

The Assumed Evidence of Evolution

In recent months the teaching of evolution has come under attack in a number of states . . . not by theologians but by scientists.¹
 —Scientific American

Persuasive Promotion of an Inferior Product

The situation is still as it was when evolutionist Henry Fairfield Osborn wrote these words with regard to efforts to find an adequate natural basis for evolution and avoid the supernatural: "There have been great waves of faith in one explanation and then in another: each of these waves of confidence has ended in disappointment. . . ."²

To consider an intelligent cause is out of the question for a dedicated materialist. Evolution is his life.

A person would never guess, by listening to those who cam-

¹ "Science and the Citizen: Creationism," *Scientific American*, Vol. 224 (January, 1971), p. 46.

In California, some scientists who attended a state textbook hearing in 1969 stated that special divine creation can be explained as a scholarly and scientifically valid doctrine, whereupon the State Board of Education ruled that evolution may no longer be taught as the only theory, declaring, "Scientific evidence concerning the origin of life implies . . . the necessity to use several theories." This was reported in *Bioscience*, Vol. 20 (October, 1970), pp. 1067-1069.

In October, 1972, the National Convention of the National Association of Biology Teachers, meeting in San Francisco, reserved much of one afternoon of the convention for presentations of creationist interpretations of origins, and other creation implications in biology.

Needless to say, many who espouse evolution are quite unhappy with such developments. Their current opposition takes the form of relegating creationism to the realm of religion and emotion since they refuse to consider seriously the scientific basis for believing in special creation as the most logical explanation of the phenomena of nature.

² Henry Fairfield Osborn, *The Origin and Evolution of Life* (New York: Charles Scribner's Sons, 1917), Preface, p. ix.

paign for evolution, that their case was weak in evidence. Exaggerated claims make it sound like solid science. These claims are so convincingly stated that most people conclude that evolution has really been proved. This explains, as was noted earlier, why many brilliant people have been led to accept some form of evolution. Not having access to all the supposed evidence themselves, they have been swept along with the overwhelming chorus of assertions by others who had more faith than facts.

It will be helpful to keep in mind that the aim of this chapter is *not* a thorough study of these assumed proofs of evolution. That would take an entire book in itself, and several excellent ones already exist. We will merely take up these subjects briefly to indicate whether the presumed evidence may be nonexistent, misinterpreted, or under a question mark.

Space will limit us to brevity, since this is, after all, supposed to be a shortcut. The idea is to include in this one volume not only the probability studies, but at least the gist of answers to other major questions which might otherwise cloud one's certainty about whether evolution could be true.

The Geological Time Scale

Without a lot of time, evolution is out of luck. *It is an article of faith that there must have been billions of years available for it to happen.* Scientists who accept evolution are quite slow to accept dating results that run contrary to that standard dogma.

Melvin A. Cook, while he was Professor of Metallurgy at the University of Utah, wrote: "... *There really are no reliable time clocks* despite an almost overwhelming contrary opinion"³ (*italics added*). Cook, who received his Ph.D. in physical chemistry at Yale, in the remarkable book just quoted, gives extensive attention to techniques of dating the past. We highly recommend these studies.

Here is a strange incident Dr. Cook describes:

In 1956 the author visited the Schefferville Mine of Iron Ore Company of Canada. . . . While there, he was shown and given samples of several fossil wood specimens that had been recovered from the iron ore (a pre-Cambrian deposit)⁴ at depths in the mine of several hundred feet. The chief ge-

³ Melvin A. Cook, *Prehistory and Earth Models* (London: Max Parrish and Co., Ltd., 1966), Preface, p. xi.

⁴ In the evolutionary scale, pre-Cambrian is the vast period prior to 600 million years ago.

ologist described the occurrence as strange and anomalous, explicable neither on the basis of overturns nor fissures that would permit sluff-off of vegetal matter into crevices in the ore body. He exhibited two independent and consistent radiocarbon analyses that revealed ages in the neighborhood of 4000 years. Specimens varied from bright, modern-appearing wood through darkened (some charred by heat) to typically fossil-appearing, rock-like wood. Analyses had demonstrated that this fossil wood was essentially uncontaminated and unchanged chemically, but still essentially ligno-cellulose of well preserved internal structure.⁵

An article in a 1968 issue of the *Journal of Geophysical Research* admitted tremendous errors in the dating of rocks by the *potassium-argon* method. Scientists carefully dated samples of volcanic materials with the known formation date of 1800 and 1801 for a flow at Kaupulehu, Hualalai Volcano, Hawaii. The dating, therefore, should have matched that time span, namely, around 168 years. Eight tests listed in the article, however, gave ages ranging from 160,000,000 to 2,960,000,000 (almost three billion) years!⁶

Robert L. Whitelaw, Nuclear Consultant and Professor of Mechanical Engineering at Virginia Polytechnic Institute, concluded a scholarly article in *Creation Research Society Quarterly* with the opinion that the same much-trusted dating method may be completely untrustworthy, and that cosmic rays may have accounted altogether for the build-up of argon-36, as he phrased it, "well within the 7,000 years since Biblical creation."⁷

Froelich Rainey said concerning Carbon-14: "Unfortunately, the difficulties and complexities involved in arriving at a 'true' date for any event by this method are not so clear. . . . Many archeologists still think of radiocarbon dating as a scientific technique that must be either right or wrong. Would that it were so simple!" Rainey says that 1870 B.C. (± 6) is "the earliest actual recorded date in human history." Few people realize how much uncertainty is involved in dates prior to that.⁸

The radiocarbon dating system was developed by Willard F.

⁵ Cook, *Prehistory and Earth Models*, p. 332.

⁶ John C. Funkhouser and John J. Naughton, "Radiogenic Helium and Argon in Ultramafic Inclusions from Hawaii," *Journal of Geophysical Research*, Vol. 73, Part 5 (July 15, 1968), Table 2, p. 4603.

⁷ Robert L. Whitelaw, "Radio-Carbon and Potassium-Argon Dating in the Light of Recent Discoveries in Cosmic Rays," *Creation Research Society Quarterly*, Vol. 6, No. 1 (June, 1969), p. 73.

⁸ Froelich Rainey, "Dating the Past," *1971 Yearbook of Science and the Future* (Britannica), pp. 390, 391.

Libby, for which he received the Nobel prize in chemistry in 1960. Professor Cook said, "It is very interesting indeed *that an exact application of Libby's methods and data* for the C¹⁴ method dates the atmosphere at around 10⁴ years."⁹ (That is just 10,000 years!) Cook also discusses the uranium-thorium-lead process, arriving at additional figures which dispute the standard long ages concept.

One does not often hear of these short-term dating results because evolutionists tend to ignore or reinterpret any results that do not match the preconceived scheme. To do otherwise would be considered extreme heresy. The evidence, nevertheless, supports Cook's conclusion quoted above: "There really are no reliable time clocks. . . ."

One of the best sources for documented current reports by scientists on the degree of accuracy involved in various dating methods is *Creation Research Society Quarterly*,¹⁰ especially the June 1970 issue. It is surprising to find that there is strong evidence that the Mississippi River may be only about 5,000 years old—evidence based on a geological study of the delta, according to an interesting article in the same periodical (September 1972, p. 96ff.).

Ancient Man

The only types of definitely human fossils with enough bones to tell us much have been Neanderthal and Cro-Magnon men. Both have considerably *larger brain capacity* than modern man!¹¹

Note that the Neanderthals had these facial characteristics: "heavy, bi-arched shelf of bone over the orbits [eye sockets]; low, retreating forehead . . . receding chin." As you will recognize, this is the stereotype commonly put forward of the supposed primitive, dull cave man, whose likeness confronts school children from the pages of textbooks. Neanderthal man, however, *averaged* a brain capacity of 1450 cm³ (cubic centimeters) to our 1350 cm³ today.¹²

The "cave man" posture used in textbook and magazine pic-

⁹ Cook, *Prehistory and Earth Models*, p. 10.

¹⁰ This periodical may be ordered from 2717 Cranbrook Road, Ann Arbor, Michigan 48104. (1973 price, \$11 per year.)

¹¹ Neanderthals had a brain cage which averaged 7.5 percent larger than present-day cranial capacity, "remarkable for its absolute size." Cro-Magnons, who are not thought to be descendants of the Neanderthals, had even larger brain capacity, ranging from 14 to 29 percent larger than that of modern man. (*Encyclopaedia Britannica*, 1967, Vol. 2, p. 51 and Vol. 6, p. 792).

¹² *Encyclopaedia Britannica* (1967), s.v. "anthropology."

tures of Neanderthal man is an interesting story. The *Encyclopaedia Britannica* of 1967 gave this explanation, embarrassing for evolutionists:

The popular conception that these people were slouched in posture and walked with a shuffling, bent-knee gait seems to have been due in large part to the faulty reconstruction of the skull base and to the misinterpretation of certain features of the limb bones of one of the Neanderthal skeletons discovered early in the 20th century.¹³

Perhaps it is best to be skeptical of the recurring spectacular claims of important finds of ancient man that are always showing up in the news media. The dogmatic statements made by some anthropologists are sometimes withdrawn later. The scientist may change his mind, or new discoveries may prove his first pronouncement to be a wrong diagnosis. Initially, however, it is made to sound absolutely certain: "This is not a theory. It is a fact," one well-known anthropologist was quoted in a news report of a new find. We recalled that his father, also an anthropologist, had reversed himself after some similar dogmatic claims.

Ever since an eager young Dutch university lecturer named Eugene Dubois went to Java determined to find the "missing link," and discovered a few bones in 1891, the "Java man," now called *Homo erectus*, has been an evolutionary mainstay in the supposed descent of man, in spite of early controversy between scientists over interpretation of the find.

Upsetting news, however, has just been announced from Australia. Remains of 40 human beings were unearthed, whom scientists estimate were buried "a scant 10,000 years ago." *Scientific American* of October, 1972, relayed a report "that the overall skull form includes archaic features that preserve almost unmodified the morphology typical of *Homo erectus* fossils from Java, combined with elements reminiscent of early representatives of *Homo sapiens*" (p. 48).

But, we should remember, *Homo erectus* was supposed to be long departed from the scene at that recent period of the evolutionary timetable, having flourished instead around 700,000 years ago. Researchers studying the Australian fossils included A. G. Thorne, of the Australian National University, and P. G. Macumber, of the Geological Survey of Victoria, who co-authored

¹³ *Encyclopaedia Britannica* (1967), s.v. "Neanderthal Man."

a report in *Nature*. Thus another stalwart among evolutionary "proofs" has been rendered virtually useless. (Check into the subject, and you may be surprised to find how little real evidence anthropologists have for "ancient man" and missing links.)

The various skull shapes *arranged in series* in some popular magazine articles and in museum displays are largely the result of artists' imagination. These presentations do not accurately reflect real evidence in many instances. As we have seen, skull shape seems not to affect brain capacity anyway. More than one thoughtful peruser of such pictures has later watched people with all of those same skull shapes walk by on some busy city street.

Since proponents of evolution *must* have gradual development of human beings through the ages, one can expect more spectacular evolutionary announcements. Just remember Columbus and the "Indians" and the matter of overview discussed earlier. Columbus had his mind set on India and so the people he discovered had to fit the theory. He named them Indians. Evolutionary crusaders like Dubois and L. S. B. Leakey tended to identify every bone and artifact in a way that would enhance their previous belief. That is human nature, of course, and scientists should not be expected to be less human than other people, in this regard.

There are men living in caves even today. One can imagine future evolutionary anthropologists some day puzzling over campfire remains where the author and a group of teenage boys lived in a large cave when trapped by a summer snowstorm in the California Sierras. Fortunately, we left no human bones.

In June, 1971, scientists found a primitive tribe living as cave dwellers in Tasaday Forest in the Philippines. "They are challenging the basic ideas about the life of man," said Manuel Elizalde, leader of an expedition which studied them. This discovery "could lead to a new understanding of prehistoric man," scientists said. These stone age people don't fit the cave man image of cartoons, and have been described as "brilliant," and having quick wit.¹⁴

Horses and Dinosaurs

Among long-vaunted citadels of evolutionary faith that are

¹⁴ Wire service reports in the *Herald-Examiner* (Los Angeles, 3/27/72), p. A4; (3/29/72), p. A3; and (3/30/72), p. A15.

now beginning to quake is Old Faithful, the horse. For many decades, the horse has been a prize exhibit in biology classrooms to exemplify straight-line evolution. It was supposed to have evolved from the dawn horse, "eohippus," now called *hyracotherium*.

As the reader may know, to follow all the presumed stages of the fossil series required one to jump back and forth between America and Europe.

Growing questions have led some leading evolutionists to become a bit wary of this animal. For example, G. A. Kerkut (Southampton University, Department of Physiology and Biochemistry) pointed out areas of uncertainty when he wrote, "The actual story depends to a large extent upon who is telling it and when the story is being told. In fact, one could easily discuss the evolution of the story of the evolution of the horse."¹⁵

One difficulty, Kerkut says, is that "at present . . . it is a matter of faith that the textbook pictures are true, or even that they are the best representations of the truth that are available to us at the present time."¹⁶ He indicates that it is very hard to track down how much actual fossil evidence exists for various stages.

Dinosaurs are supposed by evolutionists to have become extinct no later than 70 million years ago, and man is not supposed to have come on the stage earlier than one or two million years before the present. Yet fossilized footprints giving every appearance of being human have been found in the same stone as dinosaur tracks in the Paluxy River bed in Texas, both evidently made before the rock hardened.¹⁷ Fossils of trilobites, assertedly extinct for 230 million years, are documented in sandal-shod human footprints in Cambrian rock at Antelope Springs, Utah.¹⁸ (The Cambrian period refers to the time span of from 500 to 600 million years ago.)

Given a worldwide flood, as described in the Bible, in geological evidence, and in the folklore of tribes around the world,

¹⁵ G. A. Kerkut, *Implications of Evolution* (New York: Pergamon Press, 1960), pp. 144, 145.

¹⁶ *Ibid.*, p. 148. Also, for a complete study on this subject: Frank W. Cousins, "A Note on the Unsatisfactory Nature of the Horse Series of Fossils as Evidence for Evolution," *Creation Research Society Quarterly*, Vol. 8 (September 1971), pp. 99 ff.

¹⁷ C. L. Burdick, "Changing Concepts Concerning Evolution," *The Naturalist*, Vol. 16 (Spring, 1957), pp. 38-41.

¹⁸ William J. Meister, Sr., "Discovery of Trilobite Fossils in Shod Footprint of Human in Trilobite Beds—A Cambrian Formation, Antelope Springs, Utah," *Creation Research Society Quarterly*, Vol. 5 (December 1968), pp. 97-102.

the dinosaurs would have perished in great numbers. If a few survived via the ark of Noah (young ones would have been chosen!), these may have become extinct soon after, yet late enough to be described, as some Bible scholars believe, in the ancient book of Job, chapters 40 and 41. It is also conceivable that the “dragons” perpetuated in myth and tradition in many countries from Japan to England may have originated from descriptions handed down of certain types of dinosaur which they resemble.

Coal and Oil Deposits

On the evolutionary scale, most coal deposits were formed earlier than 250,000,000 years ago, some being 400,000,000 years old. Oil deposits as well are presumed to be very old, resulting from organic remains of ancient creatures. Professor Cook writes, however:

Among the strongest arguments for a maximum age of less than 10^5 [100,000] years is the occurrence of abnormally high (in some cases actually geostatic) fluid pressures in deep well drill holes. Such high pressures require sudden deep burial. Moreover, to retain them for periods greater than 10^4 - 10^5 years is apparently impossible under the observed permeabilities of reservoir and trap formations. . . . Coalification and the occurrence of coal deposits also seem, from a consideration of basic facts, to require short history; *coalification in a few years is an observed fact* (italics added).¹⁹

On a related subject, Professor George Mulfinger has demonstrated by experiments at Bob Jones University that stalactite formation may require months or years rather than long ages of time for formation.

Several scientists have reported making oil and coal from organic matter in hours or less. Some of the methods might have produced such results *naturally*, in a few years time.

Fossils and the Flood

A catastrophic flood of the gigantic proportions described in Genesis would have provided the best known source of the observed arrangement of fossils. An excellent book mentioned earlier, *The Genesis Flood*, contains a very thorough scientific investigation of the evidence involved, as well as complete

¹⁹ Cook, *Prehistory and Earth Models*, p. 341.

reports on many other matters such as the occurrence together of human tracks and dinosaur tracks.²⁰

Few people realize how far from convincing the evolutionary story from fossils really is. For example, "some 25 major phyla are recognized for all the animals, and in virtually not a single case is there fossil evidence to demonstrate what the common ancestry of any two phyla looked like."²¹ The same esteemed authors admit that "we still search for the ancestors of the dominant group of modern plants, the angiosperms."²²

Concerning the evolution of algae, three other noted authors say, "The relationships *between* divisions are completely obscure. The primary origin of the eucaryotic algae as a whole is accordingly an unsolved (and no doubt insoluble) problem."²³

These authors of the advanced textbook, *The Microbial World*, remind us that the best known method of classifying living things came about by "the restructuring of hierarchies to mirror evolutionary relationships. A taxonomic system in which this is an avowed goal is known as a *phylogenetic system*."²⁴ This is the system used in most textbooks on zoology.

They further state, however, that "the course that evolution has actually followed can be ascertained only from direct historical evidence, contained in the fossil record. This record is at best fragmentary and becomes almost completely illegible in Precambrian rocks. . . ."²⁵

Of classifications other than plants and vertebrates, they write:

For all other major biological groups, the general course of evolution will probably never be known, and there is simply not enough objective evidence to base their classification on phylogenetic grounds.

For these and other reasons, most modern taxonomists have explicitly abandoned the phylogenetic approach in favor of a more empirical one: . . . quantification of similarities and differences.²⁶

²⁰ John C. Whitcomb, Jr., and Henry M. Morris, *The Genesis Flood* (Philadelphia: Presbyterian and Reformed Publishing Co., 1961.) This book may be ordered from The Institute of Creation Research, 2716 Madison Avenue, San Diego, California 92116. (As of 1973, \$6.95 cloth, \$3.95 paperback.)

²¹ Philip Handler, ed., *Biology and the Future of Man* (New York: Oxford University Press, 1970), p. 506.

²² *Ibid.*, p. 509.

²³ Roger Y. Stanier, Michael Doudoroff, and Edward A. Adelberg, *The Microbial World*, 3rd ed., (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1970), p. 99.

²⁴ *Ibid.*, p. 528.

²⁵ *Ibid.*, pp. 528, 529.

²⁶ *Ibid.*, p. 529.

This new system is called *numerical taxonomy*. It provides a welcome release from evolutionary classifications. It is likely that its full acceptance will be slow for philosophical overview reasons described in chapter 11.

The fossil creature with the generic name *Archaeopteryx* has been widely used to prove that birds descended from reptiles. This interpretation is now beclouded, says the 1970 *Britannica Yearbook of Science and the Future* (pp. 397, 398):

Some years ago, the distinguished British anatomist G. R. de Beer made a plaster cast of this brain region and concluded from his examination that *Archaeopteryx*, for all its long tail and feathers, had a reptilian-type brain. Recently, however, a Stanford (Calif.) University zoologist borrowed de Beer's cast and reached a different conclusion. [Namely: that although small, it was a bird brain after all.]

The closest living relative of birds, in evolutionary belief, is the crocodile! Most people on first hearing of that idea are likely to think, "They must be joking." That is, however, the standard doctrine. Vertebrate paleontologist J. W. Ostrom, of Yale University, is a specialist on dinosaurs. In a 1973 conversation, he told the author interesting facts about pterosaurs (flying reptiles) and about *Archaeopteryx*, specimens of which he had recently studied. The latter, he believes, was carnivorous, and was a ground dweller, in some ways like the present-day secretary bird. Ostrom theorizes that *Archaeopteryx* evolved from an ancestor which was a coelurosaurian dinosaur.

There is much still unknown about this rare bird.²⁷ Only a few imperfect fossils have been found, in a quarry in Bavaria. In spite of some mysterious features, the creature is widely recognized as actually *avian* (bird), largely because the feathers and their arrangement on the wings are precisely as in modern birds. Also, the clavicles are fused into a "wishbone" and the foot has an opposable toe. Some other features are different from modern birds—teeth and a bony tail, for examples. Much has been made of its claws on the wings. Ornithologist Thomas

²⁷ The authors of the highly regarded volumes of *Avian Biology* wrote about *Archaeopteryx*: "Unknown are the links connecting this momentous find to its reptilian ancestors on the one hand and to its avian descendants on the other." Although tempted to draw conclusions, they said, "Without paleontological support . . . conclusions must remain hypothetical." (Ed., Donald S. Farner and James R. King, Vol. 1 [N.Y.: Academic Press, 1971], p. 20.) It seems clear that there is no real evidence or proof that *Archaeopteryx* evolved from *anything*.

R. Howell, of UCLA, assured me that there is a modern bird in South America, called the hoatzin, which also possesses claws when young, using them for climbing around on tree branches.

We may wonder if possibly the great Designer planned *Archaeopteryx* with a bit of humor, like that suggested by the elephant's high-pitched voice and the mixed-up features of the duck-billed platypus. Perhaps the Creator is just independent enough to do things His way, instead of as we would suppose.

Later in this chapter, there will be a list of excellent books (including some already quoted, like *The Genesis Flood*) which go deeply into many of these subjects of vital interest on which space allows us only a few paragraphs.

One interesting sidelight on the concept of a universal flood is this: in addition to water derived from volcanic action (when "the fountains of the great deep were broken up" as the Bible describes this in Genesis 7:11), some scientists believe such a flood as described would have involved the prior existence of some kind of "canopy"—perhaps water vapor—surrounding the earth several miles above the surface.²⁸ It is hypothesized that this would have screened out the ultraviolet rays, some of which now manage to filter through the ozone shield and which may be involved in the aging process. This would explain the long life-span of people who lived before the flood, according to the Bible. Immediately after the flood, the life span dropped by degrees, but rather rapidly, to present levels. Mutations caused by ultraviolet rays and perhaps other incoming radiation would have begun on a different scale without the protective canopy.

Evidence Accumulating for a Young Earth

A universal flood would also doubtless have affected rates and conditions of some or all of the methods of dating the past. It is even conceivable, though perhaps unlikely, that God utilized a near-collision of a comet that could also have affected timing on the moon at the same time as the flood, when the "windows of heaven were opened" (Gen. 7:11). Such a comet was suggested by Immanuel Velikovsky in his controversial book, *Worlds in Collision*.²⁹ (Velikovsky suggested that Venus was once a comet! This provoked much dispute.)

²⁸ Whitcomb and Morris, *The Genesis Flood*, pp. 399-405.

²⁹ Velikovsky, *Worlds in Collision* (New York: Doubleday & Co., Inc., 1950). As regards reliability of dating the past, Frederick B. Jueneman, a research director, recently wrote concerning the explosion which astronomers believe re-

Evidence is accumulating that it is not unscientific to consider that the earth may after all be quite young. The reader may already be aware of the "circular reasoning" upon which the geologic time scale was built. In simple terms, the age of the rock strata is determined by what kinds of *fossils* they contain. And how is the age of a fossil determined? By the *rock stratum* in which it is found!

Many believe God originally would have created things in operating condition. Entities such as living trees would have been created with some of them in mature form, especially in the garden of Eden, which "God planted." These would give an "appearance of age" even though freshly created, just as Adam and Eve were created as adults. These trees would have provided their first food. Distant stars would be made with light already spanning the distance to earth. Full-grown animals would look as if they had been living from birth or from the egg. This is a reasonable assumption, given an all-wise Creator. Even earthly architects plant half-grown and full-grown trees in front of new public buildings.

Pollen grains of "pine" trees and of flowering plants have been found in *pre-Cambrian* strata of the Grand Canyon.³⁰ Pre-Cambrian, the reader may recall, refers to very ancient times, more than 600 million years ago, in the geologic time scale. According to usual evolutionary views, there were practically no plants on land at that assumed distant time, except possibly some algae or mosses. Concerning the *Cambrian* period, which is supposed to have been more recent, a high school textbook of 1969 states this customary position: "There is little evidence of Cambrian life on the land surfaces. Only very low forms of plant life could have existed on the exposed rocks."³¹

sulted in a pulsar called Vela-X (PSR 0833-45) about 11,000 years ago and comparatively nearby: "Being so close, the anisotropic neutrino flux of the superexplosion must have had the peculiar characteristic of resetting all our atomic clocks. This would knock our carbon-14, potassium-argon, and uranium-lead dating measurements into a cocked hat! The age of prehistoric artifacts, the age of the earth, and that of the universe would be thrown into doubt." (*Industrial Research* [September, 1972], p. 15, as quoted by Duane T. Gish, "Speculations by a Scientist," *ICR Acts and Facts*, Vol. 2 [March, 1973].) The reason for such an effect, some physicists now think, is that neutrinos trigger the decay of radioactive atoms and such an explosion as that mentioned would produce a tremendous flux of neutrinos, thus speeding up some forms of radioactivity.

³⁰ Clifford Burdick, "Microflora of the Grand Canyon," *Creation Research Society Quarterly*, Vol. 3, (May 1966), pp. 38, 39, 50.

³¹ William L. Ramsey, et al., *Modern Earth Science* (New York: Holt, Rinehart and Winston, 1969), pp. 394, 395.

Evidence of the existence of life as advanced as flowering plants and pine-related trees in that supposedly ancient period is startling to evolutionists. It is undeniable that such finds have been made in Cambrian and pre-Cambrian strata, even by scientists of evolutionary persuasion. S. Leclercq of the University of Liege, Belgium, reported on his research in an article in *Evolution*. He says, "Such a remarkable variety of spores³² in Cambrian sediments is impressive and certainly unexpected."³³ From an evolutionary standpoint, this would mean, he indicates, that a lot of development had to take place far earlier than had been supposed.

Oparin, unable to deny the existence of such spores, says, regarding a subsection of the pre-Cambrian period:

Sequence . . . greatly confused and distorted. In particular, in several cases we have had to recognize that the layers of Riphean formations sometimes contain plant fragments and spores of a considerably younger age than would be expected from the geological data of that location. Apparently they were sometimes carried there from overlying strata.³⁴

That this is not the correct explanation is clear from the very thorough procedures used by Clifford Burdick in his Grand Canyon research, where pollen grains were found in pre-Cambrian and other strata. He concludes:

Finding of spores of plants at least closely related to pines in the pre-Cambrian makes it extremely difficult to visualize any evolutionary development of these specialized plants. The undoubted occurrence of pollen of flowering plants is even more difficult to explain in usually accepted evolutionary concepts.³⁵

It is clear that *the long ages of the geologic time scale are a matter of faith rather than evidence*. Davidheiser points out that frequently strata lie just above others believed to be much older where there is no evidence of erosion to account for the disappearance of the strata that should have been between them. He says, "This is a serious problem, but it is disregarded. Sometimes fossils are found in reverse order, with the older above

³² Spores are plant reproductive cells capable of developing into complete organisms. They are encased in a hard outer shell to withstand environmental hazards.

³³ S. Leclercq, "Evidence of Vascular Plants in the Cambrian," *Evolution*, Vol. X, No. 2 (June, 1956), pp. 109, 111.

³⁴ A. I. Oparin, *Genesis and Evolutionary Development of Life* (New York: Academic Press, 1968), p. 190.

³⁵ Burdick, "Microflora," p. 50.

the younger. This is explained as due to thrust-faulting, where older strata have slid across the top of younger." There is no evidence, however, of the tremendous friction that would have occurred, he says, in such faulting.³⁶

Further Indications of a Young Earth and Universe

John G. Read, quoted earlier, is another scientist who was formerly an evolutionist—also an atheist—who abandoned evolution after considering the evidence. Read has recently calculated the age of the oceans as indicated by their nitrate content with relation to the rate of addition from rivers annually. He says that only a small amount of nitrate is lost by return to the atmosphere, since nitrates in the seas are very stable.³⁷

C. C. Delwiche estimates thirty million metric tons of nitrates and nitrogen in organic materials reach the ocean each year.³⁸ Most of the nitrates, according to Read, would remain and build up, thus making possible a "nitrate chronology" for the oceans. Read's conclusion is that the oceans, by this chronology, are approximately 6,000 years old.³⁹

Other facts which seem to require a revision "of models of origin and interrelationships of species," as listed by Melvin A. Cook, are as follows:

The helium content of the atmosphere, its exudation rate from the lithosphere, and the maximum possible rate of loss into the exosphere indicate a maximum atmospheric age at around 10^4 - 10^5 years.

The uranium content of the oceans, the flux rate into the oceans, the relatively small uranium content of the ocean sediments and absence of any other uranium 'sink' suggest a maximum age for the oceans of 10^5 years.

Isotopic ratios of lead and strontium seem to show that

³⁶ Bolton Davidheiser, *Evolution and Christian Faith* (Nutley, N.J.: Presbyterian and Reformed Publishing Co., 1969), p. 286.

Many geologists accept the extreme assumption that the Matterhorn in the Alps was pushed more than thirty miles over younger rocks. Mythen Peaks, also in the Alps, must have been pushed all the way from North Africa, according to the theory.

Prominent Netherlands geologist J. H. F. Umbgrove wrote that Swiss geologists had generally accepted E. Argand's idea that much of the Alps came from "overthrusting Africa over Europe" (J. H. F. Umbgrove, *Symphony of the Earth* [The Hague: Martinus Nijhoff, 1950], pp. 27, 78).

Some, including Umbgrove, held that the movement was somewhat less distant. Apparently, evolutionists need this overthrust theory as a means of preserving the geological time scale because of fossils found in the Mythen, for example.

³⁷ John G. Read, personal telephone conversation, 1971.

³⁸ C. C. Delwiche, "The Nitrogen Cycle," *Scientific American* (September, 1970), p. 146.

³⁹ Read, conversation mentioned above.

the age of the earth is small relative to the half-life of corresponding radioactive sources. Uranium-thorium-lead chronometry is discordant and anomalous when interpreted conventionally, but the uranium-lead picture turns out to be remarkably consistent when re-interpreted in terms of possible (n, ν) reactions and the effects of leaching uranium ores in relatively recent times. Leaching has obviously occurred; it is the only explanation for extremely large Pb^{206}/Pb^{204} and Pb^{207}/Pb^{204} ratios. Under a leaching mechanism one cannot have large ratios without having all lesser gradations of enrichment. The Sr^{86}/Sr^{87} ratios also bear out a short history of the earth. . . .

From the observed magnetism and rates of decay of natural remanent magnetization the upper limit of the age of lavas exhibiting paleomagnetism appears to be below 10^5 years.⁴⁰

In view of such evidence, it would seem reasonable to keep an open mind toward the possibility that, after all, earth's past may be measurable in thousands rather than billions of years. Don't, however, expect any dedicated materialist to consider that possibility even in his wildest moments.

As to age outside of the solar system, one of the means of judging age is the measure of the distance and the speed of recession of stars and galaxies. This method is based on faith in the theory of uniformity, and does not take into account that a creation would *not* necessarily have had to originate in a "Big Bang" with all matter at the center of the universe, and with stellar progression beginning without diversity of phase. A Creator could create a river with water already present in all stages of descent from source to mouth from the moment of its creation. The same could be true in regard to light—it could already have been en route between distant stars and the earth, if part of His plan included the reception of that light on earth.

How Old Is the Moon?

Since the first Apollo moon landing at Tranquility Base, the public has often been given estimates of the age of the moon rocks, and these commonly are above four billion years. It is

⁴⁰ Cook, *Prehistory and Earth Models*, pp. 340, 341.

Dr. Cook, who is chairman of the board at IRECO Chemicals, said in answer to my inquiry that he had a limited number of copies of this book available. He may be addressed c/o IRECO Chemicals, Suite 726, Kennecott Building, Salt Lake City, Utah, 84111 (\$6.50 postpaid, as of 1973). His book presupposes some knowledge of higher mathematics, geology, physics, and chemistry for full understanding, and contains exceedingly worthwhile information.

seldom realized how much the evolutionary overview may have affected such conclusions. Dr. Melvin A. Cook, and others since, have pointed out reasons why these dates cannot be trusted, referring particularly to data on moon samples documented in numerous reports in *Science* (Moon Issue), January, 1970. Most of the information in this section is from articles by Dr. Cook and personal conversations we had in late 1972.

The inert gases (helium, neon, argon, krypton, xenon) found in moon rock and soil samples are "surface correlated" rather than "bulk correlated." This means that the gases are not absorbed throughout the center of the rock or soil particle, but are instead *adsorbed* or attached to its surface.

According to the standard evolutionary view, the gases would have been produced for billions of years in the moon's surface, and should be found throughout the rocks, and this would be expected if these gases were indigenous or radiogenic, produced by radioactivity as postulated in dating techniques which measure these gases. This fact was not sufficiently taken into account. According to Cook, even the limited amount of gases remaining, after surface gases were removed by "acid etching" in some cases, cannot properly be concluded to be solely of radiogenic origin. Since "surface concentrations were thousands of times greater than bulk concentrations for all entrapped rare gases,"⁴¹ this concentration gradient would tend to be a driving force for at least some diffusion into the rock from its surface. This diffused gas, if mistakenly considered as wholly radiogenic in origin, would produce inaccurate dating results.

If these surface-adsorbed noble gases were not from within the moon's surface, what was their source? Interestingly, the ratios of these rare gases on moon solids is remarkably similar to ratios of the same gases in the *solar wind* (which is a constant stream of particles from the sun). It is therefore quite possible or probable that their source on the moon samples is adsorption from solar wind, an explanation that would account for the surface correlation of the gases.

One would expect considerable "fractionation" of the entrapped gases if they were indigenous, during the billions of

⁴¹ Melvin A. Cook, "Rare Gas Adsorption on Solids of the Lunar Regolith," *Journal of Colloid and Interface Science*, Vol. 38, No. 1 (January, 1972), p. 18.

Dr. Cook received the E. V. Murphee award from the American Chemical Society in 1968 while he was Professor of Metallurgy at the University of Utah, as well as the 1968 Nitro-Nobel Gold Medal.

years involved—that is, the lighter gases would have escaped from the rocks in greater degree than the heavier. Instead, the ratios hold remarkably well, being roughly proportional to the solar wind ratios.

A factor which renders all the clocks useless is that the moon has apparently been subjected in “recent” times to surface temperatures between 1000° and 1300° C. This is shown, among other things, by a “glaze” still remaining on its surface, and by the fact that moon samples are depleted in all substances which boil below about 1300° C as compared to the composition of comparable rocks of earth. (The similarity between earth rocks of corresponding type is quite close as to composition involving substances which have higher boiling points.) Moon samples were also somewhat depleted in lead, which melts at 327.3° C.

It can easily be seen what such heating would have done to the time clocks which depend on elements which boil or vaporize below that 1000-1300° C range. Potassium, the key element of the potassium-argon system of dating, vaporizes at 744° C, and rubidium, main element of the rubidium-strontium technique, boils at 688° C. Furthermore, uranium, starting element of the uranium series, melts at 1132.3° C, and therefore, like lead, might be expected to be less stable as to location under those high temperatures to which the moon was subjected. The consequent migration or movement of all these elements in vaporized or in melted form would be expected to give the divergent and anomalous dating results that are actually found.

The ages of moon rocks ranged (in the reports) from 2.2 billion to 8.2 billion years, which is a spread of over 6 billion years! “Exposure” ages included much shorter times, even down to 1,000 years. Scientists from the Departments of Geology and Space Science at Rice University were among those who were convinced that the rare gases were of solar wind origin. They wrote, “We conclude that most of the inert gases were implanted in the fragments from the solar wind and from cosmic rays of greater intensity.” As to exposure ages, they said, “We estimate that the average ‘hemispherical’ exposure of a 250 [micrometer] fragment to solar wind of present-day intensity was [around] 10³ years. . . . However, a calculation based on ⁸⁴Kr

gives [around] 10^4 years. . . . These times become much longer if solar cosmic rays were the source of the gas."⁴²

If the moon's surface had been producing radiogenic gases such as helium for four billion years, this would create an unsolvable (at present) problem similar to that on earth, in the light of the geological ages view. Dr. Cook went into considerable detail on this matter in a 1957 article in *Nature*.⁴³ Attempts to account for the tremendous amount of helium that would have been produced on earth during that span of time leave a discrepancy of around "five orders of magnitude," or a factor of 10^5 times too little. That article is quite enlightening on the probable young age of the atmosphere. The question embarrassing to those who postulate the geological time scale is: Where is the earth's radiogenic helium? "The same dilemma," says Professor Cook, "now appears to arise for the moon!"⁴⁴

While it is impossible for the reasons given to date the moon, Dr. Cook gives some indications, particularly in view of the helium situation just mentioned. He suggests that the moon's age (the age of its present surface condition at least) may be measured, as an upper bound, in tens of thousands of years rather than billions.

To summarize, the moon rock dates in billions of years cannot be maintained because:

1. The main elements used in dating techniques would have vaporized or melted during high temperatures that have affected the moon's surface in recent times. Since those elements would have therefore moved about, this spoils their use for accurate dating, and partially accounts for the widely differing dates.
2. The rare gases on moon rocks and soil particles cannot properly be used in dating processes, because these inert gases evidently did not come from radiogenic sources on the moon

⁴² D. Heymann et al., "Inert Gases in Lunar Samples," *Science*, Vol. 167 (January 30, 1970), pp. 555-558.

In 1971, Leon T. Silver proposed that "volatization of materials on the lunar surface could be what was messing up the age-dating results. If material has lost rubidium, for example, it would appear older than it actually is." More recently, Paul W. Gast asked, "Where has all the rubidium gone?" and answered, "We don't know." (As reported in "A Solution to the Lunar Soil's Age Discrepancy," *Science News*, Vol. 103 [March 24, 1973], p. 182.) A new theory to save the long ages of orthodox dating is that bombardment of the lunar surface caused agglutinates, with loss of rubidium, but this theory has yet to be confirmed.

⁴³ Melvin A. Cook, "Where Is the Earth's Radiogenic Helium?" *Nature*, Vol. 179, No. 4552 (January 26, 1957), p. 213.

⁴⁴ Cook, *Journal of Colloid and Interface Science*, p. 18.

but most likely instead had their origin in the solar wind. This is indicated by the fact that gas ratios in the two are proportional, and that the gases are adsorbed on the surface of the rocks and particles rather than absorbed evenly throughout the samples. Since the main dating methods used for the lunar samples involve these gases, the dates are untrustworthy.

We are not suggesting that anyone *must* accept a young age for the universe. From experience we know that such a thought might at first strike a person as "incredible," in the light of what science supposedly has proved. As the evidence pointing to a young age continues to grow in quantity and quality, however, logic does seem to require that reasonable persons now give consideration to the possibility that it is not unscientific to question the geological age scale. It turns out to be rather exhilarating to think that the first chapters of Genesis may after all be interpreted literally and without the need to fit in the long ages somewhere.

Getting back to the moon, perhaps many who have been convinced that materialism is the only scientific philosophy were surprised at the emphasis on the Creator from astronauts on Apollo flights via television. First there was the reading of the Bible's creation narrative from moon orbit, commemorated on a U.S. postage stamp. After other such incidents, one astronaut was later interviewed while taking part in Christmas religious services in Jerusalem. He told of the unexpected "closeness of God" of which he was conscious during his three days on the moon. The news reporter credited this for his new "religiosity." The fact that astronauts are highly intelligent, well-educated, emotionally mature men added to the impact of what to many seemed to be a strange turn of events.

Life in Outer Space

Periodically there are reports that would lead a person to think that there is evidence that life must have evolved elsewhere in the universe, because, for example, amino acids or other "organic" compounds (carbon compounds) have been found in meteorites.

The presence of amino acids does not indicate life or its beginning. Living things use many compounds that exist also in nonliving nature—water, for example. Life consists, in part, of "nonliving molecules organized to live." The probability of getting the parts in right order, as we have seen, is utterly in-

finitesimal without first having the whole system of DNA and its complex array of precision machinery.

Life Created in the Laboratory?

Even if scientists ever manage to put together something which could correctly be described as "alive," it would be the result of their long, intelligent, purposeful effort. It would provide no evidence whatever that such a thing could ever have happened without conscious intelligence directing every condition. The Christian need not lose his balance over claims of such accomplishments. Exaggeration is nothing new either for the apologist for evolution or for the reporter who needs a story.⁴⁵ Both are only human like the rest of the people you meet each day.

Dr. Edward Teller, noted for his work on the hydrogen bomb, said at a 1970 Chicago meeting of the American Association for the Advancement of Science (regarding the exploits of scientists during World War II and after): "What scientists have gained in success, they have lost in modesty."⁴⁶ Of course, only a few of the outspoken ones are thus guilty.

Comparative Anatomy

What does it prove if there are similarities in the skeletal structure of different animals? Evolutionists interpret it as a sequence of development from lower types to higher, because that fits their overview. The facts fit even better in the framework of the overview of a Creator who used similar plans with variations adapted to the needs of the particular creatures. Henry Ford could have invented cars and trucks at the same time—vehicles that are similar, yet adapted to different purposes.

Proponents of evolution sometimes exaggerate wildly in this regard in the formation of museum and classroom displays for the purpose of providing gradual gradation from one type to another. Actually, however, the supposed sequence is plagued with gaps and discontinuities and other problems.

A better explanation is this: "Creationists believe that when God created the vertebrates, He used a single blueprint for the body plan but varied the plan so that each 'kind' would be

⁴⁵ As explained at the start of chapter 9, no one has yet created "life" in the laboratory, and the likelihood is small that it will ever be done. Every synthesis of any main component of living cells has depended upon the use of one or more complex molecules which were made in an actual living cell.

⁴⁶ *Science News*, Vol. 99 (January 2, 1971), p. 6.

perfectly equipped to take its place in the world." This logical statement is from the nonevolutionary high school textbook, *Biology, A Search for Order in Complexity*.⁴⁷

Dr. George Howe, in a paper presented to the National Association of Biology Teachers, said, "The teacher who has a real interest in academic honesty and professional ethics will . . . present the creationist alternative adequately in both the classroom and the laboratory."⁴⁸

Amino Acid Sequences in Proteins

It may be of interest to look at some actual sequences of the twenty common amino acids which make up all proteins and many other shorter molecules essential to life.⁴⁹ It is fascinating that the mere difference in the order of these units in the chain causes such varied products as human growth hormone and rattlesnake venom (which, by the way, enables the snake to capture prey and begins the digestion of it).

1. *Insulin*. The Alpha chain is identical in human, pig, sperm whale, dog, and rabbit. The Beta chain, on the other hand, is identical in human and elephant. For abbreviations of the amino acids, see Figure 3 on page 101.

Here is the sequence for human insulin. A dash indicates the start of the Beta chain.

Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Tyr Gln
Leu Glu Asn Tyr Cys Asn — Phe Val Asn Gln His Leu Cys Gly
Ser His Leu Val Glu Ala Leu Tyr Leu Val Cys Gly Glu Arg Gly
Phe Phe Tyr Thr Pro Lys Thr

2. *Apamine*. This is one of the several toxins in bee sting and consists of a very short chain of amino acids:

Cys Asn Cys Lys Ala Pro Glu Thr Ala Leu Cys Ala Arg Arg
Cys Gln Gln His

3. *Cytochrome c*. This is an important protein used in the energy cycle of apparently all organisms except certain pro-

⁴⁷ John N. Moore and Harold Schultz Slusher, eds., *Biology: A Search for Order in Complexity* (Grand Rapids: Zondervan Publishing House, 1970), p. 420. This is an excellent high school textbook. The publisher's address is 1415 Lake Drive, S.E., Grand Rapids, Michigan 49506.

⁴⁸ George Howe, "Homology, Analogy, and Innovative Teaching," presented at 1972 National Convention of the National Association of Biology Teachers at San Francisco on October 27, 1972.

⁴⁹ The data in this section are from Margaret O. Dayhoff, *Atlas of Protein Sequence and Structure 1972* (National Biomedical Research Foundation, Washington, D.C., 1972.) The interpretations are our own.

caryotes, simplest of organisms. It plays a key part in the reactions that take place in mitochondria to be described later.

When one compares the sequences of cytochrome *c* chains from various organisms, he discovers that although they differ, there are remarkable similarities. An identical section of eleven amino acids occurs in virtually all species examined to date. The sequence given below is that of human cytochrome *c*. We will compare it with the cytochrome *c* of Baker's yeast by italicizing the amino acids which are identical in both:

Gly Asp Val Glu Lys Gly Lys Lys Ile Phe Ile Met Lys Cys Ser
Gln Cys His Thr Val Glu Lys Gly Gly Lys His Lys Thr Gly
Pro Asn Leu His Gly Leu Phe Gly Arg Lys Thr Gly Gln Ala
Pro Gly Tyr Ser Tyr Thr Ala Ala Asn Lys Asn Lys Gly Ile Ile
Trp Gly Glu Asp Thr Leu Met Glu Tyr Leu Glu Asn Pro Lys
Lys Tyr Ile Pro Gly Thr Lys Met Ile Phe Val Gly Ile Lys Lys
Lys Glu Glu Arg Ala Asp Leu Ile Ala Tyr Leu Lys Lys Ala
 Thr Asn Glu⁵⁰

Sequence comparison is new as an assumed evidence for evolution. The idea is that more closely related organisms have fewer differences. Although this works for some comparisons, many others directly contradict that premise.

Rattlesnake cytochrome *c* is closer to human (14 differences) than to rhesus monkey (15), dog (21), penguin (30), or even a fellow reptile, the snapping turtle (22)! Human beings are closer to the pekin duck (11) than to a fellow mammal, the horse (12). Tomatoes and sunflowers appear closer to human than to other mammal, reptile, amphibian, fish, insect, or yeast.

Mammals are said to have evolved from reptiles; these came from amphibians, and they arose from fish. By cytochrome *c* comparison, however, the dog as one extreme example is closer to carp (a fish) than to rattlesnake (reptile) or bullfrog (amphibian).

The data show that in closely related organisms, the corresponding place in the chain may be occupied by amino acids which differ greatly in size, acidity, and electrical properties. Some of the differences, moreover, would have required multiple mutations in the same codon to evolve one from the other —

⁵⁰ There are thus sixty-four sites with identical amino acids. Baker's yeast has five additional sites preceding locus number one of human cytochrome *c* and it ends one site earlier.

in the face of the laws of probability.

As can be seen, sequence comparison apparently is no real help for evolution. Given a Creator, however, sequences would match the needs. Some similar organisms would require similar sequences. In other cases, organisms that appear far different may have cellular needs for similar cytochrome *c*.⁵¹

Vestigial Organs

Materialists used to belabor Bible believers with a long list of “useless” vestigial and rudimentary organs, supposedly left over from prior evolutionary stages. Now, however, functions or adequate explanations have been discovered for most of the list. Take one dramatic example, the appendix!

The human appendix, that tiny anatomical curiosity whose importance to health has long been doubted and debated, *may all along have been protecting other organs of the body against the attacks of cancer.* Evidence to support this startling view was presented at a California medical meeting by Howard R. Bierman, Clinical Professor of Medicine at Loma Linda University . . . [after a] 20-year study . . . (italics added).

The article went on to give details and concluded:

As a theory, the human appendix may be an immunologic organ whose premature removal during its functioning period permits leukemia and other related forms of cancer to begin their development. The appendix is composed of lymphoid tissue, suggesting that like such other lymphoid organs as the tonsils and spleen it may secrete antibodies which protect the body against attacking viral agents.⁵²

And evolutionists used to say that the appendix was a useless vestigial organ.

(To prevent alarm, Dr. Bierman stressed the belief that the

⁵¹ A common explanation of the origin of complex genes is that they began as short chains which later grew by accidental repeating of some sequences, the duplicate sections then diverging by mutations. Strongly disputing this view are the investigations of A. D. McLachlan of the famed Laboratory of Molecular Biology at Cambridge, England. He concludes, “There is, therefore, no necessity to postulate that gene duplication . . . has been a dominant influence in the recent evolution of proteins.” (A. D. McLachlan, “Repeating Sequences and Gene Duplication in Proteins,” *Journal of Molecular Biology*, Vol. 64, [March 14, 1972], p. 431.)

Watson, moreover, suspects that repetitive sequences of “spacer DNA between other genes sometimes might be used to count time,” to match the order in time when two genes’ products are needed to begin functioning. (James Watson, *Molecular Biology of the Gene* [Menlo Park, Calif.: W. A. Benjamin, Inc., 1970], p. 546.)

⁵² *Medical Times, Journal for the Family Physician* (September, 1966), p. 263a. Published in East Stroudsburg, Pa.

great majority of people would not be in heightened danger after an appendectomy.)

Embryonic Recapitulation

According to the recapitulation theory, the developing embryo exhibits some of the stages of the evolution through which its ancestors ascended. This idea has fallen into disfavor, though many persist in trotting it out.

In recent years the idea has been all but abandoned for several reasons. Researchers have shown that the stages through which an embryo passes are necessary for its development from one cell to a complex organism. The heart, for example, develops as the demands on it increase.⁵³

Further Reading on Assumed Proofs of Evolution

Since we are merely touching briefly on many of these subjects, some readers may wish to know where they can research more deeply into them. Bolton Davidheiser's *Evolution and Christian Faith*⁵⁴ (1969) contains a wealth of documented and interesting information along this line on such problems as fossils, comparative anatomy, vestigial and rudimentary organs, embryonic recapitulation, and many others. This book has a helpful and thorough study of the matter of theistic evolution as well (pages 168 ff.).

The high school textbook, *Biology: A Search for Order in Complexity* (1970), includes much helpful material on these subjects, while fulfilling its role as an excellent biology textbook.⁵⁵

A compact pamphlet containing a world of documentation is: *Evolution, Science Falsely So-Called*, which may be ordered for only thirty-five cents including postage (1973) by residents of the United States and Canada from the address given below.⁵⁶ Dr. Henry M. Morris has authored several fine books of various lengths, which we also highly recommend.⁵⁷

There are many other excellent books concerning evolution.

⁵³ Moore and Slusher, eds., *Biology*, p. 424.

⁵⁴ This book may be ordered from Dr. Bolton Davidheiser, Box 22, La Mirada, California 90638, \$5.25 postpaid (\$3.50 paperback). Other excellent publications of his are also available.

⁵⁵ The publisher's address was given in footnote 47, page 203.

⁵⁶ Order from: International Christian Crusade, 205 Yonge St., Room 31, Toronto 1, Canada.

⁵⁷ Names and prices of excellent books by this prolific author, a scientist highly knowledgeable on the evolution question, may be obtained by writing him at: Institute for Creation Research, 2716 Madison Avenue, San Diego, California 92116. Also articles and books by Dr. Duane T. Gish, biochemist, are available at the same Institute.

Professor A. E. Wilder Smith of Switzerland writes with helpful clarity on evolution. He holds *three* doctoral degrees in Organic Chemistry, etc. One of his best books is *Man's Origin, Man's Destiny* (Harold Shaw, Publishers, Wheaton, Illinois.)

The Vastness of the Universe

It overwhelms a person to consider the distances and numbers of galaxies of stars in this amazing cosmos. One may be inclined to think this presents a difficulty for believing in God and creation, but the difficulty is more apparent than real.

If we can conceive of a Creator who could make the earth, and its myriads of marvels, including life, who are we to suppose He would be limited to making one solar system, or one galaxy? And, in a sense, a living cell is more an evidence of creative ability than a star!

There is considerable uncertainty just how big the cosmos is.⁵⁸ Dr. Jesse L. Greenstein, who at that time was head of the Astronomy Department at the California Institute of Technology, told the author that, although fifteen billion light years or so is used by many as the radius of the universe, it is more a matter of common acceptance than actual evidence.⁵⁹ He said we can discern spiral galaxies thought to be out as far as five billion light years.

Wernher von Braun remarked on this subject: "Astronomy and space exploration are teaching us that the good Lord is a much greater Lord, and master of a greater kingdom."⁶⁰

⁵⁸ It might be noted that there is substantial uncertainty of measurements beyond a few hundred or a few thousand light years. These measurements could be completely off if current formulas are wrong. This would affect estimates of the age of the universe as well.

Astronomers measure distance of a star or galaxy partly by what is known as its "redshift" or tendency of the light waves to shift to the longer or red end of the visible spectrum. This is supposed to be caused by recession, as the sound of a train whistle lowers in pitch as the train passes and moves away from you.

There is disagreement, however, as to whether redshift actually indicates distance. Well-known British astronomer Fred Hoyle wrote (1973) concerning very high-flux radio sources: "The absence of a significant correlation between redshifts and fluxes can be interpreted in two ways: *the optical redshifts are not distance indicators*, or the 26 sources in question constitute a fluctuation. In the first case, issues striking at the root of *our most cherished cosmological beliefs would be involved*." (Italics added.) He referred, of course, to the vast distances and long ages, and the theory that the universe began with a big bang. F. Hoyle, "Radio Source Counts in Cosmology," *Nature*, Vol. 242 (March 9, 1973), pp. 108, 109. His article brought immediate refutation from others who defend those "cherished cosmological beliefs." Many other scientists, however, are likewise casting doubt on the idea that redshifts indicate distance.

⁵⁹ Telephone conversation, November, 1971.

⁶⁰ Wernher von Braun interview, AP dispatch, *The Cleveland Plain Dealer*, (July 19, 1969), p. 5.

Where Are Heaven and Hell?

The question may have occurred to the reader, where is heaven and where is hell? Haven't astronomy and space exploration made these concepts rather unrealistic? On the contrary, discoveries in atomic physics may instead have made it easier to consider certain possible explanations that at first may seem bizarre, but which are less fantastic than many presently accepted scientific truths would have seemed a few years ago. Facts that are now commonplace knowledge, such as atomic power, television, the DNA code, were beyond the wildest speculations of reasonable people.

Later in this section, we will let our imaginations run unchecked over some possible locations of heaven and hell, since only speculation is possible in the absence of any clear indication in the Bible, and of any definite material clues of their whereabouts. Lest anyone think some of these ideas are too "far out," it may be noted that highly respected physicists come up with theories about the nature of this universe that seem extremely weird to us who are in other fields. If we are inclined to dismiss such ideas with a smile, it is worth remembering that the same general brand of physics is seriously considered by the physicists who got our astronauts safely to the moon and back.

One of the strangest articles along this line, in the layman's way of thinking, may be "Gravitational Collapse," by Dr. Kip S. Thorne, who teaches theoretical physics at the California Institute of Technology. He tells of *Penrose's theorem*, an idea which has been held in high esteem by some scientists. It was proposed by Roger Penrose of the University of London, and the theorem is described by Thorne as having been "proved" by Penrose (in 1964).

This theorem relates the things that might happen during the gravitational collapse of a large star or of a galaxy or possibly of the whole universe. It is seriously thought that stars may reach this stage in some cases. The gravity would be so unopposed in its effect that the star or other body would collapse rapidly inward, eventually (get this!) reaching "zero volume."

In describing this process, Professor Thorne explained Penrose's theorem as follows:

In realistic nonspherical collapse, as in spherical collapse, a critical stage can be reached beyond which no communi-

cation with the outside universe is possible. Once this stage has been passed . . . *a universe with which we had no previous contact may suddenly be joined together with our universe by the collapse event . . . bringing in outside information that influences future events (italics added).*

Elsewhere in the article, Dr. Thorne gave this exotic picture of what might happen to the matter in the star or other body when it reached zero volume: "The matter might then emerge [through a topological hole in the photon-3 surface], bubbling upward like a spring in the mountains, in some other region of our own universe or in some other universe."⁶¹

Some of the ideas that follow in this section are not meant as serious hypotheses but merely to point out that there are many possibilities within the realm of scientific conjecture regarding the location of heaven and hell, some of the possibilities being more likely than others. (After the foregoing description of Penrose's theorem, the wildest of speculations may seem tame.)

We now know that atoms are mostly empty space. If the space were removed from the atoms of the earth, the entire globe would be compacted into a volume less than a mile in diameter. This makes it conceivable that two things might occupy the same space, if their "solid" parts—protons, neutrons, electrons, etc.—were synchronized so that they did not interfere with each other. A Creator capable of designing atoms and DNA and galaxies would certainly be able even to engineer a way for electron orbitals and gravitational forces to mesh without conflict even between comparatively similar physical realms in such a way that the effect of one on the other was undetectable.

⁶¹ Kip S. Thorne, "Gravitational Collapse," *Scientific American*, Vol. 217 (November, 1967), p. 97.

Along the same line, Professor T. Gold, of the Center for Radiophysics and Space Research, Cornell University, recently wrote that "unseen mass can exist in several forms that would have escaped present means of detection." He seriously discusses the far-out idea that our universe may possibly be part of a larger universe, and that if so, "we would have no access to any information about any larger scale than that of our closed space." Also, he says, universes smaller than our own may exist, undetected by us, within our own universe. "There would be a system of 'nesting universes' in which each is perhaps only slightly smaller than the one in which it nests." He thinks we may eventually figure out ways to tell, "and therefore it will be possible to answer the question whether there are other universes nesting within our observable space." (T. Gold, "Multiple Universes," *Nature*, Vol. 242 [March 2, 1973], pp. 24, 25.) Scientists at Cambridge University have even said that one difficult question in astronomy could be sidestepped "by proposing that there are an infinite number of universes with all possible combinations of initial conditions." (Reported in *Science News*, Vol. 103 [March 31, 1973], p. 213.)

A completely different type of realm might exist. There is no reason to doubt *this* possibility. By analogy, hundreds of radio and TV programs are all around us, but without a receiving set we might never know they existed. Heaven or hell could be *anywhere*, in such a case, and we would have no way to detect their existence while in *this* physical realm. Other possibilities:

Astronomers now think that there may actually be what are called "black holes," stars with gravity so strong that even light cannot escape (as in Penrose's theorem), making them very difficult to detect. Again, unknown celestial or elysian bodies might be concealed in distant parts of our own galaxy or elsewhere, behind the haze which is known to block vision in some areas such as is the case near the center of our own galaxy.⁶² There is no scientific reason to rule out belief in the actual existence of heaven and hell. Science can neither prove nor disprove things that are beyond the realm of experiment or observation.

Ray Brubaker asked this provocative question: "Could it be that the powerful radio emissions being recorded on earth are coming from Heaven?" He told of the shock experienced by Dr. Frank Drake, astronomer, when the world's largest radio telescope, located in Puerto Rico, first revealed a *pulsar*. "When I saw it I got weak in the knees," Dr. Drake was quoted as saying. "It was so incredible . . . to have a distant cosmic object radiating intense impulses, precisely regular, with the pulses lasting only 1/100th of a second."⁶³

In line with Brubaker's suggestions, if newspapers should ever report evidence of a distant super-civilization being detected by astronomers, the first logical question to ponder might be: "Have they discovered heaven?"

On the other hand, heaven and hell might be so distant that we could never detect them. It is conceivable that instant space travel by molecular reassembly might be possible. If atoms at the distant site were put in the exact arrangement that is a particular person's body, it would be indistinguishable from the original. A universe in which memory and human telemetry

⁶² "Two giant nearby galaxies were not discovered until 1967 because of obscuring interstellar dust," reported Palomar Observatory astronomer Jesse L. Greenstein, in the *1972 Yearbook of Science and the Future* (Britannica), p. 188.

⁶³ *Radar News* (December, 1971), p. 6. (This is not primarily a scientific periodical.)

devices exist surely has a Creator capable of such reassembly (resurrection) and of correcting any physical shortcomings prior to the entry into heaven of those who are prepared.

Scientists now speculate on the future possibility of computer file systems listing the DNA sequence for each human being's entire body.⁶⁴ Coded memory of that person's experiences would be more difficult for science but not for the original Designer of the physical basis of memory.

As to a person's spirit (the real person or personality who resides in the body, as a driver in a car) and travel to a possible distant site of heaven or hell, we have little basis for knowledge whether there are space travel limitations for spiritual beings. Is there a finite spiritual speed limit? In the language of theologians, God is everywhere in agency, that is He can know and act anywhere in the universe (without implying the pantheistic notion that God is everything). Physical reassembly being scientifically conceivable, we may even surmise the Creator has ways to transport us in spirit at the same time.

Given the known truths of present-day nuclear physics and moon explorations, the science fiction of yesterday is tame compared to the scientific facts known today. This opens the way for far-out speculation which may not be so fantastic after all. There is the factor of relativity as it regards time and speed of travel. And microminiaturization or its opposite. . . . There is no dearth of possible explanations in this day of unbelievable scientific discoveries. (Some of the foregoing is merely meant to indicate that the range of potential answers is wide and intriguing.)

No Greater Entity Than a "Person"

Far greater than the best computer or the most sophisticated instrumentation of a lunar module are the men who make and pilot them. We find nothing on earth to surpass persons. The Bible indicates that the Almighty is an *infinite* Person, and that He is more wonderful than even nature reveals. The God of Creation is said to love sinners such as we are and to have made a way of release from our guilt. This is the wonder of all time!

⁶⁴ Biologist T. C. Hsu at the University of Texas has taken a step in this direction by assembling live cells of animals in danger of becoming extinct. He keeps these cells in test tubes imbedded in ice, in the hope that the animals may some day be reconstructed from these cells. ("Shape of Things to Come," *The Reader's Digest* [October, 1972], p. 61.)

The 1971 *Britannica Yearbook of Science and the Future* gave more than one intimation that scientists sometimes have a feeling of rejection by the public. If this is true, it may be that the public has a vague resentment when evolutionary scientists cause people to feel as Mary Magdalene did when she sorrowfully complained at the tomb: "They have taken away my Lord, and I know not where they have placed him."

Many nonscientists have a sort of intuition that true science and faith in God go well together. They sense something wrong with that brand of "scientist" who disparages belief in *the most self-evident of natural truths—that logic requires a Creator back of the creature.*