

HOW THE URANTIA BOOK HELPS US UNDERSTAND THE CONTEMPORARY WORLD

SCIENCE IN LIGHT OF THE URANTIA BOOK

by

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In considering contemporary science through the eyes of the Urantia Book, I would first like to read about certain limitations that prevail concerning science in this fifth epochal revelation.

*"Because your world is generally ignorant of origins, even of physical origins, 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. Accordingly, future students of such a revelation are tempted to discard any element of genuine religious truth it may contain because they discover errors on the face of the associated cosmologies therein presented.

"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. Revelators must act in accordance with the instructions which form a part of the revelation mandate. We see no way of overcoming this difficulty, either now or at any future time. 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. It is limited by our permission for the co-ordination and sorting of present-day knowledge. While divine or spiritual insight is a gift, human wisdom must evolve. " (p. 1109)

Before we go any farther, let us consider just what science is.

Though it is hardly possible for the mortal mind to comprehend the seven levels of relative cosmic reality, the human intellect should be able to grasp much of the meaning of three functioning levels of finite reality:

- *"1. Matter. Organized energy which is subject to linear gravity as it is modified by motion and conditioned by mind.
2. Mind. Organized consciousness which is not wholly subject to material gravity, and which becomes truly liberated when modified by spirit.
3. Spirit. The highest personal reality. True spirit is not subject to physical gravity, but eventually becomes the motivating influence of all evolving energy systems of personal dignity. " (p. 140)

It is Point 1, Matter, in the above quotation which constitutes the sphere of our study.

Define - Composite - I believe the following definition is a composite statement that combines statements from the Urantia Book and Webster's Dictionary.

Science - The study of the material aspects of the cosmos. This includes the study of the composition, the organization, and the classification of classes, types, or species of matter or material things, and the study of the kinds of changes that matter may undergo.

Science can be further classified into Social Science, and Natural Science. For this presentation we will consider only the natural sciences, which include the physical sciences of astronomy, geology, physics, and chemistry and biological sciences, generalized into biology.

The science of the material world enables man to control and to some extent dominate his physical environment.

Scientifically speaking, the twentieth century has been a period of more progress than any comparable period in history. The statement that 90% of all the scientists that ever lived are alive today is significant and explains much concerning the things that have been happening.

It is estimated that about 100,000 scientific journals are now being published throughout the world, and about half a million papers from recognized scientists are printed annually - far more than any one person can read.

A dramatic way to describe one facet of this scientific development is the way Preston Bradley did at a recent meeting I attended. This illustrates developments in communication. He spoke in his church and his sermon was being broadcast to the men in the armed services in Vietnam. He was aware that these soldiers could hear his intake of breath a split second before the sound reached the ears of the people in the balcony of his own church. (Incidentally, I spoke to him - mentioned that I had been associated with Dr. Sadler until he died, and he said "Of blessed memory.")

Because of the amazing developments in communication, whatever happens in Rome or Calcutta or London or Ft. Wayne or Chicago, or even Los Angeles has an immediate impact upon the rest of the world.

Communication - electronics, radio, TV - as well as improved means of travel and transportation, are all working toward making our planet one world, a feat that government and philosophy have been unable to accomplish through leagues of nations, ecumenical conferences, or other international conferences.

It is difficult to separate the various sciences and discuss them separately, and yet it is more difficult to discuss them together. Each has an effect upon the others. Physics is basic to all descriptions of matter and energy; and chemistry is involved with any changes in matter. It is impossible to consider geology or biology without understanding the physical and chemical changes that occur. The developments in astronomy depend upon the innovations in physics and the discoveries in chemistry, even in the instruments and techniques used.

Let us first consider chemistry and physics and some of the newer developments.

Chemistry studies the elements and their properties and how they combine to form compounds. The periodic table was developed in 1869. This showed that as elements were listed in the order of their atomic weight - really their atomic numbers - their properties recur, the eighth chemically active element resembling the first, the ninth the second, and so on. For years, spaces were left in the table for elements that were not yet discovered, but now all the spaces have been filled; all the elements have been discovered or produced.

Chemistry has continued to develop thousands of new compounds, and new uses for the various substances.

Organic chemistry - originally considered consisting of substances produced by living organisms - was really started in 1828 when ammonium cyanate was converted into urea - an inorganic substance producing an organic substance. For many years now chemists have known that organic chemistry was really the chemistry of carbon, which had the strange property of combining with itself in many ways - long chains, for example, wherein the ends would hook together forming cyclic compounds. Since 1828 approximately one million organic compounds have been synthesized, with thousands of new compounds being produced each year. Today, modern drugs, synthetic fabrics, building materials, dyes, insecticides, and many other kinds of materials are products of synthetic organic chemistry. And now even chlorophyll has been synthesized.

The new developments in theoretical chemistry have been new theories concerning atomic structure which led to understandings that explain spectroscopy and spectral lines and had much to do with the developments of nuclear reactions and atomic power. Any detailed account of this is beyond the scope of this presentation, but mention will be made a little later.

Physics includes the areas of mechanics - different kinds of motion, force, energy, power; laws and theories governing or related to gases, liquids, and solids; much information about heat and its relation to work or power in thermodynamics; concepts concerning sound, laws and theories governing light and other electromagnetic radiations; theories about magnetism and electricity, culminating in electronics and finally notions about the atomic structure of matter. To attempt to go into detail about any one of these subdivisions would take a long time. I can only mention ideas or areas that physics covers and point out a few additional facts.

1. In the 1880's Maxwell developed some field equations considered by some the greatest conquest of material phenomena by the human mind, which became the basis for electromagnetic radiation such as in radio, television, and radar. The tremendous development of communication during the last few decades is the result of this nineteenth century theorizing.
2. Even more recently laser beams have been developed where light rays of the same wavelength and in phase are caused to reinforce the wave and produce a beam of light of great intensity. These laser beams are used variously from surgery to astronomy, and, as Julia mentioned last night, in communication.

3. Transportation has made great advances during the last quarter of a century. The application of one of Newton's laws of motion - for every action there is an equal and opposite reaction - to jets and rockets has enabled man to develop jet planes that can travel high in the troposphere, and into the stratosphere at supersonic speeds. Unfortunately the disturbing and even destructive effect of the sonic boom has not been resolved, but even less than supersonic speeds has helped many of us to fly across continents and across oceans almost in the time it takes for a person to discuss developments of science in the light of the Urantia Book. This same law of motion applies to rockets and their use in lifting space ships from the surface of the earth into orbit and then pushing them out of orbit on their way to a rendezvous with the moon.
4. The development of the electron microscope has opened up a world of micro-chemistry and micro-biology by producing smaller wave lengths than those of light, and thus being capable of illuminating and magnifying very small objects, even getting down to molecular size.

These items are just a few of the discoveries or developments of physics. Many more could be enumerated. Physics was beginning to level off at the beginning of the twentieth century. It appeared that it had reached the apex of its evolution, but then the equivalence of matter and energy was discovered, and ultimately quantum mechanics appeared and physics is now starting anew.

When computers came into the picture the progress of all sciences was greatly accelerated, for computers can accomplish in a matter of minutes what it would take many mathematicians months or years to work out.

Most scientific phenomena have been determined by our five senses. Chemistry, for example, for many years was a science of changes in matter which could be observed by color changes, sometimes by explosions or other noises, by taste, by smell, or by temperature change or change in shape or state of matter - solid, liquid or gas. Thus the senses of sight, sound, taste, odor, and touch were used to give some understanding of what happened. However, for many years men were aware of unknown forces which until comparatively recently - the last few centuries - were complete mysteries. Men knew of lodestones - pieces of magnetite - which we have learned were magnetized minerals. We may not know now exactly what magnetism is, but we know much about it, how to produce it, and how to use it in creating electric currents of potentials. Similarly we have studied the mysterious effects upon amber after it has been rubbed with fur, or glass after it has been rubbed with silk, creating many uses for it and opening up a whole new realm of knowledge - that of electricity and electronics.

More recently we have become aware of other forces that could not be felt or determined by our five senses. Just as we cannot feel a magnetic field or an electrostatic field so are we unable to detect Xrays or cosmic rays by our senses, even though we are bombarded by them on many occasions. Even now, cosmic rays are passing through our bodies, and we are completely unaware of them through any of our senses.

Perhaps the most significant developments in both physics and chemistry have to do with our understanding of the atom, its configuration, the particles contained therein, and the nuclear changes possible, where matter is changed from element to element, and even from matter into energy, and energy into matter.

From the time of Dalton who first proposed the atomic theory in 1803, a great deal has been learned about the basic structure of matter. Scientists are now convinced that each atom is made up of a nucleus consisting of one or more protons which are positively charged and varying numbers of neutrons which are uncharged, and that the nucleus was encircled by appropriate numbers of electrons which are negatively charged. These electrons are arranged in orbits or shells, and it is the number of electrons in the outer orbits that determines the chemical properties of the atom or element. Mesotrons or mesons are also particles in the nucleus that assist in keeping it from disintegrating or blowing apart.

Continued study of the atom led to experiments with the nucleus itself. It was found that certain atoms were able to absorb an additional neutron to form an isotope which was so unstable that it broke into two large particles which were ultimately identified as two other atoms. Along with this some neutrons were released and matter disappeared, having been converted into energy according to Einstein's formula $E=mc^2$. This reaction can become a chain reaction since for each neutron absorbed several were produced. Thus, so-called atomic energy was produced in a process called fission. This process can be utilized to cause two smaller atoms to fuse together to form one larger atom wherein even more matter disappeared to become energy. It is believed that the energy of the sun is produced in this way, with hydrogen being fused into helium, and of course the sun is the source of essentially all of our energy.

The Urantia Book has different definitions for force, energy and power from physics and chemistry, but it does substantiate much of the findings of our scientists. It speaks of energies that are unknown to our physicists, and the metamorphosis of space potency to primordial force and then to emergent energies and universe power is beyond the scope of our scientists. Of course, triata, Havona energy, tranosta, transcendental energy and monota - Paradise energy - are energies that are revealed in this fifth epochal revelation.

Physicists now make the statement "Matter and energy are interchangeable." The Urantia Book states, "Light, heat, electricity, magnetism, chemism, energy, and matter are - in origin, nature, and destiny - one and the same thing, together with other material realities as yet undiscovered on Urantia."

Several significant statements in the Urantia Book in the area of physics are very similar to ideas physicists have:

1. "The increase of mass in matter is equal to the increase of energy divided by the square of the velocity of light."

$$\Delta m = \frac{\Delta E}{c^2}$$
 -essentially Einstein's equation.
2. "The relative integrity of matter is assured by the fact that energy can be absorbed or released only in exact amounts which Urantia scientists have designated quanta."
3. "In the superuniverse of Orvonton there are one hundred octaves of wave energy. Of these one hundred groups of energy manifestations, sixty-four are wholly or partially recognized on Urantia."

4. *"The superuniverse of Orvonton is apparently now running down." Urantians are not aware that "the living power directors and force organizers are the secret of the special control and intelligent direction of the endless metamorphoses of universe making, unmaking, and remaking."
5. In suns, solar energy is liberated by ingoing hydrogen particles coming forth as helium atoms.
6. Energy moves through space in a straight line except as modified by gravity and other influences. The wave behaviour is due to the action of diverse coexistent influences.

In chemistry, the Urantia Book classifies matter and most of the classifications are about identical with that of Urantia chemists. The additions in the Urantia Book include ultimatic or pre-electronic matter, and collapsed matter as found on cold or dead suns. These are beyond the experience of Urantia scientists, and the whole description of ultimatics is a complete revelation to Urantians. Their description of sub-atomic particles, sizes and weights, coincides with those in our text books. There seems to be a discrepancy between the statement that there are just 100 elements while our charts show number 101, Mendeleevium and number 102, Lawrencium. The half-life of these elements is very small, and I believe Urantian experience substantiates the statement, *"when one hundred and one orbital electrons have been artificially introduced into the orbital field, the result has always been the instantaneous disruption of the central proton with the wild dispersion of the electrons and other liberated energies."

Another similarity is in speaking of atoms and their orbital electrons, the nearer the nucleus the less there is of electronic individuality. The wavelike energy extension of an electron may so spread out as to occupy the whole of the lesser atomic orbits.

The Urantia so-called "binding power of the atom" they tell us is a force that remains to be discovered on Urantia.

Mesotrons, now shortened to mesons, and their function in holding the atomic nucleus together were revealed slightly before Urantia scientists postulated their function. Now we know quite a bit about different kinds of mesons.

I believe the Urantia Book's description of "mesotronic disintegration" suggests the so-called neutrino that Fermi postulated at the University of Chicago when both of us were associated with the institution.

The Urantia Book's discussion of the Periodic Table is in keeping with our conception of it.

One thing our scientists should learn from the book: *"light, in traversing space, is sometimes slightly modified by the various forms of energy and matter which circulate in all organized space. Some of the lines indicating unknown matter which appear in the spectra of your sun are due to modifications of well-known elements which are floating throughout space in shattered form, the atomic casualties of the fierce encounters of the solar elemental battles."

Several other similarities between the Urantia Book and Urantia scientists include the following:

1. Space regions are interspersed with vast hydrogen clouds.
2. The ionosphere reflects broadcast waves, preventing them from being lost to our world.
- 3 The height of the earth's atmosphere as indicated by the highest aurora borealis display is 400 miles. The lower 5 or 6 miles constitute the troposphere, the level containing weather phenomena, and the temperature falls as you ascend to about -70° . There is then a band of the ionosphere, and next above is the stratosphere where the temperature remains constant in further ascent. Above about 50 miles the temperature increases until it is well over the boiling point of water. Auroral phenomena are directly related to sun spots.

ASTRONOMY

It is difficult for us on our blue planet to look objectively at astronomy as a total picture of cosmography for we are looking at what we can see from one corner or segment of one of the supergalaxies. When we speak of looking up into the sky, we need to define sky as the general spectacle that is unfolded in the "celestial vault" above us. But we must realize that we are observing the circular motion of the sun and the ever changing moon along with thousands upon thousands of stars, with an occasional comet and meteor thrown in. Until less than five hundred years ago all that could be observed was what the naked eye could see, and though poets would use the expression "numberless as the stars," only from 5000 to 6000 stars can be seen by the naked eye - about 2000 at any one time - from any one place.

There have been great developments during the past four or five centuries, starting with the notion of Copernicus that the sun was the center of all revolutions and the earth rotated about the sun. Then followed Galileo who developed the refractory telescope, and Kepler who noted the elliptical orbits of planets. Newton in 1700 formulated the law of gravitation and laws of motion, and the concept of inertia, and invented the reflecting telescope. The next three centuries saw refinements in telescopes with the 40" refracting instrument in Williams Bay, Wisconsin, and the 100" and 200" reflecting telescopes in California. During this time came the camera which collected light over a period of time on a photographic plate, light that could not be detected by the retina of the eye even with the telescope. As a result, a great deal of effort has been put into mapping the sky and discovering new systems. Subsequently, spectroscopy helped astrochemists to determine the elements in various suns, and also whether stars were approaching or receding and this ultimately led to notions of an expanding universe and some astronomers have postulated an expanding and contracting universe - a breathing universe. Finally, radio astronomy and immense radio telescopes can determine evidence of bodies or clouds where there was no evidence of light, and astronomers now find some originally considered dead vaults of space are really astir. In addition to all this, various electronic devices and computers have done much to accelerate the accumulation of knowledge of the stars.

There are two principal concepts concerning the universe - the dynamic or changing universe, sometimes called the Big Bang Theory, and the steady-state in which it is assumed that since the universe is homogeneous in space, it is also homogeneous in time.

Knowledge of the Milky Way and other galaxies is increasing. Fairly recently quasars were discovered - quasi-stellar sources. They are supposed to be about the most distant objects known, but give off a varying intensity of radiation that is unexplainable.

Scientists are quite realistic. They do much theorizing, and recognize it as such, but actually conclude the following: Pure speculation still dominates the realm of cosmogony - the origin and formation of the universe and of its constituent stars - and no generally accepted account of this has yet been proposed. Astronomers recognize that though they do speculate about galaxies and universes, it is paradoxical to attack the problem of the origin of the stars and the universe as a whole when that of our nearest neighbors and of the earth itself is still uncertain. There are several theories about the origin of our solar system including the Houlton-Jeans, which is very similar to what the Urantia Book describes. However, they have successively laid each on the shelf because of certain inconsistencies, little realizing that all their hypotheses are descriptions of what actually has happened in the formation of different solar systems or planets in different parts of the grand universe.

Another recent development, of course, has been our space program.

Less than 30 years ago the plan to send up man-made satellites seemed a far-off dream. Then came Sputnik and things started to happen. Our whole educational program was changed. Large amounts of money were poured into science and mathematics. It was not long until the United States got its Explorer into orbit and then a few billion dollars later Alan Sheppard was sent into an arc by rocket and was picked up a few hundred miles away. Finally, John Glenn orbited the world, the first American to do so. Then there were multi orbits. Soon there were the Gemini flights. And finally, the actual landings on the moon. I remember how thrilled I was in 1965 to see pictures of the moon's surface taken by the Russians from just a few feet away. Now we've seen and held samples of chunks of the moon.

We have seen, via television, men walking and bouncing on the moon; but we have not yet determined whether or not there is life on the two planets nearest us.

Astronomers have asked themselves the question: Why study astronomy? What is the good of it? They answer it thus:

"Thanks to astronomy, the inquiring spirit of man has at last discovered the true status of humanity in the universe: a mere atom, but a thinking atom, situated on a microscopic planet, one of several revolving about a small and commonplace star, itself indistinguishable from a hundred thousand others, in the heart of a galaxy which in turn is lost among the millions that populate the tiny corner of space that we have been able to explore.

"This atom, this man - you, in fact - far from feeling crushed and lost in the midst of this immensity, should on the contrary feel the less bewildered simply

because he has been able to explore it, and even begin to understand it. Realizing this, he will be in a better position to appreciate the spell with which astronomy binds its devotees: the fascination and the wonder, not to be put into words, of the contemplation and the understanding of the heavens."

-(Larousse Encyclopedia of Astronomy)

Astronomy in the Eyes of the Urantia Book

Here the revelators were quite generous in what they have told us. They take us out of our limited viewpoint of Urantia, away from our system, constellation, local universe, and superuniverse, into the central universe and Paradise, and to a view of the total cosmos. They show us that there is pervaded and unpervaded space and that all space alternately expands and contracts. *"As the universes of the horizontal extension of pervaded space expand, the reservoirs of unpervaded space contract and vice versa" in billion year cycles. They pretty well substantiate what our astronomers have discovered in our part of the universe, but amplify it by showing us the configuration of the central universe with Paradise at the center and the 21 worlds of the Paradise Deities encircled by the seven circuits of Havona, the one billions worlds of sublime perfection, and the immense dark island unique circuits. Then they show us that our part of the universe is a small part of a larger evolutionary space level and that there are six more comparable segments, four of which we could probably never be able to see from Urantia. Altogether there is a potential of 7 trillion inhabited planets. But they give us this assurance:

*"Your planet is a member of an enormous cosmos; you belong to a well-nigh infinite family of worlds, but your sphere is just as precisely administered and just as lovingly fostered as if it were the only inhabited world in all existence." (p. 183)

And they give us an almost unlimited view of the future - universes in outer space, where the evolutionary scene of action will take place in the next universe age, what to us must seem like an eternity away. The cosmos, though it is very old, is still in its youth. The developments in the future will no doubt overshadow those that have occurred in the past, and the exciting thing about it is that we will be part of it. *"We are all part of an immense plan, a gigantic enterprise, and it is the vastness of the undertaking that renders it impossible to see very much of it at any one time and during any one life. We are all a part of an eternal project which the Gods are supervising and outworking. The whole marvelous and universal mechanism moves on majestically through space to the music of the meter of the infinite thought and the eternal purpose of the First Great Source and Center." (p. 364:4)

GEOLOGY

In the area of geology there is considerable agreement between the consensus of geologists and the Urantia Book story. The following is a composite summary of a number of geologists concerning the origin and early history of our world.

The theories held concerning the origin of the earth determine the notions that various scientists have about what happened in the early days of the earth's history. Some do not believe in a hot gaseous origin. Some believe the moon came out of the earth leaving a hole that became the Pacific Ocean. The scientists that believe that the planet came from the sun agree that as cooling took place the thin outer crust solidified and then wrinkled, while the center remained hot and molten. There ensued a period of volcanoes and almost continual earthquakes. The hot rock crust became surrounded by a dense atmosphere of many gases. Eventually, as the earth gradually lost its heat, the water vapor in the atmosphere condensed and slowly fell as droplets of scalding rain, only to be immediately vaporized. For long ages dense clouds completely obscured the sun; the earth was in constant, complete darkness. The cooling process finally permitted continuous raining on the surface and rain to settle on the earth until the planet was essentially covered. As cooling and condensation continued the clouds finally became thinner and a dim gray light permeated. After an age-long night, darkness finally gave way to a dreary dusky day. The rains kept up intermittently until one day the winds blew the clouds apart and the sun shone on a barren world, one largely covered with water, with mountain peaks spotting the surface and frequently volcanoes adding their eerie effect. Additional ages were required for the earth to become suitable for life implantation.

This is in good agreement with the Urantia Book summary.

Various methods are used by scientists to measure geologic time and history:

1. Deposition - mostly of sedimentary rocks.
2. Erosion - by wind and water.
3. Salinity - by noting the rate that rivers carry salt into oceans and assuming the oceans were originally fresh water, the age of the earth can be established.
4. Radio-active isotopes - the Urantia Book tells us that the radium clock is the most reliable timepiece for making scientific estimates of the age of the planet, but suggest that our estimates will be too short because the radioactive materials open to our scrutiny are all derived from the earth's surface and hence represent Urantia's comparatively recent acquirements of these elements. The book also tells us that these radio-active elements will reveal that Urantia is more than one billion years old.

Estimates of the age of the earth range from 1 billion to 4 billion years. The Urantia Book tells us that the Angona system approached our sun about $4\frac{1}{2}$ billion years ago and that our solar system was well formed by about $3\frac{1}{2}$ billion years ago, and placed upon the physical registry of Nebadon about 3 million years ago. Our planet had attained approximately 's present size about 1 billion years ago. and

was placed upon the physical registry of Nebadon and given the name Urantia at that time. This is considered the date of the actual beginning of Urantia history.

The Urantia Book in relating our geologic history connects the names given by the writers of eras, periods, and epochs to the names given by our geologists.

Eras: Archeozoic, Proterozoic, Paleozoic, Mesozoic, Cenozoic (Paleozoic)

Periods: Pre Cambrian
Cambrian, Ordovician, Silurian, Devonian, Carboniferous, Permian (Paleozoic)
Triassic, Jurassic, Cretaceous (Mesozoic)
Lower Tertiary, Upper Tertiary, Quaternary (Cenozoic)

Epochs: Paleocene, Eocene, Oligocene, Miocene, Pliocene, Pleistocene,
Recent (Quaternary)

The time chart of the Urantia Book begins with 1 billion years ago, when they consider Urantia history began. Some of our geologists extend their time charts farther back than 1 billion years ago.

There are differences between the Urantia Book's geologic story and that of our scientists, but the agreement is quite striking, and realizing that human beings were not present as were the Life Carriers, I believe it is a credit to our scientists that they have been able to derive the information they have. As the Urantia Book states:

"All of this story is graphically told within the fossil pages of the vast 'stone book' of world record. And the pages of this gigantic biogeologic record unfailingly tell the truth if you but acquire skill in their interpretation."

BIOLOGY

Finally we come to biology, the study of life. First, a brief description of the distinction between living things and non-living things:

Living things

1. Contain protoplasm.
2. Have definite general forms and sizes.
3. Have definite life spans. (Beginning, growth, maturity, death)
4. Maintain constant activity. (When activity ceases life ceases.)
5. Have a critical relationship with environment.

6. Struggle for survival.
7. Can accomplish adaptation.
8. Must reproduce.

Non-living things have none of these characteristics.

Biologists have during the last several centuries accumulated a multitude of facts about life processes, but more especially in the last several decades has the progress exceeded all that has gone on before. There is considerable agreement between the ideas of biologists and the story of the Urantia Book. The evolutionary scheme, the sequences of biologic evolution, given by each, run comparatively parallel. Information concerning physiology given by the Life Carriers is quite meager. I believe this suggests that we are approaching discoveries that will represent a break-through to a solution of many problems.

Several important discoveries in the past few years include the following:

1. Control of many contagious diseases by vaccines and antibiotics, such as smallpox, polio, and whooping cough.
2. Transplants of organs or substitution of artificial organs.
3. New surgical methods.
4. Recognition of the problems of pollution and over-population.
5. The discovery of the DNA molecule which is the basic genetic code carrier, Much more needs to be learned, but the information already derived may show some of the rules that apply to inherited qualities. This molecule - an almost infinitesimal particle - contains determining instructions as to the characteristics of an individual that would fill dozens of volumes of large books.
6. Another discovery is the virus which possibly competes with the DNA within the cell. We can be encouraged in knowing that the problem has been identified if not completely solved.

For the control of disease it will be necessary for our scientists to make those discoveries that will eventually accomplish what the biologic uplift of Adam and Eve were intended to do. Some results have been achieved. The average length of life has increased appreciably during this century. I believe we are on the verge of significant discoveries and developments. Much must still be attained, but if the momentum of the last two decades continues the future should be bright with life saving accomplishments. It is clear that it is our problem. We cannot expect a new revelation to help us in these matters.

In conclusion, just a few words from the Urantia Book, wherein a Mighty Messenger summarizes ideas about energy and life:

*"The creation of energy and the bestowal of life are the prerogatives of the Universal Father and his associate Creator personalities. The river of energy and life is a continuous outpouring from the Deities, the universal and united stream of Paradise force going forth to all space. This divine energy pervades all creation. The force organizers initiate those changes and institute those modifications of space-force which eventuate in energy; the power directors transmute energy into matter; thus the material worlds are born. The Life Carriers initiate those processes in dead matter which we call life, material life. The Morontia Power Supervisors likewise perform throughout the transition realms between the material and the spiritual worlds. The higher spirit Creators inaugurate similar processes in divine forms of energy, and there ensue the higher spirit forms of intelligent life." (p. 468)

But then they go farther. Again, a Mighty Messenger, who, you remember, lived a life on an evolutionary planet, which must have been in many respects similar to our experiences here, brings this whole concept right down to each one of us in several of those all-embracing, conclusive, personal, and inspiring statements in which each word is significant and needs to be emphasized - a gem in a book of gems.

*"The Universal Father has poured out himself, as it were, to make all creation rich in personality possession and potential spiritual attainment. God has given us himself that we may be like him, and he has reserved for himself of power and glory only that which is necessary for the maintenance of those things for the love of which he has thus divested himself of all things else."

*"There is in the mind of God a plan which embraces every creature of all his vast domains, and this plan is an eternal purpose of boundless opportunity, unlimited progress, and endless life. And the infinite treasures of such a matchless career are yours for the striving!

*"The goal of eternity is ahead! The adventure of divinity attainment lies before you! The race for perfection is on! whosoever will may enter, and certain victory will crown the efforts of every human being who will run the race of faith and trust, depending every step of the way on the leading of the indwelling Adjuster and on the guidance of that good spirit of the Universe Son, which so freely has been poured out upon all flesh.

*"(Presented by a Mighty Messenger temporarily attached to the Supreme Council of Nebadon and assigned to this mission by Gabriel of Salvington.)" (p. 365)