4.4 billion years ago.<sup>3,4</sup>

**Page 659.** "1,500,000,000 years ago the earth was two thirds its present size...Volcanic action is now at its height.

The whole earth is a veritable fiery inferno, the surface resembling its earlier molten state before the heavier metals gravitated toward the center. This is the volcanic age...The primitive planetary atmosphere is slowly evolving, now containing some water vapor, carbon monoxide, carbon dioxide, and hydrogen chloride, but there is little or no free nitrogen or free oxygen. Presently, the atmosphere became more settled and cooled sufficiently to start precipitation of rain on the hot rocky surface of the planet. For thousands of years Urantia was enveloped in one vast and continuous blanket of steam. And during these ages the sun never shone upon the earth's surface."

**Comment:** There is no geological evidence to support such a scenario. Photosynthetic bacteria have been present in the oceans of the world since between 3.5 and 4 billion years ago, a fact demonstrated by the ratio of carbon isotopes in fossil remains that is unique to photosynthesis by living organisms. Additionally, studies of crater formation on the moon demonstrate that bombardment by large planetesimals virtually ceased by 3.8 billion years ago and that crater formation fell to the current level at about that time. An Earth, two thirds its present size just 1.5 billion years ago is not a possibility.

Oxygen is the waste product of photosynthesis, itself a biological process. 3.8 billion years ago these bacteria had oxygenated the waters sufficiently to convert the soluble ferrous iron salts to the insoluble oxidized ferric form. Deposits from this process are present as sedimentary strata at Isua in Greenland and elsewhere. Barite/gypsum deposits, aged 3.5 billion years are found at places like Pilbarra in Western Australia, and are the result of oxidation of sulfides to sulfates. This oxidation process continued until 1.7 billion years ago when the oceans were cleared of the excess reduced salts.

A period of "thousands of years" during which the "sun never shone on the earth's surface" would have wiped out all photosynthetic organisms. Thus the incredibly complicated oxygen producing process of photosynthesis would have needed to evolve all over again. But the evidence is for a sharp rise in atmospheric oxygen commencing in this period, rising towards 10% of current levels by its end, 1.0 billion years ago.<sup>3,4</sup>

**Page-660.** 1,000,000,000 years ago. "The planet had attained approximately its present size.... The real geologic history of Urantia begins with the cooling of the earth's crust sufficiently to cause the formation of the first ocean. Water-vapor condensation on the cooling surface of the earth, once begun, continued until it was virtually complete. By the end of this period the ocean was world-wide, covering the entire planet to an average depth of over one mile. The tides were then in play much as they are now observed, but this primitive ocean was not salty; it was practically a fresh-water covering for the world. In those days, most of the chlorine was combined with various metals, but there was enough, in union with hydrogen, to render this water faintly acid."

**Comment:** The Urantia Paper describes a period of 500,000,000 years prior to this billion year period during which "the surface of the planet was bombarded by meteorites so that it increased its mass by one third, for much of the time was a fiery inferno due to volcanic activity, and for thousands of years was enveloped in steam." And ocean formation commenced only after this period.

In conflict with the above, craters and maree on the moon's surface date back as far as 3.9 billion years, and present no signs for a meteor bombardment that could increase the Earth's mass by one third in this period.

Also algal fossils are known aged 1.9 billion years from the Gunflint formations in Canada and aged 1.5 billion years from the Amelia dolomites in Australia. Current estimates are that the oceans reached their present degree of salinity 1.5 to 2 billion years ago.<sup>3</sup> And sea dwelling Ediacaran creatures<sup>3</sup> were present on the ocean bottoms from almost one billion years ago to the late Pre-Cambrian a half billion years later

The description in the Paper is diametrically opposed to the evidence of modern investigatory sciences—so much so that any new reader having a sound knowledge of the new technologies of geophysics and astronomy would be mystified as to why it was ever written.

**Page-663.** 750,000,000 years ago the first breaks in the continental land mass began...

**Comment:** We finally arrive at what is a truly prophetic statement for the period in which it was made. This breakup of a single land mass is the commencement of continental drift, now a virtually unopposed theory. But up until towards the end of the 1950 period it was vigorously opposed by the vast majority of professional geologists. The concept was put forward around 1910 by Alfred Wegener and drew almost hysterical opposition from many prominent geologists.<sup>1</sup>

**Page-668.** "500,000,000 years ago primitive marine vegetable life was well established on Urantia."

**Comment:** Primitive marine vegetable life of both prokaryote (no nucleus housing the chromosome)

era	time (millions of years ago)	important events
Cenozoic	0.0	present time
	less than 0.1	advent of modern humans
	2.4	ice age
Mesozoic	66.4	mass extinction
	141	first flowering plants
	195	birds evolve from reptiles
	230	first dinosaurs and mammals
	245	mass extinction
Paleozoic	340	reptiles appear
	360	first insects
	370	amphibians appear
	420	plants colonize land
Precambrian	540	mass extinction
	700	simple multicellular organisms evolve
	2,100	oldest eukaryotic fossils
	2,500	oxygen begins to accumulate in atmosphere
	3,500	oldest prokaryotic fossils

and eukaryote forms (chromosomes are contained in a nucleus) had for long existed on Urantia. The prokaryotes were in existence close to 4 billion years ago while the eukaryotes, including photosynthetic algae, had been present for about 2 billion years.

Fossils of red algae of the species *Eosphaera* and *Huroniospora* are dated at 1.9 billion years ago. The crawling trails of bottom-dwelling, worm-like creatures are found among Ediacaran fossils that occur as early as about 1 billion years ago. Amongst these Ediacaran creatures was a leaf-like organism called *Charniodiscus* that grew to about 10 feet in length and had a holdfast for anchoring it to the sea bed.

**Page-673.** "400,000,000 years ago marine life, both vegetable and animal, is fairly well distributed over the whole world. The world climate grows slightly warmer and becomes more equable. There is a general inundation of the seashores of the various continents, particularly of North and South America. New oceans appear, and the older bodies of water are greatly enlarged.

"Vegetation now for the first time crawls out upon the land and soon makes considerable progress in adaptation to a non-marine habitat.

"Suddenly and without gradation ancestry the first multicellular animals make their appearance."

**Comment:** According to modern paleontology, most of the known phyla were already represented in the Cambrian period, 570-505 million years ago.<sup>3</sup> The multicellular priapulid worms were already diverse, fossils of annelid worm are present, also sponges, coelenterates, arthropods, trilobites, and crustaceans. Air-breathing scorpions are found in the Silurian period, 410-435 million years ago.<sup>3</sup>

**Page-674.** This was the biogeologic picture of Urantia at the end of that long period of the world's history, embracing fifty million years, designated by your geologists as the Cambrian.

**Comment:** This curious statement appears at the end of a section commencing at 360,000,000 years ago so would cover from 410-360 million years ago. As far back as the 1950's the Cambrian period was given as from 540,000,000 to 500,000,000 years ago.

**Page-675.** 310,000,000 years ago. "The marine fauna developed to the point where every type of life below the vertebrate scale was represented in the fossils of those rocks which were laid down during these times. But all of these animals were marine organisms. No land animals had yet



**Charniodiscus.**

This leaf-like organism had a "holdfast" at its base to anchor it to the sea bed. The leaf-like structure grew to about 10 feet in length and may have housed tiny filter feeding polyps from which it gained its nutriment.

appeared except a few types of worms which burrowed along the seashores, nor had the land plants yet overspread the continents; there was still too much carbon dioxide in the air to permit the existence of air breathers."

**Comment:** Air-breathing scorpions (an animal) were present in the Silurian period 100 million years earlier. Fossil evidence for land plants exists in the Ordovician (505-438 million years ago) and fossilized tracheids (which are diagnostic of vascular plants) are found in the early Devonian (408-360 million years ago)

**Page 681.** "200,000,000 years ago the really active stages of the Carboniferous period began. For twenty million years prior to this time the earlier coal deposits were being laid down, but now the more extensive coal-formation activities were in process. The length of the actual coal-deposition epoch was a little over twenty-five million years.

"180,000,000 years ago brought the close of the Carboniferous period, during which coal had been formed all over the world—in Europe, India, China, North Africa, and the Americas."

**Comment:** Modern geology places the Carboniferous at from 360,000,000 to 286,000,000 years ago. In the 1950 period some geologists drew the boundaries at 320,000,000 to 260,000,000 years ago. It would be interesting to obtain information on the geological time scale for the 1920 to 1935 period. As with other commentaries on matters of science and cosmology in the Urantia Papers, it is possible that much of the information on paleontology is drawn from one or two text books that were current in that period. If so, they will eventually come to light.

**Page 690** "75,000,000 years ago marks the end of continental drift.

**Comment:** Drift continues. Satellite pictures show that, taking Africa as a fixed point, the Australian plate moves north at 8.4 cm/yr (4000 miles/75 million yrs); the South American plate west at 3.2 cm/yr; the Arabian plate north at 2.6 cm/yr; the Pacific plate north east at 10.6 cm/yr., etc. Plate movement is expected to continue far into the future.<sup>10</sup>

**Reference list**

Le Grand, H.E. *Drifting Continents and Shifting Theories.* (Cambridge University Press, 1988)  
 Dalziel, I.W.D. *Scientific American* 272 (1) 38, 1995  
 Encyclopedia Britannica CD Rom editions 1999-2001  
 Delsemme, A.H. *An Argument for the Cometary Origin of the Biosphere.* *American Scientist* 89:432-442, 2001; E.B. 2001  
 Schurr, T.G. *Mitochondrial DNA and the Peopling of the New World.* *American Scientist* 88, (3) 246 (2000)  
 Shermer, M. *I was wrong.* *Scientific American* 285 (4) 25 (2001)  
 Rothery, D. (1997) *Geology* (Hodder & Stoughton, London)

**Epilogue**

It cannot be doubted that these Urantia Papers sometimes meander between the sublime and the ridiculous. This becomes more comprehensible if we remind ourselves that much of the initial content constitutes the response to questions from "Forum" members who were deliberately attempting to set traps for the revelators to betray themselves. The reality of the book itself pays witness that the revelators survived this period of testing despite the limitations imposed upon them by universe rules on revelation that proscribed revealing unearned knowledge—which was in direct conflict with the determination of Forum members 'to ask questions

# Innerface International

that no human being could answer.'

Furthermore, the task of the revelators also had to be carried out without abrogating a divine decree:

*"No other being, force, creator, or agency in all the wide universe of universes can interfere to any degree with the absolute sovereignty of the mortal free will, as it operates within the realms of choice, regarding the eternal destiny of the personality of the choosing mortal. As pertains to eternal survival, God has decreed the sovereignty of the material and mortal will, and that decree is absolute.*

*"No personal creature can be coerced into the eternal adventure; the portal of eternity opens only to the freewill choice of the freewill sons of the God of free will." (P. 71)*

Free will entails absence of coercion. Free choice also implies absence of coercion. Authoritarianism is always conditional.

Thus, if the revelators provided the slightest hint that their word was supported by divine authority, they could do infinite harm to those who accepted that authority and relied upon it. To accept God's way as our way, to choose always to do God's will, and to do that of our own free will necessitates that we be uncertain about God. For if we are certain about God and choose his way because of the benefits that will bring, that is simply common sense, not free will. Free will is often illogical—such as for those who give their life to save a friend, and even more so if they give their life to save an enemy.

Perhaps uncertainty is not so bad:

*In the more advanced planetary ages these seraphic hosts enhance man's appreciation of the truth that **uncertainty is the secret of contented continuity**. They help the mortal philosophers to realize that, when ignorance is essential to success, it would be a colossal blunder for the creature to know the future. They heighten man's taste for the sweetness of uncertainty, for the romance and charm of the indefinite and unknown future. (P.438)*

Always have the authors attempted to leave the door ajar just enough for uncertainty to wriggle its way into the mind of the reader. Which may be why we have, in these Papers, such a strange mixture of prophecy and error.

If the revelation did not have the purpose of providing new knowledge in fields such as science and history, nor to give us a travel guide for the heavenly spheres and a census of the heavenly hierarchy, what then was its purpose?

*That, then, is the primary or elementary course which confronts the faith-tested and much-traveled pilgrims of space. But long before reaching Havona, these ascendant children of time have learned to feast upon uncertainty, to fatten upon disappointment, to enthuse over apparent defeat, to invigorate in the presence of difficulties, to exhibit indomitable courage in the face of immensity, and to exercise unconquerable faith when confronted with the challenge of the inexplicable. Long since, the battle cry of these pilgrims became: "In liaison with God, nothing—absolutely nothing—is impossible." (P.291)*

Boml-Innerface

4040 Beecher Rd  
Flint, MI 48532  
Return service  
requested

**INNERFACE INTERNATIONAL**  
a journal for students of  
The URANTIA Papers

PRSR STD  
U.S. Postage  
Paid  
Flint MI  
Permit #132

Tom and Carol Kendall  
1400 W. Salvington Pl.  
Wheeling, IL 60090