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### THIRD PLANET NEWS

A Year of Goodbyes - Two more friends have transferred to the mansion worlds this year. One got his PhD at 77 years old, the other was a sign painter till he retired. One was in his 80's, the other had just passed 100. One was well known within the Urantia community, the other was well known by all the friends he made wherever he was. They were both avid students of The Urantia Book, and both supported Urantia organizations. They provided me guidance and support, Jim by his answers, and Joe by his questions. Dr. Jim Mills and Joe Caterina will be missed by all of us who knew them.

IC93 - It was not as large as past conferences, but it was an historic event. It was the first Fellowship international conference held outside the US; it was the first bilingual conference for the Fellowship; it was the first time that organized worship was a daily part of a Fellowship conference; it was the first time that people from the country of Russia attended.

I was pleased to meet the three Russian visitors and to look at their Urania magazine (published by the Urania Foundation, believe it or not.) The Urania publication seems to be concerned mainly with astrology. Nevertheless, Russian astrology seems to be much more concerned with spirituality than the American version with which we are familiar.

The morning worship experiences were very impressive. The only complaints I heard were about the predominantly Christian music and the charismatic style of worshipping with upraised hands. But all this is certainly understandable; we have to start with what we know and let it evolve from there. Perhaps after a few hundred more international conferences, we'll have something uniquely our own.

Complaint Department The latest Journal of the Fellowship had an article critical of my Time Bombs article that appeared in the booklet The Science content of The Urantia Book. There was also

at least one person who was a bit distressed about my article, "Doing Cosmology" in the last issue of Cosmic Reflections. It's no doubt obvious to readers of this journal that I am trying to determine the validity of the science and cosmology of The Urantia Book. I make no apologies for this; I believe that it is a service to the Urantia community. Do we want to be like the Biblical fundamentalists who try to defend the inerrancy of the Bible by ignoring or trying to explain away the flaws and misconceptions of its human authors? If we want credibility with hard-nosed sceptics, we need to be very honest about what is and is not credible in the big blue book.

A Chat With Martin Gardner - Speaking of hard-nosed critics, I was invited to an interview with Martin Gardner recently. He is finishing his book on the origin and validity of The Urantia Book. He is asking the sort of tough questions about the book that I have been saying we would have to face sometime. Sometime is now.

Martin used to write a column for Scientific American and now writes a column for the Sceptical Inquirer. He has just finished a book on the founder of Christian Science, and I suspect that he has not been very gentle with Mary Baker Eddy and Christian Science in his book. I think we can expect similar treatment for The Urantia Book.

While many of us probably won't like what Martin says about The Urantia Book, we need to ask ourselves how much of what he says is credible. Martin is an intrepid researcher. He has obtained many of Dr. Sadler's books and has read large portions of them. He has interviewed many people in our community to determine the facts and myths about the origin of the book. He has inquired deeply into the histories of the Kellogg and the Sadler families. It is ironic that the first comprehensive history of the book and those connected with its origins is being written by someone totally skeptical about the book.

Martin is asking tough questions. He says that six sentences in one paper of the book are taken verbatim from a book published in 1941. He asks how this can be if the revelations were over in 1936. Furthermore, he asks, isn't it plagiarism to use quotes from a book without referencing that book? Isn't that illegal? Were the authors lawbreakers, or do their borrowed words fall





existence has been inferred from astronomers' observations of individual galaxies and clusters of galaxies. The clusters of galaxies are held together by mutual gravitational attraction. The problem is that there isn't enough visible matter to exert the gravitational force needed to hold the clusters together. As early as the 1930's it was noted that the gravitational force holding the Coma cluster of galaxies together was far greater than could be accounted for by the amount of luminous material seen. (1) More recently, research led some astronomers to the conclusion that the additional gravitational force is due to unseen or dark matter contained by each galaxy. (1) Another indication of the presence of dark matter is the rotation of the arms of spiral galaxies. Calculations using the mass of the visible matter in spiral galaxies indicate that the outer portions of the galaxies should rotate faster than the inner portions. But this is not what is observed. The outer portions rotate more slowly than the inner portions. Some astronomers conclude that the dark matter causing this unexpected rotation anomaly is in the form of a halo around each galaxy. (2) But what is this dark matter?

There are several competing theories that try to explain dark matter. (3) One theory holds that this matter is in the form of WIMPS, Weakly Interacting Massive Particles. These are postulated to be some sort of exotic massive particles that were created at the time of the Big Bang. Science has never detected them because they react so weakly with ordinary matter. Most astrophysicists seem to favor the idea that dark matter consists of WIMPS because they hypothesize that not enough ordinary particles were created at the time of the Big Bang to account for all of the hypothetical dark matter in the universe. Another dark matter candidate is a class of objects known as MACHOS, Massive Compact Halo Objects. (Some researchers will go to any length for a catchy acronym!) These are thought to be large objects that are either planets that are not quite large enough to be stars (like Jupiter,) or so-called brown dwarfs. The proposed brown dwarfs are stars that are just large enough to be stars but which shine with a very feeble red or brown light that can't be seen with even our most powerful telescopes. They might also be ordinary stars with light output so low that they can't be seen from earth. The MACHO theory received a boost recently when two separate teams of astronomers announced the evidence for a total of three MACHOS in the halo of our galaxy. (4)

If MACHOS exist in the halo of our galaxy, they can be detected by the so-called lensing effect predicted by Einstein. Light passing near a massive body will be bent towards the body. If a dark body happened to be directly in line with a star seen from the earth, the dark body would act like a magnifying lens and would intensify the light of the star by concentrating it. This is just what happened to three stars out of all those studied in the nearby Large Magellanic Cloud (LMC). The astronomers on the US team studied the light from 1.8 million stars just to find one candidate! Three examples out of several million stars may not seem like a very good case, but consider that the brightening occurs only when a dark body is exactly in front of a star. Since the stars have considerable space between them, the odds of a black body being directly in front of a star are exceedingly small. It may be that the authors of The Urantia Book have some good ideas about the nature of these bodies. The book lists several types of bodies that may not be visible to us. The first is what the authors term the "dark islands" of space. These dark bodies have several origins and some have masses the authors term "unbelievable." The authors do not say how numerous these dark islands are, but they speak of them as if they are fairly common. The problem is that they would have to be concentrated in the halo of our galaxy in order to produce the effects astronomers have noted. These would certainly fit the description of the MACHOS postulated by some astronomers.

Another statement in the book (Pg 166) speaks of "two trillion stars too distant and too small to be seen from Urantia." If these stars were scattered throughout the halo of our galaxy, they could be some of the missing mass in our galaxy and others.

As a consequence of the dark matter postulate, astronomers now admit that our galaxy is much larger than the visible portion. The dark matter halo may even extend out to encompass the 10 to 12 satellite galaxies associated with the Milky Way galaxy. The visible portion of our galaxy has a diameter of about 100,000 light years, based on the portion that we can see on our side of the galaxy. The unseen galactic halo may extend much further. Some astronomers feel that the visible matter may account for only 10% of the matter in the universe. Other astronomers calculate that the Milky Way system contains more than one trillion solar masses if its halo extends out to the satellite



helium, deuterium and lithium in the universe. Supposedly, the amount present can only be accounted for if most of it were created during the early stages of the Big Bang.

But the original Big Bang theory cannot explain the large scale structures in the universe that are now being discovered by astronomers. To patch up the theory, the BB cosmologists have come up with the concept of an "inflationary" period of universe expansion. For some reason, they tell us, the Big Bang proceeded at a much faster rate in the early universe than today. The inflationary concept appears to be an idea pulled out of the hat to bolster the Big Bang theory rather than something derived from a study of the universe. And there are other leaks in the Big Bang ship that its critics are quick to point out.

One competing theory is the plasma origin universe based on the work of Alfvén and Birkeland. (1) According to this theory, the origin of galaxies could have been due to the action of plasma fields. These fields consist of positively and negatively charged particles in a fourth state of matter that most closely resembles a gas. This state of matter can be created by high voltage fields such as lightning, or by extremely high temperatures such as those found in the sun. It is within this plasma that the fusion that powers the sun takes place. The present efforts to create fusion power try to emulate the processes within the sun by creating a plasma at high temperature that is confined at high pressure by magnetic fields. The fusion of a star could have been started in material compressed by two adjacent strands of plasma. Alfvén's plasma creation theory apparently has little support among cosmologists.

Quasi-steady state cosmology (QSSC) is a recently announced alternative universe building theory. (2) Three astronomers have jointly proposed this alternative theory. Among them is well-known astronomer Fred Hoyle who theorized a steady state universe before the Big Bang theory won the popularity polls. Fred Hoyle's steady state theory holds that the universe is eternal and grows by the continuous appearance of matter in space. The QSSC theory holds that there was never a single Big Bang origin of the universe. Rather, the universe came into being piecemeal from a huge number of "minibangs" of various sizes spaced millions or billions of years apart.

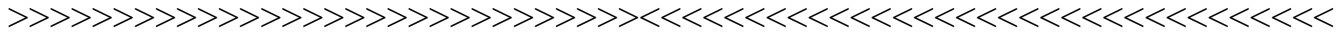
The QSSC theory has some appeal because it is better able to explain the large scale structures that astronomers are detecting in the universe. These large scale structures are a thorn in the side of the Big Bang proponents who are scratching their heads to come up with modifications to the Big Bang theory that will eliminate this embarrassing problem. So called dark matter-see the previous article-is used by Big Bang proponents to explain the large scale structures in the universe. The QSSC theory does not need the hypothesized dark matter to explain the large scale structures. Critics of QSSC complain that the QSSC cosmologists "tweak" the theory to make it agree with the observed facts. Seems like the pot calling the kettle black to me.

The QSSC theory invokes a "creation" field to explain the spontaneous appearance of matter and energy. Sounds a lot like the Unqualified Absolute to me. The QSSC theory seems the closest to the universe construction pictured in The Urantia Book except that it doesn't include the idea of a purposive creation and creator.

The authors of The Urantia Book inform us that with the exception of Havona and Paradise, the universe has been and continues to be built a piece at a time. Orvonton is possibly less than 60% complete and may not be complete for trillions of years. The whirls of space (spiral galaxies?) are initiated by the Master Force Organizers and then seem to evolve according to the natural laws of the universe until Creator Sons and Mother Spirits claim an area of a superuniverse and begin to organize it. Of course, this Son/Mother activity is only true for the inhabited superuniverses. The authors do not inform us of any organizing activity that may be taking place in the outer space levels.

The beauty of the Urantia Book scheme is that it portrays both purpose and natural law operating in the universe. Whatever the flaws of the cosmology of the book, it is the most inclusive and balanced of any I have ever seen. We are shown a universe that appeals to both mind and soul.

1. "Plasma Cosmology," Anthony L. Peratt, Sky & Telescope, Feb 1992.
2. "New Challenge to the Big Bang?", Ron Cowen, Science News, Oct. 9, 1993.



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### LAST RITES

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\*\*\* HAPPY HOLIDAYS, PEACE AND LOVE TO ALL IN THE NEW YEAR \*\*\*

### COSMIC REFLECTIONS

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