

COSMIC REFLECTIONS COSMIC REFLECTIONS

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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 bi-lingual 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

not there are inhabited planets in the universe and if so, how many. One group, including Carl Sagan and the late Isaac Asimov, are advocates of the principle of mediocrity. This principle says that our earth and our solar system are not exceptional, but rather a typical planet in orbit around a typical star. Therefore, we should find many stars with planetary systems and many earth-like inhabited planets among those planetary systems. On the other hand points out White, there is a group of researchers that supports the Anthropic principle. This principle says in effect: It takes a universe this size and complexity to produce an inhabited planet such as the earth so we may not find any other inhabited planets in the universe.

White discusses contact myths among various ancient and not so ancient peoples. He contends that stories of contact with angels from the past are the equivalent of modern stories of contact with ET's (Extra-Terrestrials.)

White briefly discusses the NASA Microwave Observing Project and what protocol will be followed in the case of detection of a signal from another inhabited world. (The NASA effort is not called SETI because of those who believe that SETI is a waste of time and money.) He goes on to discuss the probability of actually detecting intelligent life in our galaxy. He examines the so-called Drake equation that some have used to predict the probability of other intelligent life existing in our galaxy or elsewhere. Depending on whether you are an optimist or a pessimist, the equation can yield from 1 to as high as several thousand planets inhabited with intelligent life in our galaxy.

White next examines the effects on us of not finding any inhabited planets, and then the effects of detecting one or more other inhabited planets. He feels that if we don't find anyone else out there that we will feel sad and alone but we will realize how precious the life on our earth is. If we do make contact he says, there will be an initial surge of excitement, then boredom will set in, much as happened with the US space program. In this regard, he develops a Contact Impact Model that attempts to predict how ET detection and contact will affect our culture. He goes on to consider the concept that knowledge from an advanced culture could have either a positive or a negative impact on our civilization.

White notes that while a protocol has been developed in case of detection of ET's, no one is talking about a possible reply. Unfortunately, there still seems to be a good deal of paranoia about possible invaders from space.

At the end of his book, Frank White includes interviews about SETI with some well known figures: Dr. Isaac Asimov, Ben Finney, Paul Horowitz, Phillip Morrison, Dr. Carl Sagan, and Jill Tarter.

Though the book is well written and well researched, Frank White and other authors writing on the subject of SETI, extra-

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 galaxy Leo 1. (1) This would give the Milky Way system a 600,000 light year radius or a stupendous diameter of 1,200,000 light years rather than the 100,000 light year diameter of the visible portion of the Milky Way galaxy. Many of the two trillion stars too faint to be seen could be scattered between the Milky Way galaxy and the ten or more small satellite galaxies. The Milky Way galactic group may not have enough stars to be a

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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. Alfven'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

