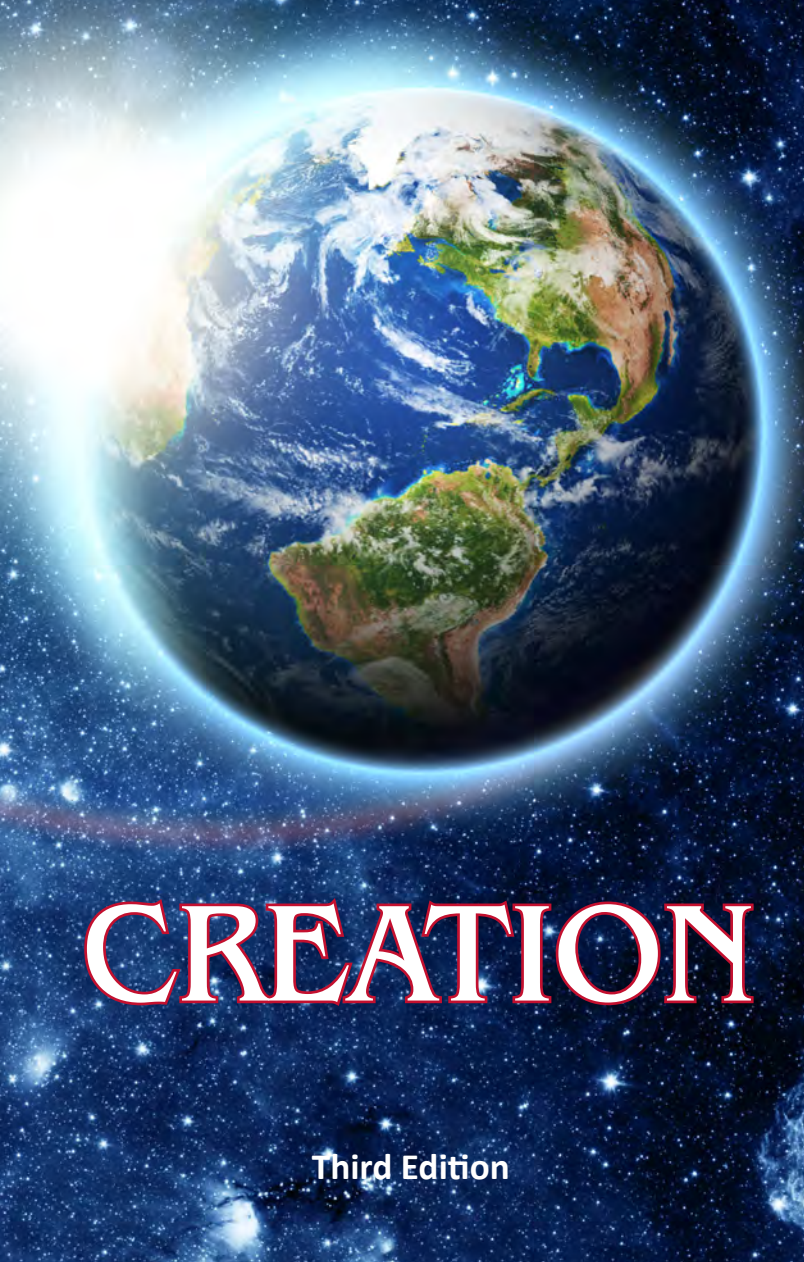
CREATION
Third Edition

Creation

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Introduction

We are pleased to present this, the **Third Edition** of "Creation."

The addition of Appendix Two offers remarkable further scientific evidence for the case against Darwin's Evolution of Man Theory, whilst confirming our faith in God's creation as described in Genesis.

Chapter 1

"Evening and Morning"

The Bible's approach to the subject of creation starts with the reasonable assumption that a Creator, an intelligent First Cause, already existed—"In the beginning God created the heaven and the earth." (Gen. 1:1; Ps. 90:2) While many scientists lack faith in the existence of a personal Creator, attributing all the creative works to the operation of natural law, there are many others who admit their inability to explain the operation of natural law except from the standpoint that back of it there is an intelligent Lawgiver. And many scientists today are freely admitting that the Darwinian theory of evolution has not been proven, hence should not be accepted as the answer to the problem of creation.

Dr. Michael J. Behe, a noted biochemist, says: [1]

> "The result of these cumulative efforts to investigate the cell—to investigate life at the molecular level—is a loud, clear, piercing cry of "design!" The result is so unambiguous and so significant that it must be ranked as one of the greatest achievements in the history of science."

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1 Michael J. Behe, "Darwin's Black Box, The Biochemical Challenge to Evolution;" New York: Simon and Schuster, 1996. (pp. 232-233.) The first elucidation of the principal of "irreducible complexity."

Prof. Rudolf Virchow, the world-famous German naturalist who first observed: "every cell arises from a [pre-existing] cell," had previously said:

> "The attempt to find the transition from the animal to man has ended in total failure. The middle link has not been found and never will be. Evolution is all nonsense. It cannot be proved by science that man descended from the ape or from any other animal."

Sir J. William Dawson, an eminent Canadian geologist, said:

> "The record of the rocks is decidedly against evolutionists, especially in the abrupt appearance of new forms under specific types, and without apparent predecessors … Paleontology furnishes no evidence as to the actual transformation of one species into another. No such case is certainly known. Nothing is known about the origin of man except what is told in Scripture."

A moment's reflection upon the immensity and grandeur of the universe should suffice to convince us that behind all this display of intelligence and power must be the design of a great Being who not only is the Creator, but One who is worthy of our reverence and worship as God. Well did the prophet write that only the foolish say in their hearts, "there is no God." (Ps. 14:1; 53:1) David wrote, "The heavens declare the glory of God; and the firmament [sky] showeth his handiwork. Day unto day uttereth speech, and night unto night showeth knowledge." (Ps. 19:1,2) Surely no truer statement of fact than this has ever been written!

An appreciation of the infinite power of the Creator, and of our littleness, should make us teachable. And how marvelously is the power of

God manifested in his creative works! Think for a moment of our own solar system, which is but an infinitesimally small part of the universe. We would stand appalled at the great power of the Creator did not the Scriptures assure us that he is as loving and kind as he is wise and powerful.

THE CREATIVE DAYS

The six days of creation outlined in the first chapter of Genesis are descriptive, not of the creation of the earth, but of its gradual preparation for vegetable and animal life. Genesis 1:2 explains that as originally created, it was "without form and void"—that is, its ultimate contour, as God designed it, had not been developed, and it was empty of all forms of life. There were neither mountains nor valleys, trees nor shrubs, rivers nor oceans, but the earth "was."

A recognition of the division made in Genesis between the creation of the earth, and its later preparation to be the home of man, eliminates all need for controversy between science and the Bible concerning the age of the earth, or of the length of time required for its creation.

It is a so-called fundamentalist viewpoint of Genesis which is in sharp conflict with the established facts of the sciences. This viewpoint, briefly stated, is that approximately six thousand years ago the sun, moon, and stars, together with our own planet earth, were created in six approximately twenty-four hour days. Such a restricted interpretation can hardly be substantiated in the light of scientific observations today.

But this does not mean that the Bible itself, surveyed in the light of its own revealing testimony, is not scientifically correct. If science can

prove that millions of years elapsed during which this earth came into being as a shapeless, empty mass, well and good. The Scriptures neither deny nor affirm these guesses and estimates of various scientists, but state simply that, "in the beginning God created the heaven and the earth."

What is even more important for the student of God's Word to note is that the six days of Genesis (chapter one), during which the earth, already created, was undergoing stages of gradual preparation for human habitation, were evidently not short periods of twenty-four hours. They were, rather, epochs of time sufficiently long to permit the accomplishment of the work assigned to each.

In view of the wide scriptural use of the term "day," it seems odd anyone should insist that the creative days of Genesis must be only twenty-four hours in length. In fact, Genesis 2:4 refers to the entire creative period as one day.

The Bible speaks of "the day of temptation in the wilderness," which was forty years long. And would anyone claim the "day of salvation" is only twenty-four hours long? It prophesies the coming of the "day of God's wrath," a period of time at this end of the age in which the selfish kingdoms of this world are set aside, preparatory to the establishment of Messiah's kingdom. The Bible also refers to the "day of judgment" which is to be a thousand years long. It will be during this thousand years that Christ will reign over the earth to bestow God's promised blessing of life upon a sin-sick and dying world.

Not only in the Bible, but outside of it as well, the term "day" often relates to a period of time longer than twenty-four hours. We speak, for example, of Napoleon's day, or Washington's day.

It is in this sense that the term is used in Genesis. That the creative days were not twenty-four hour periods, the length of which is controlled by the relationship of the earth to the sun, is apparent from the account that the sun was not made to rule [dominate] the day until the fourth creative epoch.

Another internal evidence substantiating the fact that the time divisions of Genesis, called days, were not twenty-four hour periods, is found in the description of what occurred during those days. Concerning the fifth day, for example, we read that God "created great whales [sea monsters], and every living creature that moveth, which the waters brought forth abundantly, after their kind, and every winged fowl after his kind: and God saw that it was good."—Gen. 1:21

It should be observed that the fish and fowl were not merely created during the fifth day, in order to bring forth their own kind in later days, but rather, they were created and brought forth during that one "day." This language clearly indicates a lapse of time sufficient to permit the waters in a natural way to swarm with fish, and for a plentiful supply of birds to multiply. The development during the other days similarly indicate the passing of long periods of time.

The Genesis sequence of progress from one epoch to another harmonizes with the assumptions of geology, which indicate that there was an orderly progression in the appearance of plant and animal life. First came lichen and mosses, then grasses and herbs, while fossils of trees and other higher forms of vegetation are found for the first time in a stratum immediately above that in which feathered birds made their initial appearance.

Geological evidences reveal, even as the Bible states, that the first forms of animal life upon this planet were creeping sea creatures. Their remains are found in the lowest stratum, rare and fully preserved. In the Cambrian rock stratum next above are found fossils of trilobites and other shellfish in abundance. Immediately above this appear the fossils of fish of a very low order, without backbone or skeleton, but possessing fins which enabled them to swim.

Next in the layer above are found fish of a higher order—vertebrates with full skeletons—similar to many of the varieties with which we are familiar today. Above these are found amphibians—froglike or lizardlike creatures which were able to live both in the water and on the land. Then came reptiles, then birds, then mammals, and finally man, who was the crowning feature of God's earthly creation.

THE SCRIPTURAL OUTLINE

Genesis chapter 1 outlines the creation of the heavens (the universe) and the earth, then the preparation of the earth for man, and finally the creation of man.

IN THE BEGINNING

"In the beginning God created the heavens and the earth." (Gen. 1:1) So the heavens were evidently created before the earth. If the earth was not there before the origin of the universe, then it is straightforward to deduce that the earth is not the center of the universe. But not until Nicolaus Copernicus (1543) did man begin to recognize that the universe is not geocentric. With advances by Johannes Kepler (1609), Galileo Galilei (1610, 1632), and Isaac Newton (1687), gradually scientists, people,

universities, then governments, and eventually many theologians, began to accept that the earth is not the center of the universe[2], finally agreeing with the first words of the Bible.

"Thus saith the Lord, who stretcheth forth the heavens" (Zech. 12:1) is the ancient description of our expanding universe. Albert Einstein proposed the general theory of relativity late in 1915, and two years later added an arbitrary "cosmological constant" (Λ) to the equations in hopes of allowing for a static and infinite universe (i.e., no beginning and no expansion). Sir James Jeans (1929) proposed a continuous-creation steady-state model, also in order to avoid concluding there was a beginning. Willem deSitter (1931) proposed an oscillating-universe model, also seeking to avoid any ultimate beginning. However, careful measurements have subsequently revealed too little mass to cause the universe to collapse upon itself; also better measurements of the Hubble constant imply a finite positive value for the cosmological constant, but it is about 27% smaller than Einstein had postulated. The data are consistent only with an expanding universe.

Much of the past history of the universe (excluding early time and time from now on) may be approximated by the following solution to the equations of General Relativity (see Appendix 1),

$$R \approx (9GM/2)^{1/3} t^{2/3}, \quad \text{where } (9GM/2)^{1/3} \approx 2.5\times10^{11}\ km/sec^{2/3} \qquad (1)$$

and where

2 The works of Copernicus and Galileo remained under ban of the Roman church from 1633 until 1835. (It remains to determine whether the instigators of the ban were fearful clerics or jealous academics.)

R is the radius of the universe (km)

G is the universal gravitational constant (6.672×10^{-20} $km^3/kg\text{-}sec^2$)

M is the total gravitational mass of the universe ($\sim 5 \times 10^{52}$ kg)

t is the age of the universe (seconds)

At earliest times in the history of the universe the expansion velocity will always have been positive, although the time-dependence of its radius, R, will have been weaker than the $t^{2/3}$ dependence of Equation 1. Hence the "stretching" of the universe extrapolates back to a beginning—a creation event.[3] The creation event points back to a Creator —infinitely wise, and infinitely powerful.

THE CREATION DAYS

Before the creative epochs, "In the beginning God created the heaven and the earth." (Gen. 1:1) That is, the galaxies and stars were first formed, and then the earth was formed in orbit around a star—our Sun. As Isaiah 42:5 (*American Standard Version*) expresses it: "Thus saith God Jehovah, he that created the heavens, and stretched them forth; he that spread abroad the earth and that which cometh out of it; he that giveth breath unto the people upon it." Initially the Sun's light could not penetrate the watery atmosphere to reach the earth's surface. There remained work to be done to prepare the earth.

"Let there be light: and there was light." Thus, briefly, is summed up the result of the first creative day. This result was accomplished, the

3 In some detail, see Hugh Ross, "The Fingerprint of God," 2nd edn.; Orange, CA: Promise Publ., 1991.

Scriptures declare, by the Spirit of God moving upon the face of the waters. Thermonuclear fusion causes the Sun to radiate light. Light is a prime essential throughout nature, and, as should be expected, it was first in the divine order when the time came for the Creator to prepare the waste and empty earth for human habitation.

Earth's orbit is finely-balanced: A few percent farther from the Sun and the Earth would be eternally frozen like the outer planets; a few percent closer to the Sun and the oceans would not have condensed, resulting in a Venus-like deadly hothouse atmosphere. In the first creative epoch a race was on between the Sun's growing radiance and the increasing translucence of Earth's atmosphere. A great crisis for life was Earth's narrow escape from a runaway greenhouse effect that would have boiled off the oceans. The media call it "a lucky fluke;" the Christian calls it divinely-supervised providence.

At the beginning of this first creative epoch the temperature of the atmosphere must have been below 700°C, at which the atmosphere itself begins to be self-luminous. The thick water in the atmosphere (above the critical pressure) scattered and absorbed the incident sunlight until sufficient hydrogen had escaped; so that a diffuse light could reach the earth's surface. Likely archaebacteria were created to drive the ocean and atmospheric changes needed for life as we know it. Even today some of these bacteria thrive near undersea hydrothermal vents at high pressures and temperatures above 350°C (660°F), giving us some idea of how extreme conditions were for earliest life forms. But not yet could the source of light be seen clearly at the surface.

"And the evening and the morning were the first day." With these epoch days, the evening came first, which marked the beginning of a gradual accomplishment of the divine purpose, reaching its culmination at the end of the morning of that day, or epoch. This first period, or day, of Genesis is scientifically described as initially azoic, or lifeless.

The work of the second day (Gen. 1:6-8) was wholly devoted to the production of a more suitable atmosphere. At very high pressures and temperatures water has no sharp transition from liquid to gas, but only a smooth density gradient from dense to tenuous. Apparently during this epoch, hydrogen continued to escape into space until the atmosphere fell below the critical pressure and temperature of 220 atmospheres and 374°C. Thereafter there was an ocean of liquid water over the earth's surface, which was now clearly distinguishable from the water vapors and clouds up in the air. The Scriptures state that the "firmament," or atmosphere, or sky, which was then caused to surround the earth, separated waters which were above it from those below.

Metaphorically, the Sun had gone down upon the old conditions and come up to high noon on the new set of conditions. When the morning time of the second day ended, the divine intention respecting it was complete. The separation of the clouds and vapors above the earth from the surface waters by an atmosphere had been fully accomplished.

The work of the third creative day is described in Genesis 1:9-13. It was the dividing of land and water upon the earth, and the development of vegetation. Geology fully corroborates this record.

It points out to us that as the earth's crust cooled, the weight of the waters would tend to make it kink and buckle. Those parts being depressed became ocean beds, while those forced up by the buckling constituted mountain ranges. So here we apparently have the first statement of a single original continent, Pangea, and the theory of subsequent continental drift.

It is not necessary to assume that all changes of this kind occurred in the one epoch. It seems more reasonable to conclude that the third "day" simply witnessed the beginning of this work to a sufficient degree of progress to make possible the introduction of vegetation. Geology indicates that some changes in the earth's surface are of comparatively recent date. Still further changes may occur.

As the waters drained off into the seas in the Silurian period, vegetation sprang forth, each after its own kind, with seed in itself to reproduce its own species. This matter is so fixed by the laws of the Creator that although horticulture can and does do much to give variety, yet it cannot change the actual nature of species. The different families of vegetation will no more unite and blend than will the various animal families. This shows design, which can logically be accounted for only by acknowledging the existence of a supreme and intelligent Creator.

Geology agrees that vegetation preceded the higher forms of animal life, even as the Scriptures show. In this early period vegetation was extremely rank in growth. Mosses, ferns, and vines grew immensely larger and more rapidly than now, because the atmosphere was laden with carbonic and nitrogenous gases. Plants

which now grow only a few inches or a few feet high, even at the equator, then attained a growth of forty to eighty feet with a diameter sometimes of two feet or more, as is demonstrated by fossil remains. Vegetation needed to spread before the creation of animals that feed on it.

It was during this period, geologists claim, that our coal beds were formed. Plants and mosses, having a great affinity for carbon dioxide, stored up within themselves the carbon which formed coal, preparing thus our present coal deposits, while converting carbon dioxide to oxygen and purifying the atmosphere for the animal life of the later epoch days. These vast peat bogs and moss beds in turn were covered over by sand and clay, washed over them by further upheavals and depressions of the earth's surface. This procedure must have been repeated many times, for coal beds are found one above another with various strata of clay, sand, and limestone separating them. Thus the work of the third epoch day progressed. In geology, this era is styled the Carboniferous period.

SUN AND MOON APPEAR

"And God made two great lights; the greater light to rule the day, and the lesser light to rule the night: he made the stars also." (Gen. 1:16) It is unnecessary to suppose that the sun and the moon were created after our earth. We may as properly lay stress on the word "rule" in this passage as on the word "made." The thought is that God caused the sun to dominate the day, and the moon (whenever visible) to dominate the night. The sun and the moon existed long before this, but not until the waters above and below

the firmament were separated, and other changes had occurred in preparation for animate life upon the earth, could the light from the sun and the moon penetrate sufficiently to be individually distinguished. As hydrogen continued to escape into outer space, the atmosphere became more transparent, as pressure slid from 10 to 2 to 1.1 atmospheres, going from an unresolvable Sun, to a blurred red Sun and Moon, to fully visible Sun, Moon, and stars.

That the Bible does not attempt to give us further details is further evidence of divine overruling in its writing. God knew that the human mind would be utterly unable to grasp the scientific processes by which the sun, or, as a matter of fact, any other part of the universe, was actually made. Were the Genesis account of creation merely the guesses of an ambitious human, he could hardly have restrained himself from the urge to relate many details which would have no other foundation than his own imagination.

During the fifth epoch day of Genesis, fish (Lit.,"swarming creatures, living soul[s]"; not necessarily only fish) and birds were created. (Gen. 1:20-23) The extent to which warm oceans at that time swarmed with living creatures, from the jellyfish to the whale, may be judged by the profusion of life in the warm southern seas of the present time. Reptiles and amphibians, living partly in the water and partly on the land, are also found in this Mesozoic Era.

There may well have been an overlapping of the fourth epoch work into the fifth day, when continents and islands were gradually rising and subsiding. This would account for the remains of shellfish now found in the highest mountains. The

immense beds of limestone in all parts of the earth are sometimes called "shellfish cemeteries," because they are composed almost exclusively of conglomerate shells.

In this connection it may be noted, for whatever significance may be attached to it, that the Bible does not assert whether God created separately and individually all the myriad kinds of fish and reptiles. Divine energy, called the Spirit of God, brooded over the waters, and they brought forth living creatures according to God's design. The processes are not declared—might one species, under divinely arranged conditions, have developed into another? Or, from the same original protoplasm, might different orders of creatures have developed according to varying circumstances? From the scriptures alone no one could really know, so it would be unwise to be dogmatic on this point. It is not for us to dispute from the Bible that even the protoplasm of the Paleozoic slime might not have come into existence through chemical action of the highly mineralized waters of those seas. But, however silent the scriptures may be on the question, current cellular biology and sequencing of DNA cast serious doubt upon such speculations.

What we do hold is that all came about as a result of divine intention and arrangement, hence that all the various forms of life were created by God, whatever may have been the channels and agencies used. We claim further, on the authority of God's Word, and verified by all scientific tests, that when the Creator's intention concerning each species had been reached, no further change was possible. In all ages since, no changes in species of either plant or animal life have ever been produced (despite great human effort).

MAN CREATED

The sixth creative day spans the Cenozoic Era during which the higher forms of the brute creation were brought forth, and at its very close man was created. (Gen. 1:24-31) But the possibility that random chance produced even one planet which could sustain intelligent life was virtually nil.[4] Sir Fred Hoyle concedes: "A superintellect has monkeyed with physics, as well as with chemistry and biology." The whole universe has been extremely fine-tuned to make possible human life on Earth. By the end of the fifth creative epoch the Earth was ready for changes to receive and sustain higher forms of life.

By the beginning, or evening, of the sixth day, conditions on the earth were becoming more

4 In 2001 Dr. Hugh Ross, in "The Creator and the Cosmos" estimated for 50 parameters of galaxies, stars, and the solar system, plus about 78 more for Earth alone, a combined chance to sustain intelligent life of only one in 10^{144}, if there are as many as 10^{22} planets. By 2003 he had added 74 more essential parameters, including twenty physical constants, to reduce the chance to less than one in 10^{217}. By contrast, there are somewhat less than 10^{80} atoms in the whole universe.

Yet this improbability pales compared to the chance of random carbon, oxygen, nitrogen, and hydrogen atoms structuring themselves into a single cell, living or not. Experimental work has shown that the chance of a functional protein forming accidentally is far less than one in 10^{50}. The DNA of something as simple as an E. coli bacterium contains 4×10^6 nucleotides, corresponding to $2^{4\times10^6\times2} \approx 10^{2,400,000}$ unique messages, though only a few of these sequences are as yet known to carry biologically-meaningful information. Still less calculable are the additional remote chances such a DNA molecule would accidentally be in a medium that would facilitate its reproduction, or that a living cell could organize itself around it, or that it could mutate into something to which the unmutated cells are not toxic.

settled. The earth's crust was thicker by hundreds of feet of sand, clay, coal, and various other minerals. The earth's surface was sufficiently above the sea, and well enough drained by mountain ranges and valleys to be ready for the lower animals. These the Scriptures divide into three general kinds: first, earth reptiles, cold-blooded breathing lizards, snakes, etc.; second, beasts of the earth, or wild beasts; third, domestic animals especially suited to be companions for man, and referred to here as cattle.

By this time the air was purified. The rank vegetation of the carboniferous period had absorbed from the air the excessive hydrocarbons which previous to this time would have destroyed breathing fowl and animals. We may reasonably assume that it was just at the close of the sixth epoch day that God created man. His creation was the last of this period. It was in preparation for man, whom God appointed king of earth, that the work of all the creative epochs had been carried forward.

IN THE IMAGE OF GOD

In describing the creation of man the Scriptures use a very different expression from that employed to explain the previous creative processes. It is not, "Let the earth bring forth," as in the case of the lower animals; but, "Let us make man in our image, and after our likeness." Whatever might be said in favor of a possible limited evolutionary process in the creation of the lower animals, this language permits of no such interpretation concerning the creation of man. The detailed statement of Genesis 2:7 makes this fact even more positive. There we read, "And the Lord God formed man of the dust

of the ground, and breathed into his nostrils the breath of life; and man became a living soul."

Not only is man said to have been created in the image of God, but he was fitted to rule over the beasts of the field. He was endowed with the gift of speech and was able to reason rather than to be guided merely by instinct. He was given ability to discern between right and wrong, and a conscience to guide him. Man was also given a capacity to enjoy harmony of sound, as in music. Gorillas and monkeys have no music in their souls, nor do they have voices capable of producing harmonious sounds.

Man was also endowed with a faculty for worship, which, perhaps, more than any other one thing, separates him from the lower animals. This was one of the qualities which reflected in him the image of God. He was so constituted as naturally to reverence and desire to serve his Creator.

That man should be thus created is surely a marvelous manifestation of divine wisdom. If we could imagine the human race endowed as it is with intelligence and yet utterly devoid of any sense of moral responsibility toward a higher power, the tragic chaos and horrible suffering that would result is readily discernable.

The harmonious functioning of God's great universe of inanimate worlds is due to obedience to divine law—blind obedience, to be sure, but obedience nevertheless. Should we expect that man, the highest order of God's earthly creatures, could fulfill the purpose of his creation without obeying the laws of God? But the fact that man was created in the image of God and given the ability to obey or disobey, lifts his obedience out of the mechanical into the intelligent and voluntary.

To render intelligent and voluntary obedience to divine law, it was necessary that man be endowed with the desire and ability to recognize the need and advantages of obedience. Such recognition is possible only through belief and conviction that the Creator, as God, is worthy of being obeyed, and to such a full extent that one's whole being belongs to him and should be devoted to the doing of his will. This is true worship, the faculty for and proper use of which will yet result in the entire human race living happily on this earth forever.

MAN IS FALLEN

Man today is fallen! When Darwinism was first foisted upon a credulous public as a theory of creation alleged to be more scientifically correct than that recorded in the book of Genesis, it was not so easy to scientifically refute the claim that the human race was evolving into a higher, more perfect state of existence. But in the light of more recent discoveries in the field of archaeology, scientists are admitting that every scrap of evidence thus far uncovered by the pick and shovel of the archaeologists tends to prove that man today is less advanced mentally and physically, than he was at the time evolutionists would have us believe he was but a scant step removed from an anthropoid ape.

We now know that the earliest inhabitants of Mesopotamia—a commonly accepted "cradle of civilization"—as well as the earliest known people of Egypt, Crete, and Asia Minor, actually had a civilization which far exceeded that of Europe as late as four or five centuries ago; and indeed compared most favorably with ours of the present day. Earliest historical man was not the primitive

"caveman" brute concerning which the fictionists have written so many imaginative stories. Cavemen did finally appear in the world, and indeed savage cannibals; but they came about as a result of retrogression—the antithesis of evolution. The evidence of this is so clear that such a noted scientist as Prof. John Arthur Thomson of Aberdeen, a leading evolutionist, frankly admitted that:

"Modern research is leading us away from the picture of primitive man as brutish, dull, lascivious, and bellicose. There is more justification for regarding primitive man as clever, kindly, generous, and inventive."

As further evidence that scientists are now being forced to repudiate the Darwinian myth that earliest historical man was a low-browed brute from which we have gradually evolved, let us quote from the collaborated works of Professors Albert Sheppard and John Seybold Morris. In Vol. I of their Outline of History, pages 28 and 29, they say:

> "When we open the first page of authentic history we find man in possession of almost all the fundamental inventions. He had learned the art not only of using tools, but also of making them … In drawing, painting, and sculpture he had developed a very respectable ability in response to his instinctive desire to express his love of the beautiful. … Such a picture as these earliest records present to us differs in no great essential from life lived today on great areas of the world's surface. How all these inventions and discoveries came about we have no certain knowledge."

THE BIBLE IS TRUE

Having examined the brief outline of creation as presented in the first chapter of Genesis, we have

established that it agrees with the latest findings of scientists to a remarkable degree. Its detailed account of the creation of man is also scientifically correct. It declares that God formed man out of the dust of the ground, and it is a fact well known to scientists that every chemical element found in the human body is native in "mother earth."

We have found scientists, even avowed evolutionists, testifying against their own theories, telling us that the earliest known facts now being unearthed reveal that man was nearer perfection ages ago than he is today. Thus the Bible is proved to be true; for it declares that at the close of the sixth creative day God made man in his own image, endowed him with the ability to know right from wrong, and gave him a law by which he was to be governed.

In passing, we wish to correct an erroneous theory concerning the Genesis account of creation which has become quite popular among some groups. The theory is that the first and second chapters of Genesis contain accounts of two separate creations so far as man is concerned; that supposedly the first chapter tells of the creation of the spiritual man, in the image of God, whereas the second chapter relates the creation of the carnal, sinful man. The Bible reveals clearly that this theory is erroneous.

It should be noted that God provided "every herb bearing seed, which is upon the face of all the earth, and every tree, in the which is the fruit of a tree yielding seed," as food for the man and woman described in the first chapter of Genesis. Material food of this description would not seem to be necessary for a purely spiritual man. On the other hand, the man described in the second chapter

is not said to be wicked or carnal by nature. The fact that he was given a law and endowed with ability to keep that law indicates that he was just like the man of the first chapter; namely, created in the image of God and fully capable of obeying divine law.

Besides, whenever the New Testament writers refer to the origin of the human race they mention only one man, not two. They affirm that his name was Adam, that he fell into sin and is redeemed from sin and its effects through the "last Adam," who is "the Lord from heaven."—I Cor. 15:45-47

The first chapter of Genesis is what we have found it to be, simply a brief outline of the manner in which conditions on this earth were gradually developed to the point where it was suitable for human habitation. This chapter closes with a statement concerning the creation of that great being for whom the earth had been created as a home. The second chapter does not describe the creation of another man, but gives us some of the details concerning the manner in which the man of the first chapter was made. The two accounts are linked together in Genesis 5:1-3.

The entire Bible, as a matter of fact, is concerned with this man and his offspring. Genesis not only tells us how he was made, but also relates his disobedience to divine law and the subsequent penalty of death pronounced upon him. The remainder of the Bible outlines the divine method whereby fallen man is to be recovered and the whole earth filled with the progeny of Adam, all of whom will enjoy everlasting life and happiness conditional upon having learned willingly and joyfully to obey the Creator's laws.

It will be a surprise to some when we assert that the creation of man, described in Genesis as occurring in the close of the sixth creative day, was only the beginning of what God had purposed concerning him. Of the lower forms of animal life the Creator said, "Let the earth bring forth the living creature after his kind," and then the statement, "It was so." To man God gave the commission to multiply and fill the earth, and subdue it, but there is no statement to the effect that "it was so." Nor do we read that "the evening and the morning were the seventh day."

Why this difference when it comes to man and the seventh day? Genesis 2:2 declares that God "ended" his work on the seventh day. This indicates that man's creation was at the turning point between the sixth and seventh creative days, if not actually in the very early beginning of the seventh. Thus there was no time remaining in the sixth day for the earth to be filled with the offspring of Adam, hence it could not be said on this day that "it was so."

That the Scriptures do not say, "the evening and the morning were the seventh day," is strong circumstantial evidence that at no time previous to the completion of the inspired record of Genesis had the seventh day or epoch come to an end. This strongly suggests that not until the close of the seventh day or epoch will the divine plan for perfect man to fill the earth be realized. Not until then will the record of the seventh day be completed as was the record of the other days with the statements, "And it was so," and, "the evening and the morning were the seventh day."

FREEDOM OF CHOICE

While we marvel at the immensity of the universe and the orderly arrangement of all its parts, we should not overlook the fact that divine law operates to control all things which have been made. Behind nature's laws is nature's Lawgiver, and the whole universe is held together and functions because of obedience imposed by the mighty power of God and correlated as between the myriads of created things by the Creator's wisdom.

The divine purpose in the creation of man is just as dependent upon obedience to God's law as is his design for the stars. But man is not a machine. He was created in the image of God, with ability to think, to reason, to choose one course or another. Not only was he competent to exercise a choice, but he was given freedom to use that ability. And God, with all his power, will not overstep man's liberty of choice; yet the divine purpose concerning man is to be fully accomplished, not through coercion, but through education based largely upon experience.

Viewed thusly, we see that the entire seventh day of creation is set aside to complete God's purpose as it pertains to man. And what is the method by which that purpose is being accomplished? The Bible shows it to be the testing of the entire race, representatively in the first man Adam, then the redemption and restoration of the same race through Christ.

As each generation of Adam's dying children has come upon the scene it has experienced its baptism of tears and has passed on into the sleep of death. Finally, this process of bringing forth the

human race will have reached the point where sufficient children have been born to fill the earth comfortably.

Then will come the closing scenes of the seventh creative day, the last thousand years of which will be devoted to the restoration of the dead race. The people will not only be awakened from the sleep of death, but will also be given an opportunity individually to experience good, in contrast to the evil they experienced before they fell asleep in death.

Thus they will know good from evil. They will have learned the terrible consequence of disobedience to divine law, and will have learned the glorious results of obedience. Then they will be in a position to choose intelligently what course to take. There is little doubt that the vast majority will choose to obey, and it will be a willing, enthusiastic choice. This final choice of obedience on the part of the human race will result in the same order and harmony among the children of men as the obedience of the stars brings to our solar system.

The training of man up to this point of intelligent, freewill choice to obey the divine law may be properly considered as a part of the creative process pertaining to him. When Adam was first created God pronounced him "very good." (Gen. 1:31) But not until he had been tested, and had experienced evil, could he enthusiastically fulfill the divine purpose in his creation. This thought also applies to Adam's entire race.

The Scriptures indicate that already more than six thousand years have been required for this educational program, and there is still another thousand years yet to come—the thousand years

of Christ's kingdom. There is every evidence now that we are living in the early dawn of the last thousand years of the seventh creative day, or epoch.

It will be during this last thousand years that God's will shall be established in the hearts of the human race in answer to the Christian's prayer, "Thy kingdom come. Thy will be done in earth, as it is in heaven." When the divine will or law is thus established as the ruling principle in the lives of men, the work of the seventh day will be completed. The earth will be filled with a perfect and happy race, enjoying God's favor and blessings of eternal life.

GOD'S REST DAY

Not only do the Scriptures tell us that God ended his creative work on the seventh day or epoch, but that he also rested on this day. We cannot conceive of God becoming weary and needing rest. In fact, the Scripture declares that he does not—"Hast thou not known? Hast thou not heard, that the everlasting God, the Lord, the Creator of the ends of the earth, fainteth not, neither is weary?" (Isa. 40:28) God's "rest" on the seventh creative day must, therefore, have some other significance than that of recuperating from weariness.

Hebrews 4:10 reads, "For he that is entered into his [God's] rest, he also hath ceased from his own works, as God did from his." The obvious point of this text is that a Christian ceases from all endeavors to attain life through his own efforts and accepts instead the provision of life which has been made for him through Christ. And this is God's provision; for he gave his Son to be man's Redeemer with that promise that "whosoever

believeth in him should not perish, but have everlasting life."—John 3:16

In Isaiah 45:18 we read that God created the earth not in vain, but formed it to be inhabited. Plainly it was not the Creator's purpose that the earth be inhabited by a dying race, but by a living one. Death came upon the race through disobedience to divine law, but this did not thwart the divine purpose in the creation of man. God ceased his own active participation in the creative plan and commissioned his beloved Son to carry it through to completion.

Thus, just as we depend upon Jesus for life, so Jehovah depends upon him to provide life, that is, to carry forward to a glorious "morning" of perfection the Creator's plan to have this planet filled with human beings in his image, worthy of living forever.

When Jesus was on earth his enemies condemned and persecuted him because he healed the sick on the Sabbath day. He pointed out to them that works of mercy on the Sabbath day were allowed under the Law given to the Israelites by God. Concerning this type of work, Jesus said, "My Father worketh hitherto, and I work." (John 5:17) While the task of restoring the human race was assigned to Jesus by the Creator, nevertheless he is still interested and responsible for the undertaking. Regarding this, Jesus said, "The Father that dwelleth in me, he doeth the works." (John 14:10) This, however, is not out of harmony with the declaration that God rested on the seventh day. His work on behalf of man, which is being accomplished through Jesus, is a work of mercy. His whole plan for the recovery of the human race reflects his love and mercy. It is, therefore, a work of mercy.

OBEDIENCE DEVELOPED

We have noted the upward progressional sequence of the creative work during the six days or epochs, and it is but natural to expect that the work of the seventh should be more marvelous than that of its predecessors. The work of the first six days related largely to the creation of material things and earthly beings, while that of the seventh is characterized chiefly by the fact that it represents a development of mind and conscience through a process of education of human beings already created.

Back of every material thing, and responsible for it, is thought. Our automobile represents the thoughts of its designer, and responsible for the universe are the thoughts of God. The mechanical obedience of the stars to divine law is the result of God's thoughts which designed the gravitational forces and electromagnetic currents which enforce his law.

In the mind of the Creator was the thought to have this earth filled with a race of beings which would obey his law by intelligent choice to do so. These human beings were to be created in his image. They were to have the ability to think matters out for themselves and to reach definite, satisfactory conclusions.

But how could the Creator be sure that beings endowed with these powers would reach decisions in keeping with his will unless he arbitrarily controlled their thinking? He knew that this could be accomplished by giving them knowledge—not merely informing them of good and evil, but allowing them to learn by experience that his laws are right, and just, and good.

God foreknew that for a whole race to be thus educated would require the entire period of the seventh creative day, or epoch. Hence, after creating the first perfect pair and giving them his law, he rested, while his beloved Son, his appointed representative, was empowered to carry out the divine plan of education through the trial, redemption, and restoration of the fallen race.

THE SEVENTH-DAY PLAN

Concerning the six creative days the Scriptures inform us that it was the spirit or power of God which operated to accomplish the divine intention concerning them. The same is true of the seventh day. The difference is that during the other six days it was largely the mechanical power of God, while during the seventh day the principal objective is attained by the power or influence of God's thoughts which reflect his will. During the seventh creative day the thoughts of God are executed through his Son, Christ Jesus.

The sum total of God's thoughts pertaining to the creation of the human race may properly be called the divine plan. Because that plan involves redemption and also recovery from death, it is a plan of salvation. Thus, after assuring us that the earth was not created in vain, but to be inhabited, God declares, "Look unto me, and be ye saved, all the ends of the earth." (Isa. 45:22) God then outlines the conditions upon which salvation from death can be obtained, saying, "I have sworn by myself, the Word is gone out of my mouth in righteousness, and shall not return, That unto me every knee shall bow, every tongue shall swear."—Isa. 45:23

Here we have emphasized the thought of obedience to God, and that the earth is to be inhabited by those who have learned to bow the knee in absolute fidelity to him. It is also made plain that this eventuates by way of salvation—being saved, or recovered, from death. While God declares that it is his Word which will accomplish his intention, the Apostle Paul, quoting from this passage, shows that it will be through Christ.—Phil. 2:10,11

Only a few verses in the first chapter of Genesis are devoted to the work of the first six days of creation, but the entire Bible, beginning with the second chapter, is devoted to the work of the seventh creative day. In it is outlined the whole plan of God as it is being executed by Jesus. Throughout that plan, and as a background of its every phase, is the expression of divine law. Certain members of the fallen race are invited to co-operate in the plan, but only upon the condition of absolute surrender of their wills to do the will of God.

God declares that this Word has gone forth in righteousness. That is true. Every requirement of his is righteous, and designed to instill in those who obey, not only the principle of obedience, but also the glorious qualities of character possessed by the Infinite One whom they obey. This leads the obedient ones to the viewpoint of love in contrast with selfishness. They learn that the secret of true happiness is that of obedience to divine law, and that true obedience leads to selflessness in the glory of God, and the well-being of others comes before their own interests.

THE BIBLE HARMONIOUS

The scriptural outline of God's plan for the seventh creative day is consistent and harmonious

from first to last. In the opening chapters we are told of the original creation of man, his disobedience to divine law, and the consequent loss of his life. In the closing chapters we are told of man's recovery upon the basis of obedience to God's law, as symbolized by the open books of Revelation 20:12. Following a reassuring promise that there shall then be no more death, we read, "He that sat upon the throne said, Behold, I make all things new."—Rev. 21:4,5

Yes, that will be the completion of the work of the seventh creative day. From one standpoint it will be a re-creation. It is described by Jesus as "regeneration" (Matt. 19:28), and by Peter as "restitution" (or "restoration"). (Acts 3:19-23) But it will, nevertheless, be the completion of the original plans of creation as indicated by the statement that the Lord will "make" all things new.

As the material earth was, and continues to be brought to a state suitable for the habitation of man by a series of upheavals, deluges, tidal waves, etc., so God's design for the human race created in his image to enjoy life everlasting, is accomplished by a long series of experiences, including the permission of evil, suffering, and death.

These upheavals of human experience, like tidal waves of sorrow, have been necessary in order that the minds of the people might be trained to think properly, and thus intelligently to decide that the only key to genuine and everlasting joy is obedience to divine law. For six thousand years the Spirit of God has been brooding over the hearts and minds of men by means of the experiences divine wisdom has seen fit to permit. Thus they have been prepared—when under the righteous

administration of Christ's kingdom which will operate in the earth during the final thousand years of the seventh creative day – to make that final choice of obedience which will result in everlasting life.

With few exceptions, the people have not as yet realized the meaning of the experiences through which they have passed, and will not understand until enlightened during the morning hours of this final creative epoch. As with the other creative days, the seventh also began with an "evening"—dark and obscure—so dark that the prophet refers to it as "night," saying that while weeping "may endure for a night," "joy cometh in the morning." (Ps. 30:5) Yes, thank God, there is to be a morning, the completion of the seventh creative day, which will find man fully enlightened concerning the meaning of the long night of weeping through which he has passed.

Just as the buckling and twisting of the earth's crust during the third creative day would seem to have no meaning until it was discerned that land and oceans were thereby separated; so the long night of weeping through which the human race has passed will be understood only in the light of the morning sunshine, when the divine purpose for the seventh creative day is clearly understood.

Meanwhile, and partly in order that the world may later have an additional example of loving obedience to divine law and its glorious results, Jesus makes the supreme sacrifice of his life to open the way for restoration, or re-creation.

As a further part of the seventh-day plan, the church of Christ joins him in his sacrifice. True Christians suffer and die with Jesus, inspired with the hope of living and co-operating with him in

giving life to the remainder of mankind.—Rom. 6:3-5; 1 Cor. 15:29

Death came through Adam, and life comes through Christ upon the basis of his sacrificial death. Modern critics have scorned the idea of a substitutional sacrifice as being necessary to salvation, but only the lack of careful thought could cause anyone to take this viewpoint. The human mind which, even in its fallen condition, contains some remnant of the original Godlikeness, considers that the greatest example of true nobility of character and of genuine love is willingness to lay down one's life for another.

We glorify those who give their lives for their country. We sing the praises of one who is willing to dive into the ocean to save a friend, at the risk of his own life. We honor those who unselfishly use their time and strength for the betterment of the human race in the fields of science and medicine. Why, then, should we shy away from the greatest exhibition of love of all time and call it bloody and revolting?

Yes, to give one's life for another exhibits the Godlike quality of love. In the divine plan the Creator gave his Son the opportunity of dying sacrificially, not to save one person alone, but in saving the one to save the whole race. Jesus accepted that opportunity, voluntarily taking upon himself the penalty of death which fell upon Adam. In the scales of divine justice, love thus balances the account, making it possible for all who have died because of Adamic sin to be restored to life through Christ.

And so, in the "morning" of the seventh creative day, when the darksome shades of the previous "evening" time shall be dispelled, the world will

learn that God, their Creator, loves them, and that he gave his Son to die for them. They will learn, also, that the Son willingly sacrificed his life because he, too, loved them.

Of that time, the prophet declares that the knowledge of the glory of God shall fill the earth as the waters cover the sea. (Isa. 11:9; Hab. 2:14) When Adam was created, he knew something of the glory of God, but he did not possess the depth of knowledge that all mankind will obtain during the "morning" of the seventh creative day. That ocean-deep knowledge of God's glory will enable all individuals of the human race to decide more wisely than did Adam. Then awakened from the sleep of death, Adam himself will be better equipped to face the issue of obedience or disobedience.

Peter declares (Acts 3:23) that it will then come to pass that those who will not hear, or obey, will be destroyed from among the people. And the reverse is true. Those who do obey will not be destroyed, but will continue to live forever. Jesus establishes this fact even more convincingly, declaring that those who then obey divine law shall obtain everlasting life, and also that they shall inherit the kingdom prepared for them from the foundation of the world.—Matt. 25:34,46

Then the divine purpose concerning man will be fully accomplished. Not one man alone, but the whole race created in Adam will be in the image of God and be kings of the earth. The earth will have been "subdued" as God directed, and will be a veritable garden like the sample prepared for man in Eden. If there should be a minority who, in the light of full knowledge, choose to disobey God's law, they will be destroyed, for the earth

will be inhabited only by the obedient. These will be free from sickness and death. All tears will have been wiped away, and unbounded joy will spring forth everywhere. Then it can be recorded in the eternal record book of God's creative works, that,

"The evening and the morning were the seventh day."

Chapter 2

"After Its Kind"

Having traced briefly the Genesis account of creation and fall of man, and having found from the Scriptures that it is the plan of God to re-create the human race to live on this planet forever, let us now compare the findings of science with some of the details of biblical truth in order that we may have a greater faith in the testimony of God's inspired Word concerning the divine plan for the eternal happiness of mankind. One of the points emphasized in Genesis is the fixity of species. Concerning this, we read:

"And God made the beast of the earth after his kind, and cattle after their kind, and everything that creepeth upon the earth after his kind. … And God created great whales, and every living creature that moveth, which the waters brought forth abundantly, after their kind, and every winged fowl after his kind; and God saw that it was good."—Gen. 1:25,21

The Apostle Paul agrees with this statement of Genesis, that each species of animal is constituted by nature to be separate and distinct from all other species or orders and, that while they all are animals, consisting of flesh, yet they are not the same flesh; that is, they are unrelated. He says: "All flesh is not the same flesh: but there is one kind of flesh of men, another flesh of beasts, another of fishes, and another of birds."—1 Cor. 15:39

All nature, as we know it today, corroborates the foregoing biblical declarations. So far as scientific observation goes, nature is unalterably opposed to the commingling of species, or to the formation of new species; and it continually and successfully seeks to prevent it. It allows seemingly endless "varieties" within species according to fixed laws; but it has established limits beyond which variations cannot occur.

Furthermore, in the crossing of varieties within a given fixed species, we see retrogression quite as often as we see improvement in the stock; and there is no evidence whatsoever that nature is attempting to move forward by "infinitesimal steps of perpetual progress," as the Darwinists had long theorized.

By artificial cultivation and cross-breeding of selected varieties, such segregated stocks within a species may seemingly be improved or enlarged up to a certain point; but when left to themselves, nature soon brings them back to an ordinary level, instead of naturally carrying them "onward and upward" by an evolutionary law. Nature, when not interfered with, reintegrates all enhanced varieties, produced by selective crossing, back to similarity with the species as a whole, by way of random gene crossing within the species, rather than inducing in them further progressive changes by "evolution." As an example, imagine if one were to place Dalmations, Siberian Huskies, Poodles, Pugs, Springer Spaniels, and Golden Retrievers, all varieties of domestic dog produced artificially by selective cross-breeding, on a desert island together. A few decades later, the resultant dog population of the island would arise from the random crossing of the

original parental animals. The distinctive traits of the original parents would become indistinguishable in the offspring several generations removed, their genes having been mixed together and diluted out in the common gene pool.

Every attempt at crossing two separate species either results in no descendant at all, or else in a hybrid offspring that is sterile and unable to perpetuate its kind—as occurs when the horse and donkey, or the horse and the zebra, are crossed. These similar species can inter-breed; but the resultant offspring is a sterile hybrid that cannot cross with anything. This supplies further evidence that the species are fixed, that nature does not allow even very similar species to commingle and change into another, but calls a sudden halt every time any attempt in that direction is made.

Even Darwin, in his Origin of Species, made this frank admission: "In spite of all the efforts of trained observers, not one change of species into another is on record." It is not surprising to Bible students, who have confidence in the account of special creation as recorded in Genesis, to learn that scientists, after more than a century of effort, can find no positive proof to support a theory that is obviously at variance with the Word of God.

Prof. Vernon Kellogg, of Stanford University, added his testimony to the host of his former colleagues. In his Darwinism of Today, page 18, he says: "We only tell the general truth when we declare that no indubitable cases of species-forming or transforming, that is, of descent, have been observed."

To date, the most that has been accomplished in the effort to develop new species is the production

of new varieties. However, some interesting things have been discovered in the field of Genetics, such as Mendel's Laws of Variation, and De Vries' Mutations, which we may here briefly note.

From 1857 to 1868 Gregor Mendel, an Austrian monk, experimented with garden peas, crossing different varieties and producing new ones. His experiments resulted in important discoveries in the laws of genetic inheritance. In his experiments with pea plants, he crossed a tall pea plant with a short pea plant, and noted that the first generation of offspring from the two dissimilar parental plants were tall, none being short. The second generation of crossings from the tall first generation offspring resulted in one fourth of the second generation plants reverting to the short trait of the one original parent, and three fourths of the offspring remaining tall. Thus, tallness was determined to be a dominant trait, and shortness a recessive trait. This recessive short trait was covered up in the first generation by the dominant tall trait, but was manifested in the second generation. This ability for one gene to dominate over another in determining the physical trait of an offspring came to be known as the "Law of Dominance." However, not all genes display dominant and recessive characteristics. Many genes express themselves in concert with one another, and form a physical trait that is somewhere in between. This is called incomplete dominance. Mendel's notations of the results came to the attention of Prof. Carl E. Correns, famous botanist, about thirty years later; and he soon found that Mendel had discovered a hitherto unknown law of heredity. Correns duplicated Mendel's experiments, using the garden flower

"Four o'Clock" instead of peas and found that they too followed Mendel's "law."

Correns crossed a red and white variety of the flower "Four o'Clock" and, true to Mendel's "law of segregation," all of the first generation were pink. This was a result of the flower color gene being incompletely dominant, resulting in offspring with an even mix of red and white, or pink. In the second generation only half of them came pink—the remainder being pure white or pure red, just like the original parent stocks. They were just as pure as though they had never been mixed, and continued to reproduce themselves without variation.

Mendel's "law of segregation" is simply this: In offspring, a physical trait is determined by the genetic input from both parents. Half of its genes, or hereditary elements, are received from one parent, and half from the other. Either one parent's gene is dominant over the other parent's gene, or both parental genes can express together to form a mixed trait in the offspring.

In the second generation these genes filter out and recombine, resulting in some offspring having the traits of the original parents, as though they had never been mixed. Mendel also discovered that if complex varieties are crossed (that is, if there is more than one difference between the parent stocks, as when yellow-round peas are crossed with green-wrinkled peas), not only will the original unmixed genes filter out in the second generation, but in addition the various traits will segregate in the offspring independently of one another, such as yellow-round peas and green-wrinkled peas giving yellow-wrinkled, and green-round, pea

offspring. This is Mendel's Law of "Independent Assortment."

Dr. Thomas Hunt Morgan, when at Columbia University, found that animals obey Mendel's law the same as do plants, and that finally the original parental traits begin to filter out and reappear, even after having passed through successive generations of cross-breeding with other varieties. In none of these experiments, either with plants or animals, has a new species been produced. Rather, Mendel's laws seem to prove that the species are fixed, and that the tendency of nature is to return to the original parental traits rather than to get away from them, as Darwin erroneously imagined.

In 1900 Prof. Hugo De Vries, the Dutch botanist, who had been experimenting extensively with the "Evening Primrose," discovered that occasionally a new and strange variety would crop up, totally different from all other varieties that were being produced by direct crossing.

These new variants seemed to be freaks of nature, that came up in defiance of Mendel's law; and yet were able to perpetuate their variety if unmixed with others – although generally they could be readily mixed with any other variety of primrose.

De Vries called these freaks "mutants," and he formulated a theory to explain their existence. He believed that they result from some accidental scrambling or disarranging of the "genes" in the fertilized cell or germ cell (i.e., egg or sperm), which may happen either at the time of fertilization or subsequently, and which prevents nature from taking its ordinary course. Mendel's law thus represents nature's normal process,

while De Vries' mutations result from occasional accidental interferences with nature in the replication of DNA.

Now if a mutant should ever be discovered that is so far changed from the original stock as to be incapable of mixing with it, and at the same time would be fertile in itself, and able to mix with other mutants like itself, then we would have a demonstration of a new species arising or "evolving" from an old species—the answer to every evolutionist's dream since Darwin's day. But no such species has ever been discovered, notwithstanding a century and a half of experimentation with this in view.

A great conflict between truth and error is now being fought by scientists themselves, and we may be sure that the truth will ultimately prevail. In this connection we are reminded of the following paragraph from the able pen of Dr. William Emerson Ritter, professor of Zoology at the University of California, which was published in Science magazine some time ago. He therein wrote:

"If one scans a bit thoughtfully the landscape of human life for the last few decades he can hardly fail to see signs that the whole battle-ground of evolution will have to be fought over again, this time not so much between scientists and theologians, as among scientists themselves."

Observes one writer,[5] "The fossils that decorate our family tree are so scarce that there are still more scientists than specimens. The remarkable fact is that all the physical evidence we have

5 Lyall Watson, "The Water People," SCIENCE Digest 90, 5, p. 44 (May 1982). This article hypothesized that man evolved from the sea; it ignored all creationist alternatives.

for human evolution can still be placed, with room to spare, inside a single coffin!

"Not surprisingly, despite the diligent research done in East Africa by paleontologists Richard Leakey and Donald Johnson, there are gaping holes in the evolutionary record, some of them extending for 4 to 6 million years. Modern apes, for instance, seem to have sprung out of nowhere. They have no yesterday, no fossil record. And the true origin of modern humans—of upright, naked, toolmaking, big-brained beings—is, if we are to be honest with ourselves, an equally mysterious matter.

"There is, therefore, plenty of room for an alternative explanation. "

An introduction to a creationist's lecture? It could hardly be written better for it. But the above actually begins one of many recent attacks on Darwinian evolution by Bible-unbelieving biologists and paleontologists.

Another avowed unbeliever, Francis Hitching[6], points out: "Darwinism (or neo-Darwinism, its modern version) … has not, contrary to general belief, and despite very great efforts, been proved.

"The curious truth is that there is a consistency about the fossil gaps: *the fossils often are missing in the most important places*.

"When you look for links between major groups of animals, they simply aren't there; at least, not in large enough numbers to put their status beyond doubt. Either they don't exist at all, or they are so rare that there are endless arguments as to whether a particular fossil is,

6 Francis Hitching, "Was Darwin Wrong?;" Life 5, 4, pp. 48-52 (April 1982).

isn't, or might be transitional between this group and that. …

"Instead, groups of well defined, easily classifiable fish come into the fossil record seemingly from nowhere—mysteriously, suddenly, fully formed and in a most un-Darwinian way. And before them are maddening, illogical gaps where their ancestors should be.

"'Instead of finding the gradual unfolding of life,' writes David M. Raup, a curator of Chicago's Field Museum of Natural History, 'what geologists of Darwin's time and geologists of the present day actually find is a highly uneven or jerky record; that is, species appear in the fossil sequence very suddenly, show little or no change during their existence, then abruptly disappear.'"

It is truly remarkable that the Bible, written thousands of years ago, before the era of scientific research, should state so accurately and so definitely what now has been established as scientific truth, namely, that species are fixed. Only by divine inspiration could this have been possible. We may then have confidence in this sacred record as we pursue our further investigation of its God-given truths.

THE CHALLENGE OF EVOLUTION

While evidence was yet sparse, Darwin's theory of evolution seemed to offer a plausible alternative to Genesis. While attempts may be made to reinterpret Genesis, Genesis itself remains unchanged. By contrast, evolution morphs in response to new discoveries of genetics and to filling out of the fossil record, thus constituting itself a moving target.

WHICH EVOLUTION THEORY?

The theory of evolution, as proposed in the nineteenth century by Charles Darwin, has undergone two major changes. The third version of the theory is very unlike Darwin's, although it is still called an evolution theory. Here are sketched these three theories.

Theory 1 (Variation Theory). Darwin made three fundamental assumptions in order to arrive at his theory of evolution, that all of earth's species had come from a common single-celled ancestor: 1. Each geological or biological process has continued at its own constant slow rate. 2. Among life forms, each succeeding generation has a progressively wider potential for variations. 3. Better variations survive because they are better able to compete in a food-scarce environment (natural selection, or "survival of the fittest"). Hence, new species would be continuously evolving from inferior forms of life. It simply remained for the intermediate forms to be unearthed to demonstrate the theory.

Unfortunately for the theory, fossils by the thousands have not included missing links. And we do not observe species continuing to evolve today. Gregor Mendel showed that genetics is well ordered, and that physical traits do not always predict genetic composition. Recessive genes continue to filter through the gene pool, and manifest themselves as recessive traits in descendent generations. These observations left little room for the progressive idea. Hugo DeVries later showed that mutations are the source of observable genetic changes, which cast doubt on the uniform-rate idea. So, after a pause, evolutionists

shifted to mutations as the desired mechanism for evolution.

Theory 2 (Mutation Theory, or neo-Darwinism). Mutations of the genes occur randomly. According to this theory, natural selection promotes mutations beneficial in a food-scarce environment until sufficient mutations have been accumulated to define a new species. Thus, Darwin's second assumption was discarded and the first put in doubt.

Darwin's Variation Theory predicted transitional forms ("the missing link") would be found among the fossils to be discovered. This failing, Mutation Theory presumed the transitions occurred by mutations over relatively few generations. Evolution of one species into another might have occurred in 1000 generations or less, compared with perhaps 100,000 or more generations covered by the fossil record; thus the probability of finding transitional forms is very small. [Creation Theory says the probability is zero; they never existed.]

But Prof. Heribert Nilsson summarizes his forty years of botanical work, concluding: "It is not even possible to make a caricature of evolution out of paleo-biological facts. The fossil material is now so complete that it has been possible to construct new classes, and the lack of transitional series cannot be explained by the scarcity of the material. The deficiencies are real, they will never be filled."[7]

7 [Nils] Heribert Nilsson, "Synthetische Artbildung [Synthetic Speciation], 2 vols.; Lund, Sweden: CWK Gleerup Publishers, 1953, p. 1212. [in German] Above statement often quoted by scientists of many persuasions, from F. Hitching, op. cit., to A.C. Custance, "The Earth before

Nobel-prize winner Ernst Chain in 1970 said: "To postulate that the development and survival of the fittest is entirely a consequence of chance mutations seems to me a hypothesis based on no evidence and irreconcilable with the facts. These classical evolutionary theories are a gross oversimplification of an immensely complex and intricate mass of facts, and it amazes me that they are swallowed so uncritically and readily, and for such a long time, by so many scientists without a murmur of protest."[8]

Moreover, beneficial mutations should take over slowly. The plant-geneticist, Walter E. Lammerts, says: "Even mutations having a one per cent survival advantage increase in frequency from 0.01 to 0.1 per cent of the population only after 900,230 generations. Another 100,511 generations are needed to increase the frequency to 100 per cent. Certainly the time needed for natural selection to effect a change in a large population is enormous even geologically speaking."[9]

Lammerts, at Armstrong Nurseries 1935-1940, released four new varieties of peaches in a mere five years time, instead of the usual decades. He further asserts that companies involved in

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Man;" Ottawa: Doorway Papers. [It is uncertain if Hitching has read what he quotes, as he omits about nine words without so indicating.] On p. 1176 Nilsson adds, "Several new combinations occurring in a species hybrid, which may differ so much from their parents as to form new species, will soon disappear in the struggle for existence in nature. Nature sweeps clean the border lines of the species." Quoted in "Evolution, Science Falsely So-called," 19th edn.; Toronto: International Christian Crusade, 1974.

8 Quoted by F. Hitching, op. cit.

9 Quoted in Henry M. Morris, "The Twilight of Evolution;" Grand Rapids: Baker, 1964. p. 48.

commercial plant-breeding research can no longer afford to hire people with the evolutionary approach; it takes them too long.

Fossil evidence continues to find no transitional forms, and there is fear today about the detrimental effects of an accumulation of mutations. Hence, a third theory was proposed by Niles Eldredge, Stephen Jay Gould of Harvard, and Karl Popper of England.

Theory 3 (Punctuated Equilibrium, or "Punc Eq" for short). The basic assumptions of this Calamity Theory are: 1. Sudden "evolution" is initiated by some catastrophic event, which propels animals into a radically different environment, 2. Most died of injury or starvation, but the new stressful situation led to an abundance of chromosomal changes, and 3. A few mutants survived, and, the new species thusly defined, each multiplied throughout a largely depopulated earth, in which food supply had been less damaged than the animal population.

Comparison with Darwin's original theory shows that Punc Eq "is profoundly un-Darwinian in almost every respect."[10] Like Creation Theory, Punc Eq rejects all three of Darwin's fundamental assumptions.

Moreover, the predictions of Punc Eq were virtually identical to what Creation Theory has predicted all along: It is expected that no transitional forms, or "missing links," will be found among the fossils or among living creatures. And

10 Francis Hitching, op. cit. Otto Schindewolf even suggests that the first bird hatched directly from a reptilian egg! (Of course, this is purely hypothetical, as no one expects to discover the egg shell.)

cataclysms have played an important part in the history of the earth.

The perfect counterfeit would be a theory which is experimentally indistinguishable from Creation Theory. It would be impossible to disprove it without disproving Creation Theory also. Punc Eq came close.

Variation Theory did not fit the evidence and has been discarded. Mutation Theory explains the failure to find fossils of transitional forms by saying the transitions occurred over relatively few generations. The more fossils that are unearthed without finding transitional forms, the fewer generations that account for the transition. Punctuated Equilibrium Theory says there are no transitional forms to be found. Evolution Theory had changed until it was geologically almost indistinguishable from Creation Theory; neither expected transitional forms to be found.

"Colin Patterson of the British Museum of Natural History, which contains more paleontological data than any [other] museum in the world, left mention of transitional forms completely out of his latest book on evolution because he said he can't find any." Dean Kenyon, a San Francisco State University biology professor, textbook author, and evolutionist turned to intelligent design, says: "They're admitting the gaps are going to be permanent, and they're trying to change the theory of evolution to account for gaps. I take that as a further sign the evolution theory is in trouble. Another problem with evolution is there has never been a favorable mutation documented."[11]

11 L. Keys, Los Angeles Herald Examiner, 1981 May 8, pages A-8, A-12.

OBSERVABLE DIFFERENCES

Although Calamity Theory (or, Punc Eq) would appear to be experimentally almost indistinguishable from Creation Theory, it has some further explaining to do. How both male and female mutants of the same type were produced at the same time must be explained by any theory to be granted credibility. Interdependent species must also be explained: For example, the pirate crab and its sea anemone help each other get food. But there are several species of pirate crab, and each has its own specific species of anemone. Yet, no matter how exceedingly improbable, the Punc Eq theorist will say, It could have happened. So improbability alone will not end the argument.

Early man could have known where he came from. Adam's posterity recorded that Adam and Eve were created in Eden. (Gen. 1:26-30; 2:7,8, 20-23; 5:1,2) The evolutionist rejects that, claiming that history is not science (that is, history cannot be experimentally reproduced and observed, so it is not treatable by the scientific method. Of course, merely defining something as unscientific does not automatically make it false.)

The evolutionist might substantiate his claim by the discovery of a couple of "hopeful monsters" or several "missing links." Or the day-age creationist might demonstrate that some species appear suddenly during a period lacking in catastrophic events (but catastrophic events are required to preserve fossils!) Realistically, no one holds out much hope that either could be done.

The greatest practical difference between the two theories is whether God is given credit for the origins of life. The perceived need for the new Punc Eq Theory of evolution arises not from scientific evidence, but from the denial of human responsibility to an intelligent Creator, which responsibility is implicit in Creation Theory.

How else, then, can science hope to distinguish between creation and evolution? That question is dealt with in the DNA section of Chapter 3 and in Appendix 2.

GEOLOGY AND PALEONTOLOGY

Fossils are preserved in rocks, so geology and paleontology are intertwined. Hence, both testify in the creation-evolution debate. Morris throws down the gauntlet: "At least two important questions must be satisfactorily answered before it can legitimately be concluded that the theory of evolution is the best explanation for the fossil record. One question is: 'Are the ages of the rocks determinable independently of the theory of evolution which is supposed to be deduced from their fossil contents?' The other is: 'Is the theory of evolution the only theory which can satisfactorily explain the fossil data?' Both of these questions must be answered in the affirmative if we should be expected to accept the fossils as real proof of evolution. But as a matter of fact, both questions must really be answered in the negative."[12]

THE GEOLOGIC COLUMN

When a new highway construction project digs through mountains and hills, construction

12 Morris, p. 50. (But radioisotope methods are beginning to redate the rocks independently.)

workers may be surprised to find fossils of plants or animals in the layers of sedimentary rocks. If fossils are found in more than one layer, then the first supposition is that fossils in the upper layers were buried later and so must be more recent. Simpler fossils are presumed to be older (a postulate driven by all three theories of evolution); hence whenever only simpler fossils are found in an upper layer it is suspected that geological movement had thrusted a lower (older) layer sideways and upwards over an adjacent higher (younger) layer, whether or not evidence of disorder can be seen at the interface.

If digging is deep enough, then a level is reached such that fossils are usually absent anywhere deeper. The fossil-free layers are called "Pre-Cambrian" and are assumed to be 10^9 years old or more. Some means of dating the fossil-bearing layers had to be sought. To many geologists the only way to attempt dating was (1) to measure the thicknesses of the fossil-bearing layers, (2) to make an assumption as to how long detectable life (via fossils) has been on Earth, and (3) to assume deposition rates have been constant over time (the uniformitarian assumption) and therefore to scale time according to depth below the surface. Although the thickness of each stratum may vary with lateral distance, the deposition rate is usually assumed to be within an order-of-magnitude of an inch (2.54 cm) per thousand years. Of course this assumption may present difficulties: Is the topside of a human fossil thousands of years younger than the bottom-side? And for a wooly mammoth the age differential would seem far worse.[13]

13 There is an evident inconsistency between Punctuated

There is another fundamental problem with the uniformitarian approach. To preserve a fossil requires rapid burial, before the forces of nature cause its disintegration—within a matter of months at most. Recognition of rapid burial enables one to interpret the top-side of a fossil as having the same age as the bottom-side! At the same time, it contradicts the uniformitarian approach to measuring ages of the strata.

Nevertheless, without a uniformitarian assumption, there was no objective means of estimating the age of the rocks before the availability of radioisotope dating. For those rocks containing some concentration of potassium, the ratio of $_{18}Ar^{40}$ to its radioactive parent $_{19}K^{40}$ (with 1.28×10^9 year half-life) offers hope of estimating a true age of rocks older than 10^6 years, though sometimes measurements are discordant—even from the same rock. ($_{90}Th^{232}$, $_{92}U^{238}$, and $_{92}U^{235}$ also can be useful, but fewer rocks contain them. See Appendix 1, under Geochronology) Yet by the time radioisotope dating was available, a "geologic column" and its dating had already been hypothesized and touted as dogma.

The geologic column exists nowhere on Earth. Various strata were identified by the various groups of fossil types they contain, and then these strata were compared with potentially similar strata in other parts of the Earth. In this way a Geologic Column had been postulated and promoted: the fossil-bearing rocks begin with a Cambrian stratum bearing invertebrates such as trilobites (assumed $\sim 5 \times 10^8$ years old) and working upwards in about fifteen steps to the recent stratum bearing

Equilibrium and uniformitarianism also.

fossils of modern man and animals (assumed $<10^6$ years old). Dating of each rock stratum is then determined by its index fossils (just those fossils assumed to be from only a narrow span of time). However, each new fossil find is then dated by the "accepted" age of the geologic stratum in which it is found. While this in other sciences is called "circular argument," nevertheless paleontologists and geologists had nowhere else to turn. Still, the reader should note that "geologic-column ages" may be radically different from chronological ages.

Regarding the problem of the inferred geologic column, Wysong[14] quotes Von Engeln and Caster: "If a pile were to be made by using the greatest thickness of sedimentary beds of each geological age, it would be at least 100 miles high. It is of course, impossible to have even a considerable fraction of this at any one place. …"[15]

Again he quotes Brown, Monnett, and Stovall: "Whatever his method of approach, the geologist must take cognizance of the following facts … There is no place on the earth where a complete record of the rocks is present … To reconstruct the history of the earth, scattered bits of information from thousands of locations all over the world must be pieced together. The results will be at best only a very incomplete record."[16]

Very often strata are completely missing, ostensibly representing tens of millions of years. Were they deposited and then eroded? Earth's crust is

14 Randy L. Wysong, D.V.M., "The Creation-Evolution Controversy;" East Lansing, MI: Inquiry Press, 1976.

15 O.D. Von Engeln and Kenneth E. Caster, "Geology;" New York: McGraw- Hill, 1952. pp. 417-418.

16 H. Brown, V. Monnett, and J. Stovall: "Introduction to Geology;" Boston: Ginn, 1958. p. 11.

not stable enough to remain horizontal over millions of years. Thus, the reader should be excused for skepticism about the geologic column itself, let alone its dating.

Wysong[17] presents more than two dozen problems for interpretation by the geologic column, including,

"Pre-Cambrian Void: The Pre-Cambrian void provides no record for the evolutionary history of the vast array of animals that suddenly appears in the Cambrian. …

"Pollen in Pre-Cambrian: Pollen from Angiosperm and Gymnosperm trees has been found in "Pre-Cambrian" rocks. This would place, according to evolutionary ideas, the reproductive pollen hundreds of millions of years prior to the existence of the mother trees. Some spores are stained with red oxide from the surrounding rocks, thus proving they are not from present-day contamination. The evolutionists, Leclerq and Axelrod, have found spores and fragments of woody plants representing dozens of genera (Axelrod found 60 genera) in "Cambrian" rocks. Woody plants supposedly did not arrive on the evolutionary scene until over 200 million years after the 'Cambrian!'

"Arthropods in Pre-Cambrian: Arthropod fossils have been found by a U.S.G.S. [United States Geological Survey] team in 'proterozoic—younger Pre-Cambrian rocks age-dated at 1.2 billion years. This discovery from the Sierra Ancha area of northern Arizona, in 1972, and age-dated by the University of Arizona, puts the Arthropods

17 Wysong, op. cit., pp. 266-281. [As with other references, citations of physical evidences need not necessarily imply endorsement of the author's interpretations of those evidences.]

hundreds of millions of years before they were supposed to have evolved.

"Polystrate Trees: Spanning through several strata are found trees preserved as well at their tops as at their bottoms. The fossil trees bridge an evolutionary time span (as determined by dating the strata through which the trees span) that would preclude their "in place" growth and fossilization. This, of course, shows that the sediments and the trees were moved into place and deposited at the same approximate time; and also throws the evolutionary contention that the strata were laid down over hundreds of thousand of years into serious question. [Fossilized trees shown from Joggins, Nova Scotia; and Oregon.]

"Trilobites in Fossil Sandal Impression: William Meister unearthed a fossil shod footprint in the 'Wheeler Mid-Cambrian' strata at Antelope Springs, Utah in June of 1968. The track split in half with the top portion being the mud that had sifted in to fill the depression the foot had made. Portions of trilobites are found embedded in both heel and toe. Seven other tracks were also found in the same area precluding this being a 'geological quirk.' The contemporaneousness of man and trilobite would effectively collapse about 500 million years of the geological column.

"Skull in Coal: In the coal collection of the Mining Academy of Freiburg, Germany, 'is a puzzling human skull composed of brown-coal and magniferous and phosphatic limonite, but its source is unknown.'

"Fossil leather sole imprint, size 13 with a double line of sewed stitches, found in 'Triassic' rock estimated to be 225 million years old.

"100 Million Year Old Humans: F. A. Barnes reported the recent find of two human skeletons in '100 million year old' Utah rock. The strata in which the fossils were found were classified as 'Lower Dakota,' or 'Upper Morrison.'

J. Marwitt, an anthropologist at the University of Utah, declared that the bones were obviously human and found in situ, i.e., they were not washed into position. Fifteen or more feet of rock above the bones was bulldozed off and was reported as continuous and unbroken with about six feet being solid rock. The skeletons were articulated (bones were together at the joints) and stained green by the copper salts from the surrounding rocks. In turn, the surrounding rocks were stained by the organics from the bodies. By its position in the rocks, the discovery places man about 97 million years before any of his speculated evolutionary precursors!

"Contemporaneous Human and Dinosaur Prints: Human footprints, both normal size and giant size, sometimes side by side with dinosaur prints, have been found in Mexico, New Mexico, Arizona, Texas, Missouri, Kentucky, Illinois and in other U.S. locations … [many pictures shown]

"Paved tile in Colorado 'Miocene' rock estimated to be 27 million years old."

It is thus to be concluded that the fossils are real, but dating by the geologic column seems imaginary. (Radioisotope dating is to be preferred whenever available.) Above the usually fossil-less Pre-Cambrian basement, life forms appear suddenly and profusely. This consistent observation is inconsistent with the Darwinian theories (and probably with Punc Eq) but is consistent with Genesis.

THE HORSE SHOW

Regarding museum exhibits, Wysong observes:[18] "A classic proof for evolution, displayed prominently in museums and evolutionary texts, is fossil horses. The evolutionary tree begins with the tiny many-toed Eohippus and ends with the modern day horses. But what is not brought to our attention, for obvious reasons, is:

1. "The sequence from small many-toed ancestors to large one-toed species is nowhere found in the fossil record. Every imaginable contradiction to the presumed order is found.

2. "The Eohippus is almost identical to the African Hyrax. Both are the size of rabbits, have four front toes and three rear toes and live in brush.

3. "Two modern type horses, Equus nevadensis and Equus occidentalis, have been found in the same geological strata as Eohippus. Thus we have modern day type horses grazing side by side with their precursors.

4. "There are no gradations from one link to another. All suggested links appear suddenly in the fossil record.

5. "Some present-day Shire horses are known to have more than one toe per foot but are still considered fully horses. Thus, Westall of Durham University, for one, concluded that the 'evolution' of Eohippus to Equus was all wrong."

Other museum progressive exhibits, though less popularized, are similarly misleading.

WHENCE MAMMALS?

The activity, or metabolic rate, of a mammal is proportional to its surface area divided by its

18 Wysong, op. cit., p. 301.

volume; so activity is inversely proportional to size (length or height). Thus, the decimeter-long shrew requires almost all its waking hours just to eat (it can starve if deprived of food for even a few hours). Therefore, how could mammals have evolved from a still smaller predecessor?[19]

The similar question poses itself for other classes of animals also.

OTHER NOTEWORTHY COMPARISONS

The Second Law of Thermodynamics, established from multiple tests with consistent results, says that randomness always increases with time (and never decreases in any closed system). All theories of evolution require a spontaneous generation of life from some brew of naturally-forming chemicals—an obvious violation of the Second Law of Thermodynamics. Princeton biologist Harold Blum asserted: "Until this fundamental contradiction is thoroughly cleared up and harmonized, creationists are abundantly justified in insisting that evolution as a universal principle is not only unproved but statistically almost impossible! The second law of thermodynamics plainly and relentlessly insists that there is a universal tendency toward decay and disorder, not growth and development."[20]

The popular hypothesis of spontaneous generation from lifeless decaying matter was progressively disproved in experiments by Redi,

19 See Ernest C. Pollard, "The Physics of Viruses;" New York: Academic Press, 1953.

20 Harold Blum, "Perspectives in Evolution," American Scientist 43 (October 1955). p. 595. Quoted in Henry M. Morris, "The Twilight of Evolution;" Grand Rapids: Baker, 1964.

Spallanzani, and then Pasteur. The law of biogenesis was expressed by Pasteur, "every living thing arises from a preexisting living thing," and by Virchow in 1858, "every cell arises from a [pre-existing] cell;" or simply, "all life from life." All evolution theories must necessarily contradict this principle also.

Chapter 3

"The Generations of Adam"

Unlike the enormous estimates of many scientists, which vary by millions of years, the Bible furnishes definite information concerning the exact year on the stream of time when the first human pair was created. The Bible is the only historical record in the world which begins with the first man, gives his name, the time of his creation and death; and traces his descendants, giving their names and ages in successive links of chronology for nearly four thousand years—or until a point of time at which secular history becomes reliable.

Anthropologists have long known that the evidence points to Mesopotamia as the very "cradle of civilization," whether it is or not the place of origin for the human race. It is here that authentic human history first begins; and from that region the human race overflowed into Assyria and the Aral-Caspian basin, thence to Europe, India, China, and elsewhere; while others crossed the Arabian desert into Palestine and Asia Minor, or else traveled around Arabia by water, into Egypt.

For this reason Mesopotamia is a land of special interest to archaeologists. The explorers have dug through layer after layer of debris, representing the accumulations of long centuries of human habitation; and finally have reached virgin soil,

below which no human relics are found. In other words, the basic virgin soil, in this Mesopotamian "cradle of civilization," represents the advent of human habitation there.

Hyma[21] observed: "Ancient Egypt witnessed a phenomenon which exactly duplicated that seen in ancient Mesopotamia. In the latter region the Sumerians from 4000 to 3000 B. C. developed a higher type of civilization than the countries of Mesopotamia knew perhaps until the seventh or sixth century B. C. The same thing happened in ancient Egypt, for almost all the important discoveries made in the fields of science and the arts were achieved during the period of the Old Kingdom, that is, before 2700 B. C. All that later generations of Egyptians could do apparently was to hand down the great gifts of their highly skilled ancestors. These two remarkable phenomena displayed in Mesopotamia and Egypt seem to prove that at one time, that is, between 4000 and 2700 B. C., human beings developed an extraordinarily high level of culture. Much of this knowledge was of a mysterious type and was not recorded upon stone or papyrus or tablet. Even that which is now known to scholars is of such a nature that everybody recognizes a marked superiority of the Egyptians of the Old Kingdom and of the ancient Sumerians over their successors for a period of more than two thousand years." [*Footnote*: "All this appears to negate the application of the evolutionary theory of mankind. For the historian, consequently,

21 Albert Hyma, "Ancient History;" New York: Barnes & Noble, 1940 (reprinted 1968). p. 33. (Subsequent archaeology has tended to somewhat reduce the ages suggested by Hyma.)

the safest course is to observe the laws of growth and of decay."]

The first connection between archaeological history and the Bible currently comes from Ur-Nammu, king of Sumer, who conquered the West (as far as the Mediterranean Sea), on two occasions fourteen years apart (in his 4th year and in his 18th and final year). Genesis 14 records these two wars fourteen years apart, with Abram (later renamed Abraham) slaying Amraphel, king of Shinar (Ur-Nammu, king of Sumer) and his allies to end the latter war.

Another connection comes in Egypt, where Pharaoh Ammenemes III shut down the basalt stone quarries for fifteen years (Ammenemes' 4th-18th years), while opening up major farmland in the Fayum district. Apparently these years coincide with the year Joseph became vizier plus the seven years of plenty and seven years of famine. (Genesis 41) Ammenemes brought the Middle Kingdom to the apex of its glory by feeding the surrounding world during the famine, and not by the usual use of military force.

Genesis indicates 204 years from the birth of Ishmael (about two years after the death of Ur-Nammu) to Jacob at age 130 coming to Egypt in the second year of famine (apparently in Ammenemes' 13th year). One correspondingly infers 193 years from the death of Ur-Nammu to the accession of Ammenemes III. Thus, the only firm link in very ancient history between Egypt and Mesopotamia is given in Genesis.[22]

22 W.F. Albright's Low Chronology of Old Babylon (including Sumer), also advocated by Yigael Yadin, of Hammurabi at BC 1728-1686, implies a death of Ur-Nammu in BC 2036; R.A. Parker's chronology of Egypt gives the accession

Abram was born scarcely more than two thousand years after the creation of Adam, or just nineteen generations later, according to Genesis 5 and 10. It is therefore not difficult to see that if the record of history we have from the past 4,000 years is accurate, we should expect it is equally likely to be accurate for the previous 2,000 years—to Adam.

The foregoing discoveries of archaeologists not only indicate that earliest historical man was a better artisan than man of later times, but they also show that man did not exist in this "cradle of civilization" prior to about 6,000 years ago. If men had been there for many thousands of years before that time, why is there no record of them? And if they had gradually evolved to the height of civilization which they then enjoyed, where are the relics which show that gradual evolutionary progress?

Another problem which Darwinists have never been able to explain is this: If man has been on earth for hundreds of thousands of years, or even for twenty thousand years, multiplying as

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of Ammenemes III as BC 1843. This 193-year difference is the ideal fit. The Very Low Chronology of Hammurabi (1704-1662) coupled with M. Bietak's date for Ammenemes III's accession in BC 1818 suggests another possible fit. No other pair of archaeologically-defensible and harmonious dates is currently known.

From the 9th to the 6th centuries BC there are again datable links between Israel and Assyria, Babylon, Medo-Persia, and Egypt. The New Testament also likely has a reference to the kings of Egypt in 2 Tim 3:8, Jannes and Jambres, to be compared with the Hyksos kings Iannas (Egyptian, Seuserenre Khyana; ca. 1656-1618) and Iambres (?) Assis (Egyptian, Mayebre Sheshi; ca. 1618-1615) of the 15th Dynasty. But the Hyksos dates are imprecisely known from archaeology.

usual during all that time, why is the planet today so sparsely populated? At the present rate of increase it would not have taken long to amass a population of eight billion—even after making allowances for destructive wars, famines, and pestilences. Why, then, do we not have far more than eight billion people now on earth if humanity has been multiplying here for as long a period of time as Darwinists claim?

The average rate of increase of various nations and races during a given period of time is not difficult to compute. Some peoples, of course, have had more hardships than others, which has limited their increase; but it should be possible to strike a fair average and thereby approximate what the increase of the entire human family should be during sixty centuries. Dr. Williams in his Evolution Disproved mentions the example of the Jewish people. Perhaps no race has experienced greater hardships throughout the centuries than they have suffered. Hence their known rate of increase, under such unfavorable circumstances, should furnish a conservative clue as to what the average rate of increase of the world at large should have been during the 6,000 years since the actual dawn of human history.

If Jacob had lived 60 instead of about 39 centuries ago, could he within that time have propagated a race which now would number over 7,000,000,000 souls—equivalent to the world's present population? If so then why could not Adam have done precisely the same thing? If, starting with one human pair, it would be possible, in 60 centuries, to produce a generation of seven thousand million peopl—such as exists on this earth today—that would dispose of the necessity of

insisting upon an extreme age for the human race, at least on that score. Let us now see what Israel's average rate of increase has been since Jacob's day.

Jacob, the grandson of Abraham, was the father of the Jewish nation; his twelve sons were the heads of the twelve tribes of Israel. Jacob was born about 1960 B.C., or a little over 39 centuries ago. In 1878 A.D., when the Jews were first allowed to re-immigrate to Palestine/Israel, the world-wide Jewish population was about 8 million. It is a simple problem in mathematical progression to determine at what rate the house of Jacob had increased to produce that number.

The figure 2, doubled successively for only twenty-two times, i.e. [starting from 2], 4, 8, 16, 32, etc., yields a sum of just over eight million. Evidently, therefore the Israelites have doubled their population about twenty-two times during the thirty-eight centuries since Jacob's day. This would be one doubling every 170 years, approximately. If Israel, throughout the centuries of repeated servitudes, dispersions, and pogroms, could double its population every century and three-quarters, it would seem that all other people should have been able to do as well. Certainly the entire world must have been able to double its population at least once every two centuries, if Israel could do it every 170 years.

If Adam and Eve were created a little over 6,000 years ago, according to Bible records, and the world's population has doubled once every two centuries (which is even slower than the persecuted Jews have multiplied), then there have been about 31 doublings since Adam's day. And if we take the figure 2 and double it for 31

times it yields the number 4,294,967,296, which, in fact, approaches the present population of the world.

Now if man has been multiplying on this earth even for 50,000 years or longer, then why does not the world have a much greater population than six thousand million today? Even it we take the more conservative estimate of the earth's population doubling every two centuries, and then add 1,000 years to the length of time the Bible shows that man has been upon this planet, it would allow for five doublings of our present population of approximately 7,000,000,000. This would mean that if man has been upon the earth 7,000 years instead of just over 6,000 assigned by the scriptures, there should now be 137,000,000,000 people living here instead of a mere 7,000,000,000.

Think then of the "living room" problems that would have to be faced if man had been multiplying on the earth for 50,000 or 1,000,000 years! It staggers our imagination even more when we think of the crowded conditions which would have developed long ago on every continent and island of the earth if mankind had been multiplying for 2,000,000 years, as some would have us believe. Truly, the Bible stands corroborated by plain statistics and common sense, while wild guesses of evolutionists have neither science nor reason to support them.

Rohde, Olson, and Chang[23] have exercised several different computer models of population migration, mixing and growth, and they find the results are not very sensitive to either the model

23 Douglas L.T. Rohde, Steve Olson, and Joseph T. Chang, "Modelling the recent common ancestry of all living humans;" Nature **431**, 30 September 2004, p. 562-565.

or the input parameters. They conclude: "The date of the MRCA [most recent common ancestor] for everyone living today cannot be identified with great precision. Nevertheless, our results suggest that the most recent common ancestor for the world's current population lived in the relatively recent past—perhaps within the last few thousand years. And a few thousand years before that … the ancestors of everyone on the Earth were exactly the same." The conclusion seems consistent with Noah (as MRCA), and then Adam and Eve sixteen centuries earlier.

This facing of population facts is thought-provoking from still another standpoint, because it raises the question of how much longer the human race can continue to have room for its natural expansion. As demonstrated by science, all population growth, when unhindered by outside influences, follows a predictable course over time. At first, population expansion is slow, but eventually it reaches an explosive phase called the "exponential phase." The exponential growth phase eventually will sharply level off, as the limit of food and other resources to support the population is reached. Afterward, the population reaches stability, ceases to grow, and remains at that constant level which can be supported by available resources. As of this moment, humankind is in the exponential phase of expansion, and soon, the Earth will be full to capacity. The Bible alone speaks to this eventuality. It reveals that the commission God gave to the first human pair to propagate their species will expire when the earth is adequately filled with their offspring. This means that the increase of population will cease at exactly the proper time,

correlating with the establishment of Christ's kingdom here on Earth.

As found in an earlier chapter, it is the Creator's plan to restore the dead to life upon this earth. And it is a singular fact that while in a few more hundred years at the present rate of increase the earth would be overcrowded with human beings, yet, at this point of time there is still room for the living generation as well as for all who have died in the last 6,000 years. We are now at the threshold of the kingdom of Christ on earth, when God's plan for man is about to be consummated. His timing has been perfect. There is still room for all, the living and the dead, who will obey the laws of his kingdom and thereby be privileged to live forever, while in another thousand years or less there would not be room enough on earth even for the living.

DNA

Approximate dating of ancestors is possible by measuring slight changes in mitochondrial DNA (mtDNA, passed from mother to daughter, to daughter, etc.) and segments of the Y chromosome (passed from father to son, to son, etc.). Cann, Stoneking, and Wilson startled the evolutionist world in 1987 by sequencing mtDNA and announcing that all women in the world today are descended from one woman—one common female ancestor. Eight years later Dorit, Akashi, and Gilbert sequenced a portion of the Y chromosome and concluded that all men in the world today are descended from one common male ancestor.[24]

24 Rebecca L. Cann, Mark Stoneking, and Allan C. Wilson, "Mitochondrial DNA and human evolution;" Nature 325 pp. 31-36 (1 January 1987). Samples from 147 women rep-

Genesis names these two common ancestors: Eve and Noah.

Cann tentatively estimates the age of the most recent common female ancestor by assuming the populating of Australia 40,000 years ago, of New Guinea 30,000 years ago, and of the New World 12,000 years ago, and assuming the divergence of mtDNA accumulates at a constant rate; she thereby deduces a human divergence rate of $2\text{-}4\times10^{-8}$ per year, and thereby estimates the common ancestor to have lived 140,000 to 290,000 years ago. More recently, Parsons, et.al., have measured 10 mutations over 327 generational events, comparing about 610 base pairs in each mtDNA, yielding about 10 mutations / (327 generations × 610 base pairs) = 5×10^{-5} mutation/base-pair—generation, or about 2×10^{-6} (or $\approx 10^{-5.7\pm0.262}$) per year. (Howell, Kubacka, and Mackey also report $\sim 5.2\times10^{-5}$ per generation.)[25]

Cann's mtDNA types "have diverged by an average of nearly 0.57%" (which could be slightly low worldwide, as native Americans were not

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resenting five different geographic regions; estimated a mutation rate of $2\text{-}4\times10^{-8}$ mutation/base-pair–year. Robert L. Dorit, Hiroshi Akashi, and Walter Gilbert, "Absence of Polymorphism at the ZFY Locus on the Human Y Chromosome;" Science 268 pp. 1183-1185 (26 May 1995). An evolutionary split at five million years between humans and chimpanzees/gorillas is assumed in order to estimate 1.35×10^{-9} mutation/base-pair–year. [If all of the theories of evolution are false, then this rate evidently has no foundation.]

25 Thomas J. Parsons, et.al., "A high observed substitution rate in the human mitochondrial DNA control region;" Nature Genetics 15, pp. 363-368 (April 1997). Neil Howell, Iwona Kubacka, and David A. Mackey, "How Rapidly Does the Human Mitochondrial Genome Evolve?" Am. J. Hum. Genet. 59, pp. 501-509 (1996).

included). By straightforward division, Cann's divergence would correspond to an age of only 2850 years ago, or a range between 870 and 9300 years ago (95% confidence, or about 2σ). Genesis would date Eve around 6,000 years ago, which is well within that range. Parsons says ~6,500 years ago, while Gibbons says: "researchers have calculated that 'mitochondrial Eve'—the woman whose mtDNA was ancestral to that in all living people —lived 100,000 to 200,000 years ago in Africa. Using the new clock, she would be a mere 6000 years old."[26] (Cann's divergence of nearly 0.57%, divided by Parsons' or Howell's measured mutation rate, implies only 113 generations since Eve.)

The gross difference in published ages is easy to explain: The 10^5-to-10^6 year ages are based upon assumptions and estimates consistent with Evolution Theory 2 (Mutation Theory), while ages below 10^4 years are based upon actual measurement of the DNA mutation rate. While most biologists today are devoted to the theory, the scientific method says that when the data differ with the theory, the theory should be changed or discarded. In this case, the data harmonize with Genesis.

For the male lineage, Dorit, Akashi, and Gilbert sequenced a 729-base-pair intron on the Y chromosome for 38 human males worldwide, and they found no differences. Hammer found one difference, while Whitfield, Sulston, and Goodfellow

26 Ann Gibbons, "Calibrating the Mitochondrial Clock;" *Science* 279 5347, pp. 28-29 (2 January 1998). Parsons and Howell "warned that phylogenetic studies have 'substantially underestimated the rate of mtDNA divergence' " [Nevertheless, all do their obligatory obeisance to some theory of evolution.]

found three (See Appendix 1). Together, and using Dorit's evolutionary guesstimate for the mutation rate, the data suggest the most recent common male ancestor was between 4,320 and 27,255 years ago, with 95% confidence. (Hammer's mutation rate would lower these numbers by 29%.)

Spurdle and Jenkins comment: "It is possible that since the origin of the present-day Y chromosome, insufficient time has elapsed to allow for the accumulation of significant polymorphism" [mutations]. Jobling and Tyler-Smith acknowledge: "Whatever the explanation for this reduced diversity, its significance is that it tells us that the modern population of Y chromosomes has a recent common ancestor."[27]

27 Amanda Spurdle and Trefor Jenkins, "The search for Y chromosome polymorphism is extended to negroids;" Human Molecular Genetics, 1, 3, pp. 169-170 (1992). Mark A. Jobling and Chris Tyler-Smith, "Fathers and Sons: the Y chromosome and human evolution;" Trends in Genetics 11, 11, pp. 449-456 (November 1995).

Chapter 4

"In the Image of God"

The Bible tells us that the first man was the direct creation of God and that as he came from the hand of his Creator he bore the divine image. This means that he was physically perfect and capable of exhibiting those qualities of kindness, sympathy, and love which we naturally attribute to God and which the Scriptures assure us actually belong to him. Man's current state of imperfection is scripturally attributed to retrogression due to disobedience of divine law. Have any scientists of whatever persuasion been able thus far to produce any proof that this is not true?

Evolutionists claim on the other hand, that man's present condition of imperfection is not due to retrogression, but to the alleged fact that we are not far enough along on the road of evolution to expect to find man any more perfect than at present; but that as the evolutionary process continues, man of the future will really be much more perfect in every way than now. Are scientists able to substantiate this theory of human evolution, or does it as yet continue to be merely an unproved theory? Which is correct, the scriptural view, or the evolution theory? This is the issue we wish to face in this chapter.

THE TESTIMONY OF WORDS

The sixth creative day closed with "God said, Let us make man in our image, after our likeness, and let them have dominion. … So God created man in his own image, in the image of God created he him, male and female created he them. And God blessed them." (Gen. 1:26,27) Expressed first, the plan was to make man similar to God in two respects: (1) in God's image, and (2) according to God's likeness. But the report following says only that man was made in God's image; the likeness evidently remained to be instilled later.

God made man in his image by giving him the ability to think and reason, and the ability to communicate. From Adam until the Flood "the whole earth was of one language and one speech." (Gen. 11:11) Historical linguistics is now giving the world an insight into that time. About seven hundred "Nostratic" words have been rigorously reconstructed from six major language groups (phyla): Indo-European (including English, Greek, and Sanskrit), Semito-Hamitic (also called Afro--Asiatic; including Hebrew), Kartvelian ("Georgian" language group), Uralic (including Finno-Ugric), Altaic (Siberian languages), and Dravidian (South Indian, including Tamil); from which are modern languages natively spoken by 60% of the world's population today. The Dene-Caucasian languages (including Chinese, North Caucasian, and Navajo) account for another 28%. With other language phyla (Austric, Indo-Pacific, Australian, Niger-Kordofanian, Khoisan, Amerind), more than 99% of the world's population today is accounted for, and for these Blažek has derived a dozen "world roots" (such as the roots for 'warm,' 'knee,' and

'eye'), which should thusly reflect words current in Noah's day, and likely earlier.[28] The Semitic languages appear overall to have best preserved the combination of meanings and pronunciations of words (lexemes).[29]

While advocates of the very controversial glottochronology speak of the origin of speech as 20,000 to 50,000 years ago, Wescott observes: "If, on the other hand, spoken language has changed at a relatively constant rate, it seems likely that speech originated little, if any, more than 10,000 years ago." Today there are more than five thousand languages known in the world (with many others expected yet to be documented).[30] Genesis 10 records about seventy languages known in the world as much as thirty-six centuries ago, suggesting the number of languages doubles about

28 Vitaly Shevoroshkin, ed., "Materials from the first International Interdisciplinary Symposium on Language and Prehistory," Ann Arbor, 8-12 November 1988, 5 vols.: BPX-20, 23, 25, 32, 33; Bochum, Germany: Universitätsverlag Dr. N. Brockmeyer, 1989-1992. Vaclav Blažek, "Materials for Global Etymologies;" BPX-20, pp. 37-40. The homeland of the Nostratic languages is apparently in the Near East, near Mt. Ararat; the homeland of the Dene-Caucasian languages is also somewhere in the Near East. For the most stable lexemes, see Aaron B. Dolgopolsky in "Typology Relationship and Time," ed. Vitaly V. Shevoroshkin and T.L. Markey; Ann Arbor: Karoma Publishers, 1986, pp. 27-50.

29 In Vitaly Shevoroshkin and Paul J. Sidwell, eds., "Historical Linguistics and Lexicostatistics;" Melbourne: Association for the History of Language, 1999. pp. 105-110.

30 Merritt Ruhlen, "A Guide to the World's Languages," Vol. 1, "Classification;" Stanford: Stanford Univ. Press, 1989. Ruhlen lists Sumerian among only nine unclassifiable languages ("language isolates"); perhaps this language of Old Babylon was invented as the world's first underworld language.

every 585 years. Thus, extrapolating back to just one universal language would not reach back much more than 5,000 B.C., and likely less. In Genesis 12, Abram (Abraham) moved freely from Ur in Sumer to Egypt, apparently without using interpreters, suggesting that at least some of the Semito-Hamitic languages were still mutually intelligible. The earliest clear reference to an interpreter (lutz) is two centuries later, in Genesis 42:23, where Joseph elects to use one to speak to his unsuspecting brethren. (Whether Job 33:23 is an earlier reference to interpreters of national languages is left to the reader to decide.)

The written word also preserves evidence of the relatively recent common history of humanity. For examples far from Eden and Ararat (Urartu), the Chinese character for 'create' is composed of subcharacters meaning 'dust' + 'breath of mouth' + 'alive' + 'walking' (adult), reflecting Genesis 2:7, "And Jehovah God formed the man of the dust of the ground[31], and breathed into his nostrils the breath of life; and the man became a living soul." The character for 'boat' is composed of subcharacters meaning 'vessel' + 'eight' + 'breath of mouth,' reflecting Genesis 7:13, "In the selfsame day entered Noah, and Shem, and Ham, and Japheth, the sons of Noah, and Noah's wife, and the three wives of his sons with them, into the ark."[32]

Thus, things known of both the spoken and the written word are consistent with the Genesis record.

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31 Hebrew Adamah [ground, soil, earth]. All elements and isotopes in the human body also occur in the earth's crust.

32 C.H. Kang and Ethel R. Nelson, "The Discovery of Genesis;" St. Louis: Concordia Publishing House, 1979.

IRREDUCIBLE COMPLEXITY

In Creation Theory, an animal or plant would be expected from its inception to be in near-optimum physical condition. In Darwinian and neo-Darwinian Theories each species builds up slowly and progressively towards a stronger species. A detrimental alteration (variation or mutation) would be bred out of the species (more detrimental alterations would be bred out faster), and a beneficial alteration would progressively replace the unaltered population. But what if a subsystem is complex?

Michael Behe[33] first cites as an example of complexity the cilia (singular, cilium), energized hair-like projections on the outside of a protozoan ("ectoplasmic organelles;" typically a few microns long on the outside of a fifty-micron-size cell, such as Balantidium coli). More than 200 different proteins are incorporated. At least three components are necessary for locomotion: flexible structure (microtubules), motor (dynein), and linkers (nexin "arms"). The system is irreducibly complex. If any one of these three is destroyed, locomotion is lost, and the other components alone are useless. By the postulates of evolution, the useless components will be bred out of the population. So how could the cilium have evolved one component at a time?

Next cited is the bacterial flagellum, a motorized tiny whip-like feature which enables a protozoan to swim around in the host. The flagella are $\sim 10^{-3}$ cm long, extending from a single cell, usually of comparable dimension. (Bacterial

33 Michael J. Behe, "Darwin's Black Box: The Biochemical Challenge to Evolution;" New York: Touchstone, 1998.

examples include Trichomonas hominis, Chilomastix meshili, and the pathogenic Giardia lamblia, which dwell in the intestines). This motor-like feature consists primarily of its "paddle" (filament and hook), rotor (M ring), and stator (S ring), plus bushings at the cell wall penetration (L and P rings), and incorporating some 40 proteins. The filament, rotor, and stator are all essential for functionality; so how could the flagellum have evolved one component at a time? Moreover, these components must assemble themselves in a unique sequence or the parts will not fit together. How did random chance know how to assemble the parts?

For a further example, blood is a vital fluid in mammals and many other animals, for carrying oxygen and nutrients to tissues throughout the body. But a small cut in the skin will not cause all the blood to leak out. The blood will begin quickly to clot around the wound and then harden. But why does the clotting not continue until the arteries are blocked, so that the host consequentially dies?

Behe has outlined for public consumption a very complex system for blood clotting in human beings (see his Figure 4-3). About ten steps, and a comparable number of feedback mechanisms, must occur sequentially to form the blood clot long before the host bleeds to death. Then another parallel complex mechanism prevents the clotting from spreading away from the wound to clot the blood throughout the rest of the body. How could all of the essential biochemicals evolve independently, and over a long period of time? Just one or two of the steps by themselves would keep blood from clotting fast enough to

preserve the patient, or else cause the blood to clot in the arteries and veins until the patient dies from stroke or heart attack.

For just two of the essential steps, Behe says that random rearrangement of gene pieces could occur 30,000 ways in each of four segments, only one arrangement of which would yield the essential Plasminogen [to dissolve fibrin blood clots]. The chances of the right arrangement are thus one in $(30{,}000)^4 \approx 10^{18}$. The probability is comparable for its activator (TPA), also required; so together the chances are one in $(10^{18})^2 = 10^{36}$, a very small chance indeed! It is doubtful there are as many as 10^{36} gene pieces in the whole world. (And how long would it have to have taken to breed the other 10^{18} arrangements out of the population?)

Further, then, what are the chances that Plasminogen and its activator would accidentally occur in the same generation of time? And in the same body? And similarly for all the other blood-clotting factors?

Behe continues with the still-more-staggering complex cell structure, the immune system, and the metabolic system. Unimaginably complex, much of it irreducibly complex, none of these should have slowly evolved.

Still, some argue that—no matter how incredibly improbable—the very existence of we humans should be taken as proof that evolution has occurred. The same argument can be used every bit as well as proof of creation by intelligent design. Is man's existence not proof beyond reasonable doubt of an incomprehensibly powerful superintellect? of God Himself?

"I will praise thee; for I am fearfully and wonderfully made."—Ps. 139:14

SUMMARY OF EVIDENCE

Evidence from ten sources may be summarized as follows:

1. Cosmology: The universe had a beginning. Astronomical measurements, with Einstein's General Theory of Relativity, imply the universe began with a Big Bang—the creation event.

2. Genesis 1: The steps presented in the shaping of Earth for man's creation represent a logical progression, including a steady decrease in atmospheric pressure. (The Genesis scenario remains, while many twentieth-century ideas of Earth's history have fallen.)

3. Paleontology: Transitional forms between species are absent from the fossil finds. Life forms occur suddenly and abundantly.

4. Biochemistry: Many complex biological subsystems cannot have evolved by accumulation of small steps.

5. Evolution Theory: The theory of evolution has itself had to evolve by big steps to look, for most practical purposes, like Creation Theory.

6. Archaeology and History: Ancient man was highly cultured; civilization afterward progressively deteriorated for over a thousand years. It may be inferred that Abraham was alive in the 21st century B.C.

7. Population growth rate: The beginning of human population extrapolates to only about 6,000 years ago, assuming historical growth rates were approximately constant.

8. DNA: The most recent common male ancestor of all men in the world today appears to have been between 3,000 and 30,000 years ago. The most recent common female ancestor of all women

in the world today appears to have been about 6,000 to 7,000 years ago (using the only published calibrated mtDNA mutation rates).

9. Historical Linguistics: Virtually all languages in the world today have branched out from a single language, which was spoken in the relatively recent past.

10. Genesis 5, 10 and 14: Adam and Eve were alive 6,000 years ago; Abraham was alive 4,000 years ago.

In each area of scientific study there is significant support for the Genesis accounts of Creation and of early human history.

DARWIN AND MYTH

Dr. Frank Sulloway began his history of science career looking at Darwin, before detailing the fraud of Freud.[34] Sulloway's professor, Edward O. Wilson, had told him: "Go to the Galápagos. You'll find all of evolution there in microcosm."

Russell Schoch relates: "Following his graduation from Harvard, Sulloway used a traveling fellowship to spend six months in England studying Darwin's manuscripts and 'Beagle' specimens, and four months back in the Galápagos doing further research and photography. Gradually a puzzle formed in his mind: 'the myth of

34 Frank J. Sulloway, "Freud, Biologist of the Mind: Beyond the Psychoanalytic Legend;" New York: Basic Books, 1979. Sulloway's conclusion of chapter 13 seems applicable to Darwin also: "Finally, for Freud, who likened the myths of nations to the inevitable distortions that individuals create about their early childhood, man's insatiable need for historical falsifications was a fundamental tenet of his science… Is it not understandable, then, that he and his disciples should have availed themselves of such a splendid mythology of their own collective making?" [p. 489]

the Voyage Conversion.' Why had historians, for a hundred years, gone along with the myth that Darwin discovered evolution while on board the 'Beagle?' And why, once he had returned to England and examined his specimens, was Darwin convinced of the theory of evolution when the experts he consulted not only criticized him for the errors he made in classifying those specimens, but also refused to buy his thesis of evolution? There were psychological questions here, some relating to scientific creativity on Darwin's part, others to historians who perpetuate myths despite evidence to the contrary."[35]

Schoch adds: "Myths must deny history in order to substitute something ahistorical in its place." In this case, atheists have had to deny Genesis to substitute evolution in its place.

If even the fossil evidence does not support theories of evolution, then why is evolution not simply abandoned? The answer would appear to be that there is no credible alternative that avoids giving credit to God.

A PSYCHOLOGY OF DENIAL

Michael Behe finds himself compelled to conclude[36], "The simplicity that was once expected to be the foundation of life has proven to be a phantom; instead, systems of horrendous, irreducible complexity inhabit the cell. The resulting realization that life was designed by an intelligence is a shock to us in the twentieth century who have

35 Russell Schoch, "The Myth of Sigmund Freud, Was the father of psychoanalysis a closet biologist with a good sense of PR [Public Relations]?" Science 80, 1, No. 2, pp. 22-27 (Jan./Feb. 1980).

36 Michael J. Behe, op. cit. Particularly pages 243-252.

gotten used to thinking of life as the result of simple natural laws."

Behe explains the unwillingness of many scientists to consider the possibility of an intelligent designer: "The fourth and most powerful reason for science's reluctance to embrace a theory of intelligent design is also based on philosophical considerations. Many people, including many important and well-respected scientists, just don't want there to be anything beyond nature. They don't want a supernatural being to affect nature, no matter how brief or constructive the interaction may have been. In other words, like young-earth creationists, they bring an a priori philosophical commitment to their science that restricts what kinds of explanations they will accept about the physical world. Sometimes this leads to rather odd behavior."

Commenting on several metaphysical concepts postulated to avoid the conclusion that there was a beginning of our universe, Behe again explains: "No experiment has been done to support the notion of bubble universes, imaginary time, or the zillion anthropic universes. Indeed, it seems that no experiment could detect them in principle. Since they or their effects cannot be observed, then they are metaphysical postulates, no more accessible to experimental investigation than an admittedly supernatural being. They do science no good. Their only use is as an escape hatch from the supernatural."

"The reluctance of science to embrace the conclusion of intelligent design that its long, hard labors have made manifest has no justifiable foundation. Scientific chauvinism is an understandable emotion, but it should not be allowed to affect

serious intellectual issues. The history of skirmishes between religion and science is regrettable and has caused bad feelings all around. Inherited anger, however, is no basis for making scientific judgments. The philosophical argument (made by some theists) that science should avoid theories which smack of the supernatural is an artificial restriction on science. Their fear that supernatural explanations would overwhelm science is unfounded. Further, the example of the Big Bang theory shows that scientific theories with supernatural ramifications can be quite fruitful. The philosophical commitment of some people to the principle that nothing beyond nature exists should not be allowed to interfere with a theory that flows naturally from observable scientific data."

"…we are left with no substantive defense against what feels to be a strange conclusion: that life was designed by an intelligent agent…"

PUBLIC PERCEPTION

After half a century since the Scopes trial, the unbelieving among scientists had not converted all America to atheism. In a wide-circulation news account[37], "According to several recent Gallup Poll surveys, 40% of all adult Americans believe that the Bible is 'the word of God without mistakes,' and 86% favor including the creation view in public school curricula."

In the face of Creation Theory successes, evolutionists are counterattacking. "Their tactics, however, are more hit and run than search and

37 Russell Chandler, "Evolutionists Take On the Creationists;" Los Angeles Times, May 10, 1982, Part I, pp. 1, 18-19. Also Time 168, 18, p. 50-51 (Oct. 30, 2006).

destroy. All but one person at the Academy of Sciences meeting (Autumn 1981) reportedly agreed that debates with creationists … should be avoided." Why?

"Institute for Creation Research scientists have debated more than 100 evolutionists in recent years. Pro-evolution college professors concede that, in the public eye, they usually lose to the creation scientists."

PHILOSOPHY OF SCIENCE

Astronomers observe that galaxies hold together, but the universe's expansion is accelerating. Yet they cannot detect enough mass in the galaxies to hold them together nor see what is pushing the galactic clusters apart from each other. An explanation which has become popular among astrophysicists is to suppose there is matter and energy that we cannot detect. The "dark energy" is perhaps three times the "dark matter," and together they would constitute more than 95% of what the universe is made of. Both are invisible and we cannot test them (which might put them beyond the boundary of science). But if we have less than five percent of the evidence, scientists are definitely limited.

When does improbability become incredibility? If there is a 10-kg iron ball atop a statue on a 10-meter-high hill, and if we notice a sonic boom cause the ball to fall off and start rolling down the other side of the hill, then we will not be surprised to find the ball at the bottom of the hill, perhaps 100 meters away; no intelligent intervention is necessary to explain it.

If the next day we should see that the ball is again atop the statue, a quantum-mechanical

computation can be made of the (im)probability that it tunneled through the gravitational barrier sometime during the prior 24 hours. Most of us would think it more likely that someone representing the owner had retrieved it and restored it to its proper place.

Similarly, what is the probability that random chance could produce a living cell? What are the chances of a single cell mutating into complex life? And what is the probability that random chance would enable intelligent life to sustain itself on even one planet in the universe? Although this last would seem to be the least improbable of the three, even that probability is less than 10^{-217}. Occam's razor suggests it is far more likely that we have discovered evidence of intelligent design from the invisible world—perhaps the world of dark matter and energy.

When there is life in the material world, can it be reasonable to demand that there be no life in the invisible world? With more dark matter/energy available, there is greater opportunity for more intelligent and powerful life there also.

"The invisible things of him since the creation of the world are clearly seen, being perceived through the things that are made."—Rom. 1:20

Chapter 5

"Of the Dust of the Ground"

Only the infinite wisdom and mighty power of the Creator could combine the chemical elements of the earth in such proportions and in such a constituency as to form the bodily organism of man. David said of himself that he was "fearfully and wonderfully made," and the more we learn about the human body the more fully we realize the truth of the prophet's statement.—Ps. 139:14

And beyond the complexities of the human organism itself is the miraculous manner in which it is made to live. No more profound truth was ever recorded than that contained in the explanation that God breathed into the nostrils of the human body he had created and it "became a living soul."

Great truths are often simple. We are apt to overlook the realities of understandable facts by searching unnecessarily for some hidden meaning which does not exist except as we create it by our own imagination. That the human organism is formed of the dust of the ground—the elements of Earth—is a scientific fact. That the breath is essential to life is also well established by human experience. Science has no quarrel with the Bible up to this point. Actually, when

the Bible is properly understood it is found to be in harmony with all proven facts of science relative to the nature of man.

In this closing chapter of our discussion it is the viewpoint of professed orthodox religious philosophers rather than that of the real scientists with which we take issue. Science can never be in harmony with much of the religious philosophy which claims to be based upon the teachings of the Bible.

A majority of theologians insists that man is more than the Bible claims for him; that in addition to the breath of life, God implanted in his human creature an indefinable something called an "immortal soul," which, being independent of the body even though residing in it, continues to live after the body dies. Thus, claim these theologians, man is inherently immortal—hence cannot die—therefore there is no death.

This philosophy is as unscientific as it is unscriptural. God holds the secret of life in his own custody, so that it is not possible for us to understand why the union of the breath of life with the fleshly organism results in a "living soul"; but plainly it is the union of the two that results in forming the living soul. The soul is not a separate entity. There is no scientific or scriptural reason to suppose that the Creator implanted something additional in the human organism to make it live, which he did not impart to the lower forms of earthly life.

A proper rendering of the original text in Genesis 1:30 indicates that the lower animals are living souls, even as is man. They were all made of the dust of the ground, and all received the breath of life. To this scientists will give assent.

Ecclesiastes 3:19-21 reaffirms this fundamental truth of the Scriptures, declaring that men and beasts all have the same breath, and that in death there is no difference.

Scientists may not agree that man dies because of being a sinner, a transgressor of divine law, but they do accept the fact that death is a reality. But there are comparatively few theologians who are prepared to accept the teachings of the Scriptures on this point. They may agree that man is a sinner, but they do not agree that because of it he truly dies. Death, they say, is but the gateway into another life, and that when the Scriptures refer to death as a punishment for sin it means merely a separation from God, not a literal dying, a complete ceasing to live. Hence, in this particular phase of the subject we find ourselves more in harmony with most scientists than with most theologians.

It is not surprising that the Bible goes beyond the findings of science in its presentations of facts, for, after all, as a revelation of God's purpose in the creation of man, it not only tells us of his original creation but also of his final destiny. Scientists may say that man's sure destiny is death, but the Bible says that there is to be a resurrection of the dead—a re-generation.—Acts 24:15; Matt. 19:28.

Job stated the matter with scientific correctness when he asked: "If a man die, shall he live again?" (Job 14:14) If Job had been a modern theologian he would have inquired: "When a man seems to die, is he really dead?" Job knew that when a man dies he is dead; and with this science agrees. Job also had faith to believe that dead men shall live again, and Jesus confirms

this belief in the statement to Martha when discussing the death of her brother, Lazarus: "Though he were dead, yet shall he live."—John 11:25

It is only as we accept the teaching of the Scriptures concerning the reality of death that we are able to understand God's plan for the recovery of the lost race from death. When God created man he placed him under law. It was a simple law. Its simplicity is a good evidence of its divine authorship. When men make laws, they find it necessary to have lawyers to interpret them. Very seldom is a layman competent to interpret the complexities of the laws by which he is supposed to be governed. God's law to Adam was simple. There was no misunderstanding it; hence, when Adam broke that law it was a willful transgression, and demanded the full penalty of death.

Now if man does not really die, then there could be no resurrection of the dead, and the great hope of the resurrection, as set forth in the Scriptures, is made null and void. If the wages of sin is not death, then there was no need that Jesus should die to save mankind from death. If man does not die, then there is no need for the gift of eternal life "through Jesus Christ our Lord."—Rom. 6:23

Ah, but some will say, there must be something about man that does not die, else how could there be life beyond the grave? The difficulty of those who take this view is the same as that of many scientists—they do not—perhaps cannot—believe in miracles.

The most scientific viewpoint that anyone can have is to accept as the starting point for everything the fact that there exists a great First Cause, an intelligent Creator and Lifegiver, who made

the universe and all things in it. Accepting this basic fact of Scripture as a starting point, the whole plan of creation opens up like a beautiful flower to our enraptured view.

We do not have to know how God made so many trillions of suns. We just rejoice in the fact that he did. We do not have to know just how man "became a living soul" when God breathed into his nostrils the breath of life. We simply know that he did. We know he became a soul because the Scriptures say so. We know that God did not implant an immortal soul within man because the Scriptures do not declare anything of the kind.

Our own common sense tells us that death is a reality, and therefore that the Bible is true when it describes death as an "enemy." (1 Cor. 15:25,26) If we can believe that God was able to create vastly more planets, suns and stars than there have been human beings on this earth, then it is not difficult to believe that the same intelligence is able to re-create the billions who have died and, by this means, restore the dead to life. And it is exactly this that God has promised to do! "As in Adam all die," said Paul, "so in Christ shall all be made alive."—1 Cor 15:22

Is this more difficult to believe than the theory of the evolutionists who claim that the whole universe came into being by mere chance; that even life itself just happened to be? Oh yes, scientists have an explanation. It is very simple. They say that in the eons of the dim past certain combinations of carbon, oxygen, nitrogen, and hydrogen somehow gathered together and produced protoplasmic life.

While scientists theorize as to how this must have occurred, they admit that they are unable

to reproduce it now, notwithstanding the boasted "twentieth century of progress" and twenty-first century technology. It seems very unscientific to suppose that such a thing could occur by chance millions of years ago, and yet at the same time confess that with all the available scientific knowledge of these modern times it cannot be duplicated today. After all, if it cannot be tested, then—like history —it is not science.

Scientists admit that they have tried to produce life, but have failed; nor have they discovered the origin of the necessary carbon, oxygen, nitrogen, and hydrogen, which accidentally came together to form the first living cell.

The entire evolution theory rests on supposition only. The evolutionist should admit that it is most unscientific to claim that life was spontaneously generated, when they are utterly unable to prove it or to demonstrate how it was done. Evolutionists cannot explain how a plant germ evolved into an animal cell, nor can they prove that it has ever occurred. The first animal cells, some assert, were genderless, but they are unable to explain how some of these developed into males and others into females.

All along the line, the Darwinist must exercise a blind faith; for, as we have seen in a previous chapter, there are great gaps in his suppositions as to evolution. While the earth is being searched with unremitting energy for missing links between apes and men, it never seems to occur to the Darwinists that it is unscientific for the apes to continue on as a species through alleged millions of years, while creatures higher in the scale of evolution have become extinct so long ago that not even fossil remains of their bones

can now be found. If apes have had intelligence enough to perpetuate their species, certainly creatures with an apparently higher degree of intelligence than apes should have succeeded as well. And the Theory-3 (Punctuated Equilibrium) evolutionist, with a concept of sudden evolution, cannot begin to reproduce it today.

When it comes to true science, what is more unscientific than the theory of human evolution? It begins with nothing, cannot be tested or reproduced, and leads nowhere. It leaves man in the grave, and despite the fact he had an intelligent longing for life and its perpetuation, the only hope which evolutionists have for him is that his life chromosomes and genes will continue on representatively in his offspring.

LIMITATIONS OF KNOWLEDGE

Why not put aside all this non-science and acknowledge that there are some things we humans cannot know? All creation tells us that there must be an intelligent, powerful Creator. We might as well try to explain higher mathematics to a mule as try to understand where the Creator came from, or to grasp the fact that he has always existed.

Nevertheless, it would be very unscientific to say that higher mathematics does not exist simply because a mule cannot understand it. It would be equally unscientific to say that the whole universe has come into being by chance simply because we cannot define the Creator. Indeed, as the prophet declares, it is only a fool who says in his heart, "There is no God."—Ps. 14:1; 53:1

Accepting, then, the scientific implication that there is a God who created the heavens and

earth, and having found that the Bible presents a wonderfully scientific and understandable account of creation as it relates to man and his domain here upon this planet, it should not be difficult to go a step further in this truly scientific process of thinking and accept the scriptural preview of things yet to be. We know that whatever the Creator has promised to do, he is abundantly able to perform.

The future for all of us depends upon the love and power of the Creator. Our hopes rest upon the promises of God to raise the dead. The hope of a resurrection is affirmed and reaffirmed throughout the Scriptures. In the 15th chapter of 1st Corinthians is found one of the most comprehensive statements concerning it. The apostle there begins with the resurrection of Jesus. It was necessary that Jesus should die as the Redeemer of the world, but it was also essential that he be raised from the dead, in order, as Paul shows, that those for whom Christ died might have a hope of resurrection.

The apostle also explains that Jesus was made alive in the spirit—that is, as a spirit being. In this wonderful chapter the apostle reminds us of the scientific fact that there is one kind of flesh of birds, another of beasts, and another of men, that there are bodies terrestrial (earthly) and bodies celestial (heavenly). Certainly it would be unscientific to conclude that in all the great universe man is the only intelligent being whom the Creator has made.

David declares that man was made a little lower than the angels. (Ps. 8:5) The apostle tells us that when Jesus was raised from the dead he was exalted above the angels. Indeed, he was raised

very much higher than the angels, even to the right hand of the Majesty on high.—Eph. 1:18-23; Heb. 1:3,4; 8:1

In Paul's masterful treatise of the resurrection he indicates that a few from among earth's billions, because of their faithfulness in following in the footsteps of Jesus, are to be exalted with him when resurrected from the dead. These, too, will then be given celestial bodies, for they are to be made like him (1 John 3:2). However, the great hope for the billions of mankind who have died is that they shall be restored to life as human beings—homo sapiens, the biologists would say.

Here again, most theologians have distorted a great scriptural truth by inserting into their creeds the statement: "I believe in the resurrection of the body." In view of their false theory regarding the nature and destiny of man, this is the only way they could acknowledge a semblance of the Bible teaching of the resurrection. The real man, the "immortal soul," they say, does not die, hence needs no resurrection. But at the same time, they claim that at death the soul is liberated from the bondage of the human body and is free to wing its flight to realms of eternal bliss. If this were true it is not exactly clear why Paul should say that if there be no resurrection of the dead then those who have fallen asleep in Christ have perished.—1 Cor. 15:18

However, this is the theological theory, and in order to harmonize it with the idea of a resurrection it was necessary to assert that it is the body which is to be raised from the dead, ostensibly that it might once again become the prison-house of the soul.

But Paul denies this philosophy, declaring that we sow "not that body that shall be" (1 Cor.

15:37), but to every seed its own body. What does he mean by this? Throughout this chapter Paul mentions the resurrection of two classes—a spiritual class, of which Jesus is the Head, and an earthly class—celestial and terrestrial.

The class in which one will be raised is determined by the sowing. In 2 Corinthians 5:17 the apostle declares that those in Christ—true Christians—have become "new creatures." These new creatures have new aims, new hopes, new ambitions. They are admonished to set their affections on things above, not on things of the earth. (Col. 3:1,2) They "sow" to the spirit rather than to the flesh. (Gal. 6:8) In the resurrection God gives them an appropriate spiritual body in keeping with the spiritual hopes his promises inspired in them.

But the sowing of the vast majority has been entirely earthly, and the body given to these will be in keeping therewith. The question naturally arises, from whence will such a body come? The correct answer is, from the "dust of the ground."

Will God need the same atoms that were in the body which died, in order to do this? No, of course not! After all, it isn't the chemical constituents in a body that make a man—it is the sum total of his thoughts which, through the period of his existence, have been impressed upon the cells of his brain. Our body tissues are continually breaking down and being replaced by new ones, but our thoughts continue to develop and mature into character—either good or evil.

With implicit confidence in the infinite power of the Creator because of the marvelous demonstrations of that omnipotence with which we are surrounded, we can believe his limitless perception

and memory have retained the character record of every human being who has ever lived. If mere man can transfer the human voice from one electronic componenet or computer memory to another, surely the Creator is able to file away the impressions recorded upon the human brain and reproduce them in an identical brain when his due time arrives to give every "seed" its own body.

So again, from the "dust of the ground" God will use his creative power to produce human bodies—billions of them—and in the brains of those bodies reproduce every thought impulse and every trait of character possessed by the billions of mankind who have died. These "restorations" will be accurate reproductions of the personalities that will then be re-generated.

This will mean that the memory will also be restored, enabling each individual to recall the past and to benefit from the lessons learned. How many times we hear people say that if they had their lives to live over again, how differently they would do. This is precisely the opportunity the Creator has planned to give every descendant of Adam.

Then the experiences of this life will be of inestimable value to them. If they profit from the lessons learned, accept the provision of life through Christ, and obey the righteous laws of the Creator then in force, they will live forever, in full enjoyment of all their perfected faculties—a credit to the great Creator for whose pleasure their life will then be a joy forever.—Rev. 4:11.

They will live forever, not because they will have implanted in them that which cannot die, but because the perfect food supply and the gradually

perfected environment of that time, used in harmony with divine law, and under the sunshine of God's favor, will sustain life continuously.

The symbolic prophecy of Revelation 22:1-3, 17 will then be fulfilled. The "river" together with the "trees" which grow on its banks, will be the source of life for all mankind. Then sickness and death will be no more, for God's purpose in the creation of man will have been consummated. Then all will know that he created the earth not in vain, but formed it to be inhabited.—Isa. 33:24; 45:18; Micah 4:1-4

A NEW CREATION

One may ask, if God created all manner of life, why has he stopped creating?

Only the Bible can answer that question. Creation has, in fact, not ended, for Paul speaks of a new creation. (2 Cor. 5:17; Gal. 6:15)[38] In this age of faith God is developing people in faithfulness, thence to become a heavenly new creation—to work from heaven with Christ for the benefit of the world on earth forever.

The new creation is being developed in spiritual characteristics—love, joy, peace, longsuffering, kindness, goodness, faithfulness, meekness,

38 It is true that God interrupted this creative work on the 7th day, or 7th creative epoch (Genesis 2:2-3). But when the time was ripe to send Jesus Christ, God began work on this new creation (Gal. 4:4-5).

It may be noted that there is no statement like "The evening and the morning were the 7th day;" comparison of Genesis 1:26 with 1:27 suggests that when the likeness of God has been fully instilled in man, and the image of God restored, the 7th creative day will end. Some scriptures also speak of an 8th day as a desirable time yet future (e.g., Ezek. 43:27).

self-control. (Gal. 5:22-24) The unbeliever among scientists sees no physical evolution upwards and concludes no new creation is in the making; he might appreciate the character of the person but concludes that at death all is forever lost. The believer, scientist or not, watches with pleasure the growth of character in others and views it as embryonic of a to-be-resurrected new creation.

The new creation is being taught to love even its enemies, just as Christ loved his. Why? Because in Christ's kingdom they will be the heavenly priesthood to resurrect, reconcile and then bless the rest of the world on earth.—Matt. 5:44-48; Rom. 5:8; 1 Peter 2:5; Rev. 20:6; Matt. 6:10; Eph. 1:10

The new creation is to be God's finest creation in the universe.

Appendix 1

Imprecise Dating Methods for the Remote Past

What is the age of the universe? of the earth? and of man? Which hypotheses and theories can account for all we see around us today? Which ones are consistent with Genesis? Which ones are testable by the scientific method (which is necessary to qualify as science, rather than being just metaphysics or pseudo-science, or theology)?

Three illustrative approaches to estimating ages outlined below lend themselves to physical measurements and straightforward mathematical computation.

COSMOLOGY

The equations of the theory of general relativity have been tested in a multitude of ways and have thus far passed every test. It is therefore proposed as the description of cosmology: the dynamics of the universe. The first equation for Einstein's theory of general relativity may be simply written (1a):

$$\frac{2}{R}\frac{d^2R}{dt^2}+\left(\frac{1}{R}\frac{dR}{dt}\right)^2 = -K\frac{c^2}{R^2}-\frac{8\pi G}{c^2}p+\Lambda \qquad \{K\approx 0\}$$

where R is the radius of the universe (m)
t is time (sec)

c is the speed of light (2.99792458×10^8 m/sec)

G is the universal gravitational constant (6.672×10^{-11} $m^3/kg\text{-}sec^2$)

M is the entire mass of the universe ($\sim 5 \times 10^{52}$ kg)

p is the average pressure of matter/energy throughout the universe (a variable; $p/c^2 \approx 9.25 \times 10^{-14}\ \rho\ T / A$ [kg/m^3], $A_H = 1$ kg/kgmol)

ρ is the large-scale average density of matter/energy in the universe (a variable)

Λ is Einstein's postulated cosmological constant ($\sim \Omega\ H_o^2$; indirectly measured to be about 27% smaller than Einstein's prediction, or, $\Omega_\Lambda = 0.73 \pm 0.03$)

H_o is the Hubble constant (70 (±10) km/sec-Mpc; 1 Mpc = 3.0856776×10^{19} km; history-averaged, perhaps $H \approx 114$ km/sec-Mpc)

The second equation is (1b)

$$\left(\frac{1}{R}\frac{dR}{dt}\right)^2 = \frac{8\pi}{3}G\rho - K\frac{c^2}{R^2} + \frac{\Lambda}{3} = \frac{2GM}{R^3} - K\frac{c^2}{R^2} + \frac{\Lambda}{3}$$

Equation 1a may be simplified by substituting Equation 1b into it, yielding (1c)

$$\frac{1}{R}\frac{d^2R}{dt^2} = \frac{-4\pi G}{3}\left(\rho + 3\frac{p}{c^2}\right) + \frac{\Lambda}{3} = -\frac{GM}{R^3} - 4\pi G\frac{p}{c^2} + \frac{\Lambda}{3}$$

The three foregoing equations are simple to write, but more difficult to solve. However, for earliest time in the history of the universe, the

pressure term would have been dominant, while for the distant future the density and pressure will become small; so the postulated Λ term would become dominant. For earliest time (assuming an adiabatic expansion—no heat flow to or from the universe—with $p/\rho^{5/3}$ constant) there is no simple solution of Equations 1. At intermediate times (after the first microsecond, with $T << 3.6\times10^{12}$ °K, but before the present) the density term dominates, and the solution is: (2a)

$$R \approx \left[\frac{9}{2}GM\right]^{1/3} t^{2/3}\left[1+\frac{\Lambda}{12}t^2\right] \approx 2.5\times10^{11}\, t^{2/3} \quad (km)$$

With the density term dominant, a present age of the universe of order $t \sim 1^{+}\times10^{10}$ years is then implied. (The pressure term further decelerated the expansion in the first microsecond, but that should increase the inferred age of the universe only negligibly. For $\Lambda > 0$, the inferred age of the universe is decreased.)

For late times the solution would be (assuming no external intervention; e.g., from God): (2b)

$$R = A\, e^{\sqrt{\Lambda/3}\, t}$$

where A is a constant ($\sim10^{23}$ km; evaluated by a radius, R_2, at some future time, t_2), and $\Lambda \sim 1\times10^{-35}$ $sec^{-2} = 1\times10^{-20}$ $year^{-2}$. [More generally, $A \approx 0.753\ (3GM/\Lambda)^{1/3}$.]

For at least the first 5×10^9 years, and again from now on, the universe appears to expand faster than the speed of light (possible in General Relativity). Thus, the optimum time to measure

the history of the universe is now. Is that merely fortuitous?

Nevertheless, Equation 1c predicts a rate of expansion of the universe (in percent per unit time) which initially slows down until it reaches a minimum, and then progressively increases ever after. This behavior is consistent with the recent measurements of cosmological expansion back to nearly the beginning. The imposing result of Equation 2a is that there was an origin of the universe, commonly called The Big Bang.[39]

"Thus **saith the Lord, who stretcheth forth** *the* **heavens, and layeth** *the* **foundation of** *the* **earth, and formeth** *the* **breath of man within him.**"—Zech. 12:1

GEOCHRONOLOGY

"In the beginning God created the heavens and **the earth**."—Gen. 1:1

It is possible to estimate when rock first solidified on the earth. Although sedimentary rocks have not necessarily been deposited or eroded at uniform rates, measuring the concentrations of radioactive isotopes of the elements they contain requires few assumptions to estimate age. Isotopes with long half-lives ($>1\times10^9$ years) are found in nature, while those with short half-lives ($<10^8$ years), if found at all, are not in concentrations greater than produced by the steady decay of other naturally-occurring radioactive isotopes. One need only assume that all isotopes

39 A current best-estimate of the age of the universe is t = 13.73 (+0.13/-0.17) $\times10^9$ years; by David N. Spergel of Princeton University (and 21 co-authors; *Astrophysical Journal Supplement* 170, p. 377-408 {June 2007}). And currently R $\approx 1.6\times10^{23}$ km.

of a particular element were originally generated in approximately-equal amounts, and that their decay rates have remained constant throughout Earth's history, to compare isotope concentrations and thereby estimate the age of the solid rocks containing them.[40] In this way, the oldest rock on earth—a meteorite—appears to be about 4.55 billion (4.55×10^9) years old. Some zircons appear to be 3-4.4 billion years old.[41]

The solidification of these rocks might have occurred at temperatures of order 2000°C; so solidification should be reckoned as occurring prior to the first creative epoch, which requires temperatures to have cooled below 700°C to be meaningful (i.e., non-luminous). Thus, the beginning of the work of preparing the planet Earth for man must have begun less than 4.6 billion years ago, and probably much less.

ALTERNATIVE VIEWS

A very young Earth: On the other hand, philosophically one cannot disprove that we

40 Nuclear physicists measure decay rates by half-lives. One half-life is the time it takes for half of the atoms to decay. All uranium isotopes are radioactive. Comparing U^{238} with 4.47×10^9 year half-life to 0.72% of U^{235} with 7.0×10^8 year half-life, it can be shown that slightly less than 6.0×10^9 years ago they could have had equal concentrations. About 0.0054% of naturally-occurring uranium is U^{234} with only 2.45×10^5 year half-life, which is virtually identical to the 0.00544% expected from the decay of U^{238}.

41 William H. Peck, et.al., "Oxygen isotope ratios and rare earth elements in 3.3 to 4.4 Ga zircons: Ion microprobe evidence for high $\delta^{18}O$ continental crust and oceans in the Early Archean;" Geochimeca et Cosmochimeca Acta 65, 22 (2001). p. 4215-4229.

were created this morning at daybreak, complete with our memories, and everything around us exactly as we find it. Of course, when we would apply such a philosophy, we should conclude that we cannot learn any lessons from history, because there would not have been any history. Thus, we discard such a philosophy.

Young Earth: A young earth, of six thousand years, for example (or any other age), can be postulated in the same manner as a very young Earth, yet without violating any recorded history back to Adam and Eve.

All three views above of the age of the Earth can explain how we find the material world about us just as it is. The scientific approach to resolving two or more contradictory explanations of all the data is called Occam's Razor: Of two or more explanations which can explain all observations, choose the simplest.[42] At present, the Old Earth approaches appear to require fewer assumptions and are therefore in the lead.

Two other concepts are acknowledged here, without endorsement: The **Gap Theory** accounts for fossils by assuming there was an earlier very wicked population that was destroyed when the earth became without form and void; so the earth was re-started with the Genesis days of creation. The **Framework** view holds that the

42 E.g., in the days of Copernicus and Kepler, the Ptolemaic theory of epicycles was still able to predict the positions of the planets. The heliocentric (Sun-centered) approach quickly displaced the Ptolemaic theory, not because anyone had disproved the latter, but because the mathematics was simpler. [William of Ockham, England (ca. 1285-1349): "Entities must not unnecessarily be multiplied."]

creative days are not sequential but represent a figurative framework presented topically.

DNA DATING

In the 1970s there appeared to be no way to distinguish Special Creation from Punctuated Equilibrium (Punc Eq[43]). But the sequencing of DNA since the 1980s has changed that. Rebecca Cann and two others at the University of California/Berkeley in 1987 demonstrated from mitochondrial DNA (mtDNA) that all women in the world are descended from one common female ancestor.[44] Robert Dorit at Yale with two others in 1995 demonstrated from a Y-chromosome that all men in the world are descended from one common male ancestor. The latter found no differences for 729 base-pairs sequenced for 38 men selected to be representative of the world's male population.

The most-obvious dating would be calculated as follows: Let μ be the expected mutation rate (mutation per year per base-pair, expected to be $<10^{-6}$), N be the number of base-pairs sequenced

43 Punc Eq, proposed by Stephen Jay Gould, represents the third version of animal evolution theory, although it denies all three of Charles Darwin's fundamental assumptions: (1) all geological and biological processes continue at a constant rate over all time, (2) each succeeding generation has more genetic variations, and (3) only the fittest survive in a food-scarce environment. For Punc Eq, most or all genetic variations were suddenly produced in one or a few calamities in the remote past (overturning assumptions #1 and #2), while only a very few animal freaks could survive at all in the ensuing food-rich environment (overturning #3).

44 Rebecca L. Cann, Mark Stoneking and Allan C. Wilson, "Mitochondrial DNA and human evolution;" Nature 325, p. 31-36 (1 January 1987).

in each individual, m be the number of base-pairs with a variation (polymorphism), and let W be the number of independent individuals sequenced. Then the estimated age back to the common ancestor will be[45] (3)

$$T = \frac{m}{2\mu N(W-1)}$$

Those who estimate μ, do so by assuming there was a common ancestor for humans and chimpanzees (Dorit also compares with gorillas and orangutans), and that the supposed split occurred 4-6 million years ago. Results for three sequencing studies of the Y chromosome, representative of the world's male population, are[46]

Author	μ (mutation/base-pair year)	N (base pairs)	W (men)	m (mutations)
R. Dorit, et.al.	1.35×10^{-9}	729	38	0
M. Hammer	1.9×10^{-8}	2,600	16	1
L.S. Whitfield, et.al.	$0.9631 - 1.284\times10^{-9}$	18,300	5	3

Combining these data sets in an appropriate modification of Equation 3, using Dorit's hypothesis for μ,

45 Note that to identify differences requires more than one individual; hence the factor "(W-1)", not "W." The factor of two (2) in the denominator of Equation 4 arises because both individuals have descended from the common ancestor. If each could be compared to DNA from the common ancestor, the factor of two would be removed from the equation.

46 Robert L. Dorit, Hiroshi Akashi, and Walter Gilbert, "Absence of Polymorphism at the ZFY Locus on the Human Y Chromosome;" Science 268, p. 1183-1185 (26 May 1995). Michael F. Hammer, "A recent common ancestry for human Y chromosomes" [letter]; Nature 378, p. 376-378 (23 Nov 1995). L. Simon Whitfield, J.E. Sulston, and P.N. Goodfellow, "Sequence variation of the human Y chromosome" [letter]; Nature 378, p. 379-380 (23 Nov 1995).

$$T_y = \frac{0+1+3}{2\times1.35\times10^{-9}\left[729(38-1)+2{,}600(16-1)+18{,}300(5-1)\right]} = 10{,}645\ years \quad (4)$$

to which the statistical range must be applied. For the commonly-reported 95% confidence, the most-recent common ancestor (MRCA) would be 4,320 to 27,255 years ago. Using Hammer's μ value of 1.9×10^{-9} mutation/year, the span would be reduced 29% to ≥ 3,070 to 7,564 to ≤ 19,366 years ago for 95% confidence (within the limits of the assumptions for the model). In either case, one may rule out times less than the recorded history of four thousand years or so.

Such times are orders of magnitude too short for any evolution theories; so to artificially inflate the times a "coalescence" model was developed, which assumes the population was small, roughly constant, and together through all but recent history. This model enables stretching by perhaps one order of magnitude, but not by the two orders, or so, that anthropologists usually desire. Dorit concludes, in footnote 15, that the necessary effective population of 7500 males "is an exceedingly small population size for this entire 300,000 year period; it is far more likely that the coalescence model, which assumes worldwide uniform mixing and a constant effective population size, is not strictly applicable."

More recently, sequencing the Y-chromosome for microsatellites, accruing at about 0.21%/generation, is also leading to ages of order 10^4 years, rather than 10^5 or 10^6 years.

Most of the DNA studies suggest that the most recent common male ancestor is more recent than the most recent common female ancestor.

That is consistent with Noah being more recent than Eve. (Note that Noah's three sons are all descended from Noah, but the three daughters-in-law would not be descended from Noah's wife, but from Eve, nine generations earlier.) [Noah's age, about 4500-5000 years ago, would suggest $\mu \approx 3\times10^{-9}$ mutation/year, not far from the range of values above.]

Cann's mtDNA dating of the common female ancestor is nearly 200,000 years ago, based on an assumed populating of Australia 40,000 years ago, of New Zealand 30,000 years ago, etc. (divergence $\leq$0.57%). If Australia were actually populated 4,000 years ago, then the age would come down to 20,000 years ago. Statistics could allow another factor of 1.5 or so. But from recently-measured mtDNA mutation rates ($\sim2\times10^{-6}$ mutation/base-pair – year), Gibbons observes of "'mitochondrial Eve', … using the new clock, she would be a mere 6,000 years old."[47]

Rohde, Olson, and Chang attempt modelling population growths with varying degrees of migration. In the hypothetical example they give, the most recent common ancestor (MRCA) would be about BC 2300—around three centuries after Noah's sons were born—and the other-gender most recent common ancestor around BC 5000 – roughly a millennium before Eve. "Our results suggest that the most recent common ancestor for the world's current population lived in the relatively recent past—perhaps within the last few thousand years. And a few thousand years before that ... the ancestors of

47 Ann Gibbons, "Calibrating the Mitochondrial Clock;" Science 279, p. 28-29 (2 January 1998). [Gibbons claims no one thinks Eve could be that recent.]

everyone on the earth today were exactly the same."[48]

Thus currently, DNA dating sides more with Genesis than with any known theory of evolution.

48 Douglas L.T. Rohde, Steve Olson, and Joseph Chang, "Modelling recent common ancestry of all living humans;" Nature 431, 2004 September 30. p. 562-565.

APPENDIX 2

On the Origin of Life

Three of the requirements for intelligent life to exist are: (1) The physical environment is able to sustain intelligent life; (2) The essential biochemicals must all come into existence and be in the same place at the same time; and (3) At least one living cell capable of replicating itself viably must come into existence, with all the specified information necessary for replication.

(1) The probability that random chance would cause the universe to come into existence with all the physical parameters essential to sustaining intelligent life in at least one place is apparently less than 1 in 10^{217}, as mentioned in Chapter 1 (footnote 4). Consider (2) what the probability is of random chance generating the necessary proteins for a simple living cell.

BIOCHEMISTRY AND RANDOM CHANCE

What is the probability that random chance could produce a minimally-complex (150 amino acids) functional protein? Stephen Meyer replies, "This calculation can be made by multiplying the three independent probabilities by one another: the probability of incorporating only peptide bonds (1 in 10^{45}), the probability of incorporating only left-handed amino acids (1 in 10^{45}), and the probability of achieving correct amino acid sequencing (using [Douglas] Axe's 1 in 10^{74} estimate). Making that calculation (multiplying the separate probabilities by adding their exponents: $10^{45+45+74}$) gives a dramatic answer. The odds of

getting even one functional protein of modest length (150 amino acids) by chance from a prebiotic soup is no better than 1 chance in 10^{164}. …

"If we assume that a minimally-complex cell needs at least 250 proteins of, on average, 150 amino acids and that the probability of producing just one such protein is 1 in 10^{164} as calculated above, then the probability of producing all the necessary proteins needed to service a minimally-complex cell is 1 in 10^{164} multiplied by itself 250 times, or 1 in $10^{41,000}$. This kind of number allows a great amount of quibbling about the accuracy of various estimates without altering the conclusion. The probability of producing the proteins necessary to build a minimally complex cell—or the genetic information necessary to produce those proteins—by chance is unimaginably small."[49]

James Tour points out that for a single yeast cell the protein-protein interactome combinations is an estimated $10^{79 \text{ billion}}$.[50] Only a few of the combinations of these proteins will support the life of the cell. Thus, random chance is not a credible origin.

Thus, it is unnecessary to even ask what the chances are that the 250 proteins would get together in the same place at the same time, or what the chances are that the welter of biochemically-inactive compounds would not interfere, to discard random chance as the generator of the necessary ingredients for even a simple living cell.

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49 Stephen C. Meyer, "Signature in the Cell;" New York: HarperOne, 2009.

50 James M. Tour, https://www.discovery.org/v/the-mystery-of-the-origin-of-life/ (at 34-minute mark).

Consider now (3) the vital information stored primarily in the DNA:

THE ORIGIN OF FUNCTIONAL INFORMATION

The three candidate mechanisms to explain the origin of the specified information (functional information, especially in DNA) essential to life are: Natural Law, Random Chance, and Intelligent Design.

NATURAL LAW

Meyer observes, "To say that scientific laws generate complex informational patterns is essentially a contradiction in terms. If a process is orderly enough to be described by a law, it does not, *by definition*, produce events complex enough to convey [specified] information … And new laws will never explain the origin of information, because the processes that laws describe necessarily lack the complexity that informative sequences require. To say otherwise betrays confusion about the nature of scientific laws, the nature of information, or both." (Stephen C. Meyer, *Signature in the Cell*; New York: Harper, 2009. Pages 212, 213, 258, 268.)

RANDOM CHANCE

The maximum number of events in the history of the universe can be estimated by dividing the number of atoms (or, elementary particles) in the universe by the minimum time in which any physical phenomenon can occur (the Planck time) and then multiplied by the age of the universe. That is, according to Stephen Meyer, 10^{80} atoms / (10^{-43} second) × (10^{16} seconds) = $10^{139} \approx 2^{462}$, which corresponds to 462 bits of information.

The age of the universe is currently measured by D.N. Spergel, et al., to be 13.73 billion years, or $10^{17.637}$ seconds, and the Planck time is about 0.539×10^{-43} sec, adding perhaps another 6 bits of information. Excluding marginal concepts of cosmology, other estimates of the mass of the universe could add another –2 to +4 bits. In any case, the measure of information remains less than 500 bits, which is therefore an upper limit of the amount of specified information which random chance can have generated in our universe. However, even the simplest functional DNA contains vastly more bits of specified information. (Simple DNA has typically~10^5 base pairs of information. Human DNA has about three billion base pairs; the functionally-necessary specified information is millions of bits, if not billions.)

Thus, neither natural law nor random chance is a credible source of the vital information necessary for sustained life of any kind.

INTELLIGENT DESIGN

Specified information is found in computer programs, books, building plans, codes, artwork, etc. Human experience shows that all of these are originated by intelligent design. Meyer reasons that if intelligent design is the one and only known source of complex specified information, then it constitutes the scientifically-best explanation of the origin of biological specified information, and hence of the origin of life itself.

THE "CAMBRIAN EXPLOSION" VS. EVOLUTION

After life began, Meyer's second book, Darwin's Doubt (May 2013), examines the incompatibility

of the "Cambrian explosion" of life forms with evolution theories, not limited to neo-Darwinism (Mutation Theory). Early in the Cambrian rocks many disparate life forms appear suddenly and without evidence of precursors. (Darwin hoped more digging in earlier rocks would discover their precursors; it has not.) Each kind arises fully formed, and only subsequently do they diversify—a top-down pattern of fossils—the opposite of what neo-Darwinism predicts. Disparity before diversity is consistent with intelligent design.

What is necessary to change one body type into another? Body type is determined by the inside of the maternal cell wall. The DNA and dGRNs (Developmental Gene Regulatory Networks) must each mutate consistent with its change, and in the same generation. Not credible. Unfortunately, major changes are not viable, and viable changes are not major.

Prominent evolutionists admit that many aspects of living systems "give the appearance of having been designed for a purpose," yet call it illusory. But is it not more rational to go where the evidence leads?

However, science is limited. It can tell us that the only plausible explanation for the origin of life is intelligent design. It can infer that the designer has used intelligence far superior to any possessed by humankind. It can infer that the designer and manufacturer has used technology superior to any yet envisioned by mankind. But science cannot go much further in identifying the attributes of the designer, and whether he is the God of Israel. Science almost certainly cannot deduce whether there was an

original sin, whether God sent Jesus Christ to be a ransom for all, or whether there will be a resurrection of the dead, both of the just and of the unjust. Mankind will just have to be satisfied with what science can tell us about the designer but look elsewhere to learn more fully about Him and His plans and purposes. The Bible answers those questions.

General Index

fn. = footnote

Scripture Citations