

Origins of Life, Mysteries and Certainties

Lesson 2: Wednesday, October 19, 2005

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By now you know that this course is attempting what may seem impossible. You may have never in your life been confronted with anything as presumptuous as the idea of finding overall meaning in the latest scientific information about our planet and finding it in complete harmony with the Bible.

Of course, this is all in the realm not of absolute faith but of sanctified imagination. But the exciting thing is that it just might be true. If the Bible does not really say something, we do not defend it well if we insist that it says things which are contrary to what would appear to be scientific fact.

The most recent estimate I have heard is that the universe burst into existence 13.7 billion years ago, and after expanding for 9.2 billion years, the planet earth came into existence 4.5 billion years ago. Less certain is the idea that the first glimmers of life appeared on earth 4 billion years ago. This estimate is much less likely to be precise, since tiny forms of life do not leave behind bones or shells.

Mystery 1: Matter

In any case it is a deep mystery how the universe, our galaxy (one of billions of others), our solar system, and our planet came into existence. All of this, existing previous to the appearance of life, is a huge mysterious bundle of what has been called matter, forces, and radiation.

What has been called matter is what are called "molecules" which in turn are structured composites of smaller entities called "atoms," which in turn appear to be something like tiny little solar systems, that is, each with a nucleus whirled about by a number of electrons equal in number to the protons in the nucleus. But even the nucleus of an atom contains almost unimaginably complex realities with protons and neutrons passing quarks between them etc.. These atoms themselves have been arranged in a number of different ways each called a "Periodic Table of the Elements," in orderly manner from the very smallest, hydrogen with one whirling electron, Helium with two, Lithium with three, Aluminum with 13, Oxygen, for example, has 16 in now more than one orbit layer, Lead has 82, Uranium has 92, etc..

Most of these atoms don't exist in isolation

but, as I say, in structured clusters, thousands of them forming rocks, crystals, snow flakes, water, air, etc. This entire reality is called the "inorganic universe." Its astoundingly intricate and tiny structures constitute mystery number one.

Mystery 2: Life

A very puzzling thing is a second mysterious reality called life, which has thus far been discovered only on our planet. This entire equally complex phenomenon is actually a play on a single atom, carbon. All forms of life consist of elaborations and combinations which include the atom carbon.

Size is important. If a virus were the size of a baseball, a bacterium would be the size of the pitcher's mound, a cell would be the size of the entire baseball diamond and a parasite might be as large as the entire city. However, even the smallest of these four, the virus, often is built up of as many as ten million atoms.

The comparatively large and enormous more complex cell is still so small that you could put 200,000 cells on top of the period at the end of a sentence and still not quite cover it up. On the other hand the very small virus still may contain strands of DNA which it injects after attacking a cell.

As small as cells are (200,000 on top of a period), each contains in its nucleus a DNA molecule that consists of a double helix structure that is both complex and beautiful and both long and thin. Every cell on top of that period contains deep down in its nucleus a DNA molecule that if stretched out would be five feet long, and yet is so slender that it can be folded, coiled up and compacted into the nucleus of a cell.

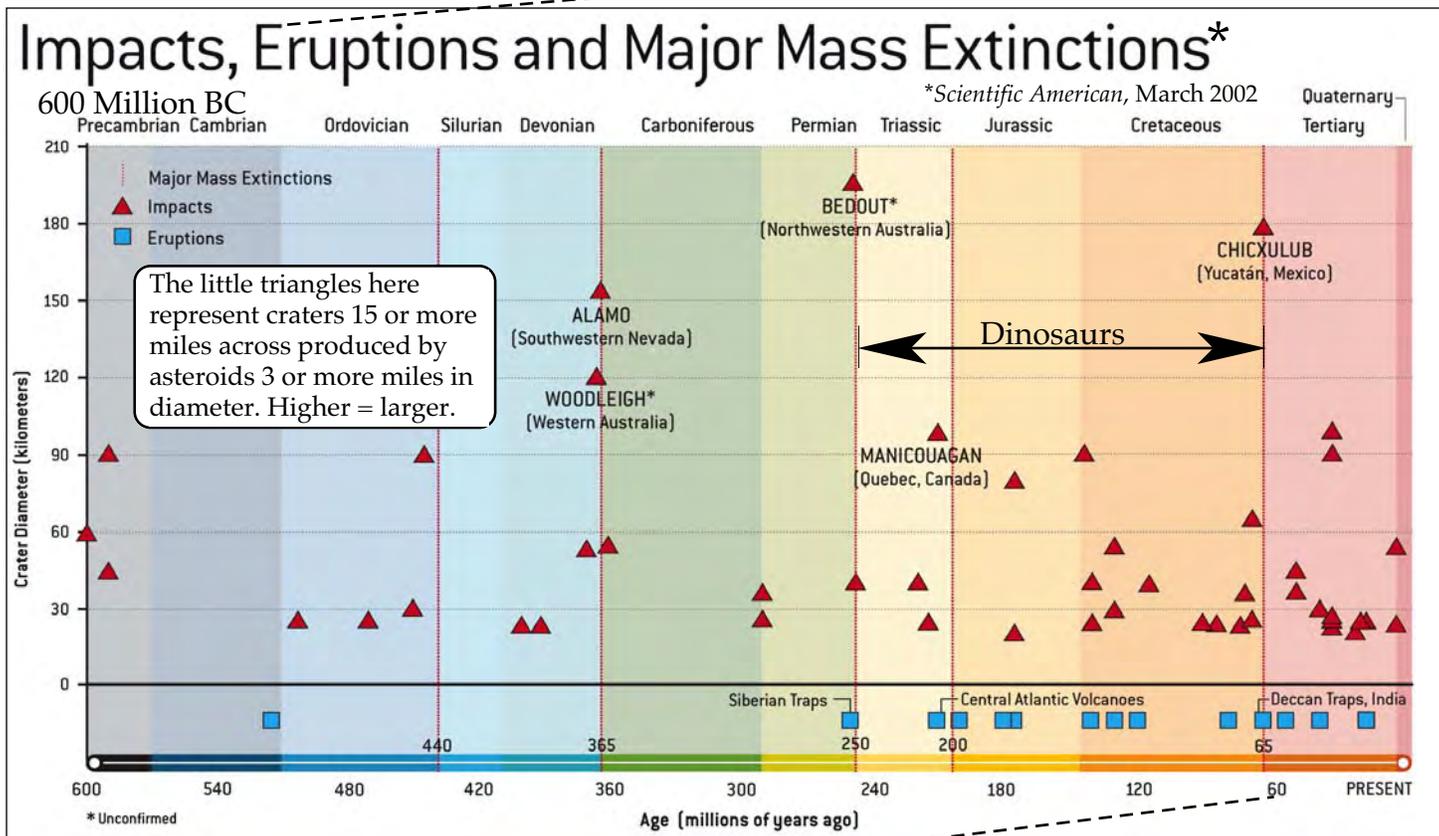
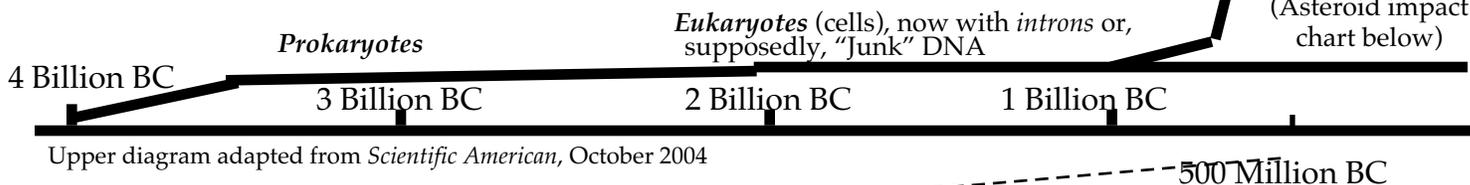
Viruses, note, are cleverly destructive. They are something like bombs which attach themselves to cells, jamming pieces of DNA inside which mass produce more viruses of the same type until the cell bursts and dies. Not all but some bacteria are destructive. Parasites are by definition destructive and are so large that their intelligence is enormous. The Hair Worm, for example, burrows into a grasshopper, devours everything but the minimum necessary ability to hop. At the end creates proteins that mimic the grasshopper's brain cells, which in turn induce the grasshopper to jump into water

Cambrian Explosion

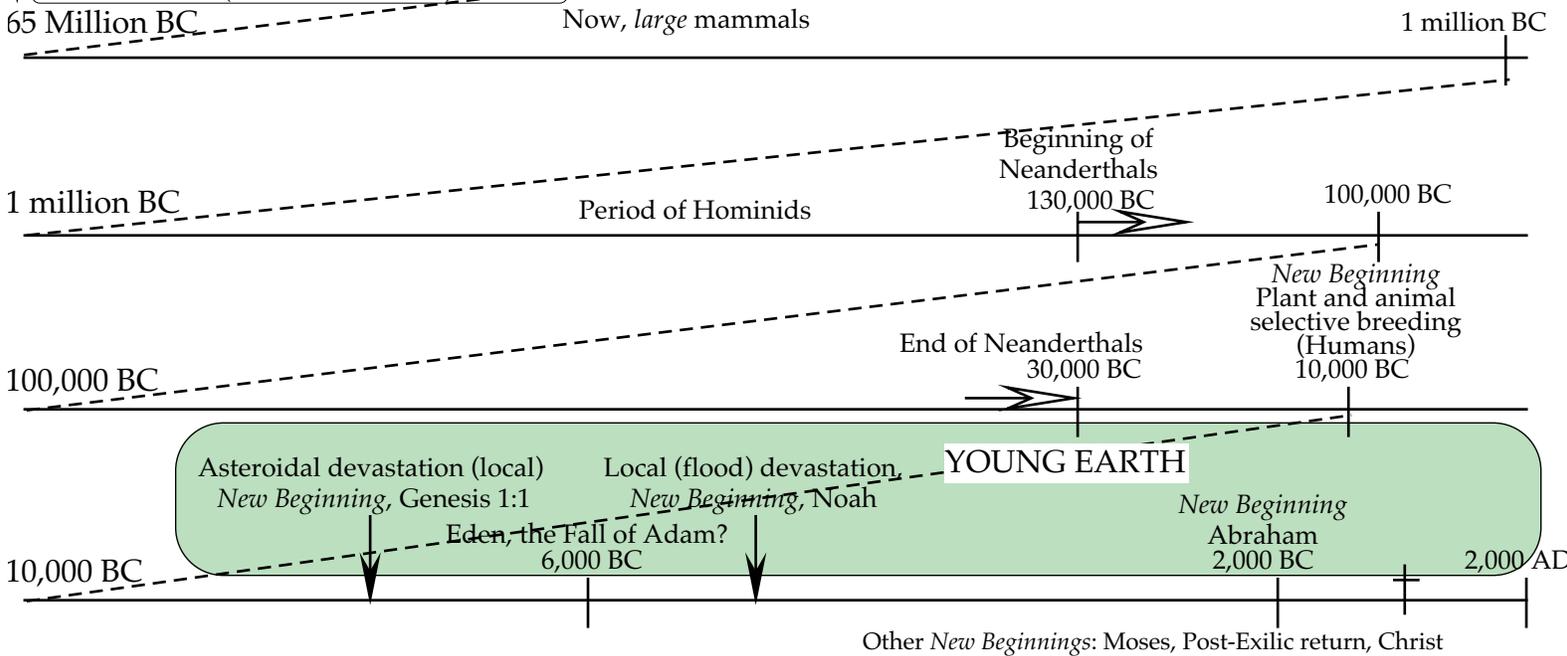
New Period of
Predatory Life

Fall of Satan?

The Enigma of Life



New Beginning: Dinosaurs killed off by Yucatan, Mexico asteroid (100 mile wide crater)



where it dies and the Hair Worm swims away to breed. It is very hard to believe anything as intelligent as this could have fallen together as the result of random mutations. It is equally clear that we are dealing with intelligence that is evil not just good intelligence.

Mystery 3: The Cambrian Explosion and Satan's Fall

If life is the second mystery, in the process of describing it we have already touched on the third mystery, the mystery of destructive life. This first appears at the time of what is in itself mysterious - the Cambrian Explosion. Not only a vast new profusion of life rather suddenly appears, but cruelty and suffering, and the cruelty does not stop. Violence and distortion of the good in nature continues to this day. We all know about the so-called "old bones" being dug up in the last two centuries. Most of these forms of life are prey or predator or both. The period of this violence has reigned for the last 500 million years.

It is worth noting that the Cambrian Explosion is all the more credible because the scientists who have accepted it have done so despite the fact that it would seem to be so very contrary to the gradualism necessary to classical Darwinism.

It is from within this last period (since the mysterious Cambrian Explosion took place) that the vast majority of fossilized life has been unearthed. For example, in the latter half of this period the dinosaurs existed for 100 million years. Since their disappearance about 65 million years ago, mammals have come into their own, and of course humans have appeared very very recently. The chart on the next page indicates some of this.

Addressing the Puzzle

It is clear that few things have been as fascinating, and at the same time as endlessly puzzling, as the results of human inquiry into the distant past. Today, even children are often as well-acquainted with the distant past of dinosaurs as I was familiar in my childhood with the ABCs and with Columbus sailing the ocean blue.

When I say "distant past" I could mean the really distant past, starting with the origin of the universe, the birth of our planet, and the beginnings of life. For our purposes here I will rather focus on just the very end of the last half billion years (e.g. 500 million years) which is

the period leading up to the origin of the human species and to what would appear to be the the Fourth Mystery, the relatively recent events of Genesis 1.

Mystery 4: Human Life

While life is thought to have been under development for a total of four billion years, the vast majority of all fossil discoveries, as mentioned, derive from just the last 500 million years, following the Cambrian Explosion. Note that if the whole 4 billion-year period of the development of life is compared to a 24-hour day, the last 500 million years since the Cambrian Explosion is one eighth, or a three-hour period, while the human period is something like the last quarter of a second. Even if the last 500 million years is compared to 24 hours, the human period is still only the last 2 seconds.

Interestingly, far more bones and shells have been uncovered in the past 20 years than perhaps in all previous history. In fact, digging up bones and ancient artifacts has become a global activity of scholars, accompanied by looters and falsifiers.

Cave drawings and arrowheads tell us a great deal about how very intelligent some earlier forms of life were. We are well acquainted, for example, with the capabilities of the Neanderthals, who are nevertheless today confirmed as prehuman due to recent DNA testing.

The appearance of humans

However, nothing accomplished by earlier forms of life is as impressive as evidences beginning about 11,000 years ago of deliberate, determined, patient, intelligent selective breeding of both plants and animals.

Worldwide, today, what we usually eat without appropriate gratitude - rice, corn, wheat, potatoes, etc. - are plants which give mute witness to the fact that thousands of years ago some highly intelligent forms of life - apparently of unique intelligence - worked for lengthy periods of time to achieve very extensive genetic modification of plants that were virtually inedible to begin with, but which are now quite friendly to humans.

Also about 11,000 years ago, these same uniquely intelligent forms of life began carefully and skillfully breeding wolves into the 235 different species of dogs which today in

multiple ways are close friends and benefactors of human beings.

Some scholars today feel that the appearance of this kind of radically superior intelligence is more significant in determining the first appearance of true humans than the study of fossil bones. Thus, I want to suggest for discussion two ideas: 1) that the time when humans first appeared can be detected from the first evidence of the intelligence necessary for the genetic alteration of plants and animals, and 2) that all of this may all have occurred before Adam.

Mystery 5: Eden, A New Beginning and Adam's Fall?

Not widely understood as yet is the possibility that only about six thousand years ago some of these very intelligent human beings in various parts of the earth may have heard an enormous "boom" from an impacting asteroid from outer space. That incredible impact would have been enormous enough to have blotted out all life in one region and but merely a huge "boom" of sound passing humans elsewhere at the speed of sound - 600 miles per hour - leaving only a fleeting impression. What would have happened next is the almost immediate appearance of dust in the atmosphere producing a shroud of thick and total darkness holding the entire earth in its grip, something humans living in whatever part of the globe would not as easily forget, even if they lived too far away to hear the initial boom.

It would then take time for this dark encompassing cloud of thick dust to settle. First it would thin out enough for light to come through dimly - just enough to tell day from night. The light would then get brighter as time went on. Finally, the sun and the moon and later the stars would become visible again.

I hasten to add that this is all supposition. However, if truly modern, highly intelligent humans did first appear 11,000 years ago, and if some time after that a sizable asteroid did hit our planet, it would certainly seem possible that surviving human beings passed down an oral tradition about that event or at least the sequence of events in its aftermath.

What about asteroids?

Before thinking further about the possibility of oral tradition of this kind, it may be helpful to explain the background of my supposition

that a major asteroidal collision could have occurred fairly recently in our planetary history.

The story, surprisingly, begins with our landing on the moon. When that happened, all of a sudden all those visible pock marks on the surface of the moon - which had always been assumed to be *volcanic* craters - turned out to be *impact* craters! Absolutely stunned, geologists began a mad scramble to track down evidences of similar impacts on the earth, which, of course, are far more difficult to find on earth due to the erosion of wind and rain completely absent on the moon.

Fast forward 30 years, and we are now offered credible evidence of thousands of asteroidal impacts on the earth, both large and small. The vast majority are small and, in fact, millions of small asteroids have fortunately burned up before hitting the earth. This is a process continuing unabated until today, their ashes settling down to earth at the rate of 40 tons a day.

Of special concern to our story is the fact that quite a few asteroids colliding with the earth have been large enough to gouge huge craters and devastate a much wider area of the earth miles away, maybe hundreds of miles beyond the crater itself. The evidence of one meteor that hit only 50,000 years ago in the arid, rainless desert in Arizona is still an awesome, gaping hole a breath-taking mile across and a quarter of a mile deep.

But, even if we ignore the thousands of smaller objects from outer space in the last 600 million years, those that created craters smaller than an enormous 15 miles across, a considerable number that size or larger have been found - 45 to be exact. Most of these larger asteroids have, in fact, created craters much larger than a diameter of 15 miles, and, consequently killed off far more life on earth. The largest crater so far discovered - in northwestern Australia - is 135 miles in diameter, and is estimated to have killed 97% of all life on the entire planet! A slightly smaller one, 65 million years ago created a crater only 100 miles across but is credited with killing off all dinosaurs.

Although none of these larger asteroids extinguished all of life, it seems evident that life on earth has had drastic ups and downs due to asteroids alone. In the case of virtually all asteroidal collisions of any great magnitude, a

familiar sequence would have unfolded as mentioned earlier: thick darkness, later, dim light half of the day, then, finally, rays of light from a directly observed sun.

Paleontologists have observed, interestingly, that the aftermath of such explosive “extinction events” has often been the occasion for the emergence of quite different forms of plant and animal life. For example, the huge impact that extinguished the entire spectrum of thousands of different forms of dinosaur life, was followed by the era of mammals, when their size zoomed from two pounds or less to a ton or more.

The 45 largest asteroidal collisions thus far discovered are pegged at dates within the last 600,000 years, all at times prior to the human period, that is, before there were humans in existence to witness their effects and create oral tradition about them. Thus, we have only the remnants of those earlier craters to observe.

Record of a recent collision?

However, as hinted earlier, should there have been a smaller collision relatively recently, after humans appeared on the scene, that is, in the last 11,000 years, would we not expect intelligent humans living far enough away to survive to include a recollection of such an event in their oral tradition?

Let’s look into this. In the Post-Moon-landing era in which we now live, it certainly has come to seem possible that the collision of a fairly recent asteroid might have wiped out a large, regional sector of human life - such as the area of the Fertile Crescent - and that surviving humans outside that area could have noticed the sequence of events without understanding exactly what had happened. They might have only observed the thick darkness, the dim but increasing light, the final appearance of the Sun, Moon, and then the stars. Could such recollections have passed in oral tradition down to Egyptian scholars, and to Moses? And, does the sequence of events described in the first chapter of Genesis describe the same thing?

If Genesis 1 describes such a train of events, then it would not be necessary to require that the humans who created the Genesis narrative were speaking of cosmological events only understood much later in the human story. Rather, logically, it would be that Genesis 1:1 describes not the *initial creation* of the entire universe, but describes a much more recent *new*

beginning, in merely a region of the earth (the “known world” of the people of that time). If that happened, would not the next thing be the repopulation of animal and human life in that region? To accept such a supposition would instantly require certain radical adjustments of popular exegesis, because it would mean the first few chapters of Genesis were entirely local events.

What adjustments? First, the Gen. 1:1 phrase, “In the beginning God” would have to be translatable as, “At the time God began.” Second, the Hebrew word “bara” would have to be able to mean “recreate” not just “create” (and definitely not “create out of nothing”). Thirdly, the familiar phrase, “formless and void” from the Hebrew phrase *tohu wabohu* would have to mean something like “destroyed and desolate.” The single sentence in Hebrew running through Gen. 1:1, and 1:2, would then come out something like, “Things were really destroyed and desolate when God began to recreate ...”

Even more obvious would be the need to understand the whole of early Genesis as talking about universally significant, yet geographically local, events. This would include a local flood. Even the table of nations in Genesis 11 would have to refer to predominantly Middle Eastern peoples, not Chinese, East Indians, or Eskimos.

Furthermore, it would be helpful if we knew that at least some Biblical scholars have recognized all of these possibilities, and it would be nice to discover that these ideas were more widely held some years ago.

Finally, since today the most avid supporters of a world only six thousand years old are an outspoken group of conservative Evangelicals, it is relevant to note that Merrill F. Unger, a conservative and respected Dallas Theological Seminary professor in his very widely used *Unger’s Bible Handbook*, published by the press at the Moody Bible Institute, cites (without criticism) scholars who speak of pre-Gen. 1:1 events. He says,

Some scholars prefer to envision a relative beginning [in Gen. 1:1], allowing events such as Satan’s fall and the geological ages of the earth to precede 1:1.

Unger also indicates that the geologic ages can’t be wedged between 1:1 and 1:2, “To place a gap in 1:2 is untenable by the Hebrew text ...”

He adds,

If a gap [to make room for long ages of the earth] exists it must occur before 1:1 rather than after it. Gen. 1:1-2 appear as a unit ... although the gap theory framework seems to be declining in support, it does commend itself as a potential explanation for the fall of Satan and the findings of modern science that suggest long geological ages of earth's prehistory.

In view of these comments, I feel emboldened to suggest that there is no insurmountable exegetical obstacle to the suppositions I have mentioned for the understanding of the text. In fact we should perhaps feel ashamed that many of us have tried for so long to force the Genesis literary record describe the origin of a universe and a planet totally unknown at the time of its writing or oral formulation.

Those who might oppose this view - the so-called "Young Earth" party - are highly visible within the homeschooling movement. Their view of an earth only 6,000 years old has derived (as Ronald Numbers has pointed out) in the last seventy years from the emergence within Evangelicalism of a once mainly Seventh-Day Adventist understanding of Genesis. This relatively recent accrual from Adventism is not strengthened by the fact that as long ago as 1910, Scofield clearly presented the idea of the vast geologic ages occurring prior to the six days of Genesis 1 (in a "gap" prior to verse 2). This was when the *Scofield Reference Bible* was becoming more widely used than any study Bible since. Scofield, furthermore was backed by a list of prominent scholars on his title page.

Followers of the "Young Earth" perspective can at least take comfort in the fact that the interpretation I have described here does not conflict with, but would tend to substantiate, a recent, not very ancient, understanding of the events of Genesis.

The Ominous Presence of Evil

This entire scenario, however, simply lays the groundwork for an element in the story that is highly crucial to our concept of mission. Note the striking contrast between the type of animal life being uncovered by the paleontologists during "the vast geologic ages" and the distinctly noncarnivorous kind described in Genesis 1:29-30. By contrast, the thousands of creatures whose bones are being dug up from earlier earth history are for the most part outrageously vicious. This same viciousness is

also seen in the pervasive cannibalism of virtually all early evidences of humanity.

Curious and highly significant, life-destroying forms of life, we are told by paleontologists today, first appeared suddenly at the time of the enigmatic "Cambrian Explosion," an epoch thought to be about 550 million years ago. While that may seem very distant, the very first appearance of life is supposed to have occurred much earlier - 4 billion years ago, that is, eight times earlier. For most of that very distant past life forms were too small to have left fossil records. But even prior to the Cambrian period there are evidences of animal life that was radially symmetrical, like starfish, and bi-polar forms of life with a front and a back and four legs. However, begging for interpretation is the fact that these pre-Cambrian forms of life did not possess protective shells or quills, nor the kind of sharp teeth characteristic of predatory life. Here is a theological question: at this point seven-eighths of the way along in the development of life, when predatory forms of life first appeared, *did some of the intermediate beings rebel and begin to distort nature? Is this what would be meant by Satan "falling?"*

In any case, as noted, what we see recreated in Genesis 1 is clearly stated to be non-carnivorous. Even Adam and Eve are described as non-carnivorous. Those who hold to the idea that the animal life appearing in Genesis 1 must be the same as the kinds of animal life reflected by thousands of fossils will find that thought difficult to maintain - for that would mean that all of these incredibly old, violent bones would have had to appear after Adam, been distorted as a result of his fall rather than Satan's earlier fall, thus all that enormous complexity appearing very recently, that is, within just the brief period of human life on earth.

In summary, in case Genesis 1 is an eye-witness account of conditions of the earth following a massive but regional asteroidal collision, the oral history of this would have had to derive from unaffected humans outside the area. Furthermore, the new variety of both animal and human life created as described in Genesis would have to be recognized as significantly different. Adam, we are told, is a human distinctively created "in the image of God" which could at least mean "as God intended," that is, for example, non-carnivorous. It is not until later in Genesis

that Adam's lineage is described as reverting to carnivorous behavior, following his fall and the breakdown of the Edenic New Beginning - a reversion logically hastened by interbreeding with the previously distorted and depraved forms of human life living elsewhere on the planet.

In any case, the clear implication is that the rampant, destructive violence observable all throughout nature was a perversion of God's original intent and design. Eden, in that light, would then have been a New Beginning which was a re-creation of that revealed original intent, just as Isaiah 11 describes the lion lying down with the lamb in the ultimate triumph of God's intent - once again in the form of non-carnivorous and non-violent life.

The Question of the Process of Creation

Now that we have plunged into the concept of God "creating" or "recreating" life, a small digression may be in order. The paleontologists are telling us that the development life on earth took an exceedingly long time. On the one hand, the enormous, sudden changes at the time of the Cambrian Explosion do not readily correspond to the gradual process envisioned by Darwin. But, neither does this sort of lengthy process seem to be what you would expect of what some people think of as an infinitely wise and powerful wand-waving Supreme Deity - unless, for example, that Supreme Being was working through finite intermediate beings in a lengthy learning process. But, are there intermediate beings? If there are, it would seem quite reasonable for finite beings to have been involved in a lengthy learning curve, and with the achievement of cellular development and the consequent potential for large animals one of the key leaders decided to sabotage creation.

Interestingly, the evolution of the American automobile throughout the twentieth century may be somewhat parallel. We see mostly continuity all along from model to model, although, for example, at one point most cars got smaller. At another point some cars appeared with engines in the back. More recently, SUVs loomed into the picture, etc.. *At every point along the way, the changes that took place were due, however, not to random mutations but to the meticulous involvement of thousands of intelligent engineers.* The obviously necessary role of those human engineers could, it would seem, be parallel to the role of intermediate

beings in the evolution of life forms.

One question may come up. If loyal angels took millions of years to develop life (all along under God's instruction) how then could the various forms of life mentioned in Genesis 1 be re-created in six days, even if those periods of time were longer than 24 hours?

To me this would be like assuming that since swarms of highly intelligent automotive engineers took an entire century to go from a Model T to a Lincoln Continental they surely could not put out a new model in just one year. Thus, obviously, if loyal intermediate beings (angels) had been steadily learning about genetics, developing a variety of life forms over a very long period, they would certainly have had no problem in re-creating noncarnivorous life forms.

In other words there does not seem to be any stubborn obstacle to understanding Genesis to harmonize with scientific investigations and to accepting a version of the both so-called "Old earth" scenario as well as the "Young earth" concept.

An intelligent counterforce?

The lack of conflict with the concept of an old earth is one value of understanding the great ages of the earth as coming before Genesis 1:1. Another value, that to me is even more important, is the significance of recognizing the full extent of the distortion of nature by an active, intelligent counterforce, and the need for those defending God's glory today to deal seriously with the continuous and now contemporary worldwide assault by the microbiological world on both animal and human life.

This kind of recognition, this apparently belated insight, would seem to be essential to any truly serious mobilization of believers to fight back against the origins of disease. This defines a larger concept of mission and is my primary concern.

Unless and until that recognition is more widespread, we are confined and restricted to a "gospel" which concentrates almost solely on individuals gaining assurance about getting into the next world and merely staying out of trouble until then. In this common understanding of the Christian life there is no war going on. Worse still, many thinking people are honestly wondering how a loving and all-powerful God can both create, and put

up with or condone the pervasive violence and suffering and sickness in this world. Is God expecting our help?

In any case, the puzzle which both theologians and scientists face regarding the specific process of the creation of life is made drastically more complicated, as I say, by this additional and strange factor, namely, the evidence of a counterforce to whatever might seem to be beautiful and good. One of the least mentioned and yet unavoidable characteristics of nature is the absolutely pervasive evidence of a counterforce distorting, degrading, and destroying all that is good, pitting animal against animal and human against human, and in addition pulling down all forms of animal and human life by means of deadly viruses, bacteria, and ominously clever parasites.

Curiously, those who commendably urge the recognition of Intelligent Design in nature do not seem to notice that such recognition creates a new problem: that of people assuming that violence in nature is due to the work of God rather than Satan. By contrast, Darwin pondered the strangeness of an omnipotent God of love and the apparently gratuitous death of his little niece, the premature death of his father, and the rampant violence and suffering throughout nature. His resulting proposal of a purely natural, and random evolution was in one sense his method of absolving God of blame for the evident evil in nature. It might have been easier had he seriously considered the existence of the factor of intelligent evil opposition to God. Intelligent Design people need to recognize the existence of both good and evil design or they malign God the Creator.

We can plainly see this virulent evil in the earliest remains of hominids, humanoids, or modern humans who perversely and pervasively portray homicidal behavior - the sort of thing bluntly described in Genesis. We also see evil in the omnipresent evidence of destructive disease. If divine intent is reflected in the re-creation that may be described in Genesis, as well as the final situation described in Isa. 6 and 11 (in which the lion will lie down with the lamb), we can readily recognize that nature-as-we-know-it is clearly not the way a loving, powerful divine being would have intended it.

However, if dangerous wolves can be altered genetically through selective breeding

over a lengthy period of time, so, you would think, could man-eating tigers. That procedure would seem to be better than either of the two main alternatives we have at present - either to "kill or cage." I have read that there are only 5,000 tigers remaining in the wild, while in the U.S. as temporary pets there are another 10,000. I say *temporary* because treating wolves or tigers in a friendly way does not change their DNA. Nor, apparently can either animals or humans become herbivorous just by being fed plant life.

The often overlooked genetic distortion that has already happened would seem clearly to be a more serious problem than can be coped with either through behavioral or nutritional modification. Patient, multigenerational selective breeding can make a difference but is a process which is clumsy compared to gene splicing. "Original sin" in this light could be what resulted from genetic distortion. This may be why despite "the power of the Gospel to transform lives" humans still have seemingly indelible inclinations to sin, as Paul testifies in Romans 7.

Mysteries 6 and 7

In later lessons we will take up the curious emergence of "high" civilizations which seem to be succeeded by less sophisticated civilizations, which is Mystery 6, and the most significant mystery of all, Mystery 7, which is what Paul called a mystery, the Abrahamic plan for the reconquest of all creation. That is essentially the story of the rest of the Bible and history beyond the Bible