

would be the ultimatons, as they are the smallest units of matter not divisible into smaller units. The authors inform us that there are 100 elements of our material realm, and 100 morontia elements. It is from the 100 morontia elements that our morontia bodies and all other morontia realities are fashioned.

The morontia level of existence provides an environment suitable for our gradual growth from the material to the spiritual level of existence. In most respects, the life we live on the first mansion worlds is comparable to the life we live here on Urantia, and our bodies must perform many of the same tasks. Why are our morontia bodies designed to be so much like our human bodies?

When a human child is born, it is helpless. All of its needs must be supplied for many months before it can start doing some of these things for itself. On the other hand, when we are resurrected on the mansion worlds, we immediately begin to walk, talk, eat and do other things that we did as adults on this world. It seems that our knowledge of how to operate our body goes with us and allows us to immediately function when we reach the mansion worlds. Therefore, in order to use our new bodies, the functions must be similar to those of our mortal bodies. Of course, if you were paralyzed here all of your life, then you would have to learn to walk with your morontia body since you didn't learn on Urantia as a baby. Perhaps this is an example of one of the "biological deficiencies" that are "made up on the first mansion world." (Pg.535B)

THE DIGESTIVE SYSTEM

Here on Urantia we take in food, grind it up, treat it with enzymes, break it down with hydrochloric acid in the stomach, then extract nutrients from the processed food in the large and small intestines. That which our bodies cannot use is eliminated. On page 535B, we are informed by the authors that we continue to eat food and experience gustatory pleasure but since morontia food is pure energy, we have no "residual portion" to deal with (do I hear cheers?) Eating and digesting food implies that we will have teeth to grind the food, and some sort of digestive system to extract the energy. We undoubtedly have a morontia tongue as well for tasting the food. The tongue also plays a part in speech, so it is doubly important.

Perhaps the morontia food requires less processing than the food we eat here, so the morontia digestive system may be less complex—perhaps only a stomach where the energy of the food is extracted and distributed to the body. On the other hand, the morontia foods no doubt have different tastes and textures so the foods may have different chemical composition. If so, the morontia body must process a variety of foods, just as our mortal bodies do. This might require a more sophisticated system than just a stomach.

THE CIRCULATORY SYSTEM

In our bodies, the circulatory system plays several vital roles. It carries oxygen and nutrients to all the cells of our bodies, and carries away the waste products generated when the cells "burn" the energy delivered by the blood. The circulatory system also carries various chemical messengers such as hormones from glands to organs and muscles in the body. The blood also carries white cells that destroy microscopic invaders in the body. Finally, the blood helps to carry away the heat generated by the body's use of energy, such as the movement of muscles. However, morontia bodies may have a very different system to perform all of these functions.

The Midwayer authors of the Jesus papers inform us on page 2029, "These bodies do not have circulating blood..." If there is no circulating blood, then we must ask questions such as: "How is the energy extracted from the morontia food distributed to the various parts of the body?" It could be that the energy is in the form of morontia electricity, circulated through conductors in the body like electricity is distributed throughout a city by wires here on Urantia. Another possibility is that energy is distributed by electrochemical means, much as nerve impulses are carried by our nervous systems.

Another vital function of our mortal circulatory system is to absorb oxygen from and discharge carbon dioxide into our lungs. The book mentions that we breathe "air" that contains a morontia gas on page 535B, so we will have lungs, and the morontia gas—which I assume is used in the same fashion as oxygen in our bodies—must somehow be distributed throughout the morontia body. How can this be done without a circulatory system?

The authors of the book do not say that we will have no circulatory system; they do say we will have no circulating blood. Therefore, morontic bodies may have some mechanism (heart-like or otherwise) to circulate a morontia liquid that performs the same functions as our blood. It is interesting to note that the human body does have a circulatory system that has no pump and doesn't contain blood. That is the lymphatic system. Lymph is distributed throughout the body in lymphatic channels; its transport is effected by the expansion/contraction of the lungs and the body's muscles.

Another key piece of information that isn't revealed to us is whether the morontia body consists of specialized cells as is our mortal body. The cells are the work-horses of the body. The cells take in and metabolize—burn—fatty acids and glucose to perform all of the body's various functions. It's such an elegant and serviceable scheme that it seems a logical choice for morontia bodies, but perhaps there are just as good or better ways to build bodies. On the other hand, perhaps we're cellular only because that was the origin of life here. It would be presumptuous to assume, for instance, that the angels' bodies are

constructed of cells. It may be that morontia organs could be constructed of various homogeneous materials that perform as organs do in the human body. But we really don't know.

The Nervous System

At least part of the nervous system is as vital to life as the circulatory system or the digestive system. That is the autonomic system that commands our hearts to beat and our lungs to expand and contract. It seems reasonable to assume that there are also functions in the morontia bodies that require automatic direction so they can function independently of our conscious activity. There are other valuable functions of our nervous systems that aren't vital to life but are difficult to live without.

Consider our sense of touch. How could we manipulate objects if we had no tactile feedback from our fingers? In the extreme case the nervous system feeds back pain signals. We may not relish pain, but it really is valuable to us. Now some folks might envision heaven as a place free of pain, but this would only be true if the morontia body was indestructible. But alas! The Urantia Book informs us that accidents of a mechanical nature are possible. (Pg.574C) It seems logical to me that we will need pain (or some equivalent) as well as tactile feedback to warn us of danger to our morontia bodies. Why pain? It activates automatic responses (like dropping a very hot object) so that as little damage as possible is done to our bodies. We might tend to ignore a lesser sensation. The idea of accidents to a morontia body raises some interesting questions.

Suppose you are working down at your local morontia machine shop, get a little careless, and lop off a finger or hand. Does that mean you'll have to go around during your career on that world with one hand? Doesn't seem likely. If our morontia friends can build whole bodies, it shouldn't be much trouble to whip up a replacement hand or finger. Of course they might get a bit annoyed if we're careless very often. Someone has asked this question: If accidents are possible, could a morontia being be killed in an accident? If your fador developed hiccups at 2000 feet and dropped you, it seems that your morontia body could be damaged so badly that it couldn't function. I suppose your adjuster or an angel would have to grab your soul and hold it until a new body could be fabricated for you. Or perhaps as you fall, your body could be changed to the state that doesn't interact with matter so you won't be injured.

The Respiratory System

No doubt our morontia bodies will have lungs of some sort, since we breathe there as we do here. The book informs us that the atmosphere of the mansion worlds consists of oxygen and nitrogen like our atmosphere, but that it also contains a third gas, a morontia gas for us to breathe. (Pg. 520D) We are not so informed, but it is possible that this morontia gas combines with

the processed morontia food to produce the form of energy used to fuel the morontia body. Even if this is not the case, there is at least one other reason to have morontia lungs, and that relates to our ability to speak. The sounds of speech are produced by air passing through our vocal cords. There are certainly other ways to produce sound, but this is the one we are used to in this life. In fact, it is worth noting that on the mansion worlds the non-air breathers have to speak by a modified technique, no doubt because they never had lungs and vocal cords during their mortal existence. (Pg.446D)

The Reproductive System

Sex? Sorry. However, we will always remain sexual beings in a psychological sense. As the U Book says, "The sexes will continue to intrigue each other...." (Pg939B) So if you don't understand your wife or husband now, don't expect to have a flash of insight when you reach the morontia level. And while we won't have the wherewithal for the physical sex act, I'm sure that holding hands and hugging are not frowned upon by the higher authorities. And real love certainly survives the transition from mortal to morontia.

Other Accessories

One of the questions that comes to everyone's mind is this: What will we look like? Information in the book and my speculations lead me to believe that we will look quite human, except for the absence of organs whose function is reproductive/sexual or excretory. There is also no mention of morontia body hair in the book, but there seems no reason to have hair on the mansion worlds since hair is partly a vestigial characteristic, like the appendix. Sorry ladies! Neither is anything said about skin color, although it is interesting to me that there are separate resurrection halls for the races of color. Could it be that in the initial phases of the morontia life we will retain the skin color we had as mortals? It is consistent with the philosophy of the morontia life planners to provide a body we can be comfortable with because it is similar to our mortal bodies.

Morontia bodies will have much equipment that is familiar to mortals, although the accessories will be the deluxe models rather than the standard ones we have. We speak, so obviously we hear and must have some sort of sound sensors like our mortal ears. We have enhanced vision, so obviously, we have eyes. We walk about so we are obviously bipedal with legs, feet and joints. If we walk about on the surface of the planets then we must have some sort of balancing mechanism like our inner ear to help us maintain our balance. We can manipulate things, so we must have arms and hands. These things are also confirmed by the fact that Jesus resembled a mortal being in his initial morontia stages.

There are a number of things that we are told or can infer about

have traditionally been gruesome and frightening; they are either mindless entities who wanted to take over our bodies or fiendish invaders who wanted to exterminate the human race so they could have the earth for themselves, or enslave them so they could have not only the earth but us to work for them just as the Europeans exterminated Amerinds and enslaved Africans. Does the ruthlessness of the fictional ET invaders reflect human ruthlessness? Are any of the fictional invaders more frightening than a Hitler and his Third Reich practicing genocide?

Another science fiction genre has appeared in the past few decades that presents a kinder, gentler sort of ET. The movie ET is a prime example of this trend. Who wouldn't love that wise and gentle large-eyed creature? In another movie, Close Encounters of the Third Kind, we find creatures who are enigmatic. They kidnap people and ferry them around the galaxy for a number of years before letting them go. That hardly seems ethical, but in the final scenes where we see the creatures, they are portrayed as gentle and friendly. In the classic series Star Trek and in the Star Trek movies, the aliens run the gamut from noble to greedy and evil; sort of a cross section of us perhaps. One of the interesting aspects of that series is its treatment of problems that arise when alien cultures interact. It seems that no matter how alien the culture, the motives behind its actions and reactions are very familiar when we finally understand them. Just like us, they experience fear, curiosity, and of course the instinct for survival.

One of the philosophies of the mythical Federation in the Star Trek series echoes a concept in The Urantia Book. The starship personnel are instructed not to tamper in the affairs of less advanced mortals or beings. This is reminiscent of the Life Carriers being forbidden to interfere with the development of life after the appearance of will creatures. There is also the concept in the book 2001 and movie of the same name of an advanced race who implants and fosters life on our planet. This is exactly the role of the Life Carriers on a planet. Does our science fiction resemble reality?

Do we have any knowledge that there is intelligent life elsewhere in the universe? The Urantia Book speaks of life on other planets, but this is hardly scientific evidence. Scientific minds want material evidence. So far, astronomers have evidence of planets only around a few neutron stars, but a planet circling a neutron star is hardly the place to plant crops and raise a family. But there is evidence that some stars like our sun may have planets. Astronomers have found rings of dust around some stars in our part of the Milky Way galactic system. Since it is believed that planets form from these dust rings, astronomers are now willing to say that many stars in our galaxy may have a planetary system. But that is still very far from confirming that there is an earth-like planet with life around any star other than ours.

Surprisingly, the folks on other planets may be more aware of us than we are of them. From information in The Urantia Book, we can infer that the mortals of other planets are taught of Christ Michael's bestowal here almost 2000 years ago (see 2018C, 2019A.)

A fellow named Drake came up with an equation that supposedly gives the probability of intelligent life appearing elsewhere in the universe. Depending on the factors that go into the equation, the probability ranges from small to none. In other words, we probably should not be here! Drake's formula could be seen as an affirmation that life is not accidental and so its appearance anywhere signifies the operation of purpose in the universe. Of course, bringing the concept of purpose into a scientific discussion is considered bad taste in some circles, so that implication is ignored. It is strange that despite a good deal of scientific skepticism, a field of scientific investigation exists known as exobiology, devoted to postulating what sort of life might exist on other planets. But perhaps imagining what creatures look like on other planets is no more a stretch of the imagination than physicists imagining particles that appear from a vacuum and return thereto as if they had never been.

Do the mortals of other inhabited planets look like the exobiologist or like the creatures of his imagination? The Urantia Book informs us that all mortals are bipedal, which eliminates the possibility of really bizarre looking will creatures. Nevertheless, the mortals on other worlds have rather diverse origins and may have features quite strange to us. For instance, the non-breathers apparently don't have mouths, noses, or ears. If we were transported into the middle of a group of non-breathers, how comfortable would we feel? ET's and Wookies may be cute, but what about non-breathers? If we have problems with something as trivial as skin color, could we cope with more radical differences? On the mansion worlds, we will learn to adjust and work with diverse beings from other planets, but will we ever have to cope with this during our mortal lives?

In Star Wars and Star Trek, star ships zap around the galaxy at many times the speed of light. The star ships could reach the nearest star system (Alpha Centauri, a triple star system) in a few months. A little tedious, but well worth the fascinating scientific information we could gather about another star system. At the speed of light, it would take 4.5 years to cover the distance. We would have to sacrifice about ten years of our life to make the trip to Alpha Centauri—allowing a year for study of the star system. Now that gets to be quite a sacrifice unless the ship provides all the amenities of our earthly existence. Unfortunately, at the speeds achievable with our current technology, the trip would take many lifetimes. Even if we could achieve the hibernation state of the voyagers in the movie 2001, would we want to come back to the earth several hundred years later and be entirely out of place? And there is doubt that we could get close to the speed of light. It is a well established

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fact of physics that the apparent mass of an object increases without bounds as the object gets close to the speed of light, and the more mass, the more energy it takes to further accelerate the increased mass. Since all other civilizations in the galaxy are bound by the same physical laws, it seems obvious that neighbors on the planets of nearby stars don't pop in for a visit on the weekends. But this does not mean that we will never have contact with them.

Radio waves and light waves travel at the speed of light. There have been several SETI (Search for Extra-Terrestrial Intelligence) projects going on for a number of years. Radio telescopes have been scanning the sky looking for radio signals from other civilizations. Unfortunately, they so far haven't found any. Does that mean that no one's out there? No. We have to understand the limitations of the search to see why. The radio astronomers can't search at all frequencies because of the radio pollution of FM stations, TV stations, police radio, cellular telephones, etc. Even on the frequencies they can listen to, a signal could not be heard unless it was transmitted with at least a million watts and antennas deliberately aimed in our direction. A long shot? Yes, but the implications of proving the existence of intelligent life elsewhere in the universe are so profound that we are almost compelled to try. NASA has started a SETI monitoring program of unprecedented scale that will have the best chance of success of any program so far. NASA has even asked the nations of the UN to tell them what to say to any ET they might contact. But wouldn't it be ironic if all the worlds were listening for each other, and none were transmitting? The present efforts may not succeed because of their limitations, but some day we will succeed. What will it mean to the human race?

If we find we have neighbors over yonder at that small point of light in the sky, our sun will rise every day as it has for all of human history. Farmers will plough, sow and reap as they've done for millenniums. Babies will cry for their mothers and dogs will chase cats as usual. But the consciousness of the human race will be forever changed by the knowledge that we're not cosmic orphans forever adrift in an otherwise lifeless sea of stars. Students of The Urantia Book may feel quite certain that the universe swarms with inhabited planets; but even they will be amazed if we communicate with beings elsewhere in the universe. Scholars know that Abraham Lincoln existed but imagine how excited they would be if somehow they could cross the time barrier and converse directly with him.

Carl Sagan wrote a book called Contact in which he pictured the consequences of contact between our world and a more advanced culture via radio signals. In Sagan's saga, the ET's send us the plans for a complex machine whose purpose is unknown. The nations of the world unite in a program to monitor the radio signals, gather materials and build the machine. Farsighted groups want to build the machine, but conservative groups such as

