

# SCIENTIFIC CREATIONISM

(GENERAL EDITION)

Prepared by the technical staff and consultants  
of the  
Institute for Creation Research

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## CHAPTER I

### EVOLUTION OR CREATION?

#### The Importance of Origins

Both parents and teachers know that children are curious creatures. That is, they are insatiably curious about the why's and whences of things. This inborn intellectual alertness, if encouraged and cultivated, leads in adult life to a mature scientific attitude toward the world and the ability to think creatively in solving technological, sociological and personal problems.

Regardless of the subject matter of a particular course of study, it is vital that the student be made aware of origins. If he studies chemistry, he should have an interest in the origin of the elements and the laws that govern chemical reactions. The study of English should give him a sense of the origin of his own language and even of language itself. Biology, of course, should discuss the origin of life and of the various kinds of organisms. A course in government should include discussion of the origin of his own nation and its legal structure, as well as of the origin of nations and laws in general. And so on.

A course of study which does *not* do this may avoid a measure of controversy, but only at the cost of stifling curiosity and inventiveness. Description and techniques are vital in any good course, certainly, but these will only produce skills, not real understanding. This type of instruction, valuable though it is for the immediate goal of making a living, is barren in achieving the broader goal of real *meaning* in living. It is like a bridge without abutments, spanning from nowhere to nowhere, without roots in the past or hope in the future.

The following is a summary of cogent reasons why the study of origins is important in any course:

#### A. *Scientific Reasons*

1. Science (i.e., "knowledge") must seek to answer the question "Whence?" as well as "What?"

2. Science is based on cause-and-effect reasoning. Inevitably, therefore, as one assimilates effects to their immediate causes and those causes to *their* causes, one eventually confronts the question of a First Cause.
3. A knowledge of natural laws and processes, without an appreciation of at least the problems associated with their origin, is stultifying to the discovery and comprehension of new scientific principles.

#### B. *Sociological Reasons*

1. Science has innumerable social implications and applications. Solutions to social problems require a real understanding of the origin of the physical processes which affect them (e.g., nuclear energy, fossil fuels, ecology, genetic engineering, hallucinogenic drugs, etc.).
2. The so-called social sciences themselves require an understanding of the origin of the sociological entities with which they deal (e.g., races, cultures, crime, war, etc.).
3. The milieu of political thought is constantly changing in emphasis. Sociological instruction which emphasizes only the current fad in political activism or social theory, with no foundation in history, will be useless to the student when a new emphasis appears.

#### C. *Personal Reasons*

1. Each person needs, more than anything, a sense of his own identity and personal goals, and this is impossible without some sense of his origin. What a person comes to believe about his origin will inevitably condition what he believes about his destiny.
2. Lack of a sound scientific understanding of origins and meanings among modern young people has impelled them to seek help in such anti-scientific solutions as "mind-expanding" drugs, witchcraft, astrology, and the like.
3. True mental health, such as teachers desire for their pupils, requires a solid and satisfying philosophy of life, and this certainly demands a mentally-satisfying concept of their personal origin and future.

However, if teachers are to teach creation as a scientifically sound alternative to evolution, they must have available resource information on how to do so. Unfortunately, prac-

tically every textbook now available is biased in favor of evolution. A large percentage of teachers, as well as the scientific public, have themselves also been indoctrinated with the evolutionary point of view in their studies in college.

Furthermore, most creationist books treat the subject of origins from the Biblical point of view, as well as the scientific, and, therefore, are not appropriate for instructional purposes in the public schools. There are indeed a number of creationist books which are strictly scientific in their content, but most of these deal with only a few of the relevant topics.

The purpose of *Scientific Creationism* is, first, to treat all of the more pertinent aspects of the subject of origins and to do this solely on a scientific basis, with no references to the Bible or to religious doctrine. The treatment is positive, rather than negative, showing that the creation model of origins and history may be used to correlate the facts of science at least as effectively as the evolution model. Although the book necessarily deals with scientific data, it is written for the non-specialist, and we believe it can be adequately understood and used by most intelligent laymen. It is necessary to use scientific concepts and terminology, but they are all explained as needed, so that the reader should, with at least a little effort on his part, have no great difficulty understanding and using them.

It is our suggestion that every teacher be provided with a copy of *Scientific Creationism* for personal study, and asked to read it in its entirety. If feasible, workshops should be set up by individual school districts to equip their teachers for its use.

Whatever the course being taught, and regardless of the grade level, the teacher will find that the assigned textbook and prescribed supplementary reading are premised on evolution and affected by it in various ways. Whenever a particular subject is encountered which involves origins (e.g., the origin of the solar system, the beginning of the "cave-men," etc.) or the pre-history of the earth and its inhabitants (e.g., the meaning of the dinosaurs, the formation of coal beds, the discovery of the first metals, etc.), the teacher should present the creationist interpretation (as well as the textbook evolutionary interpretation) and, in so far as practicable for the age level involved, the evidence favoring *both* models. The book is conveniently organized and well-

indexed to facilitate such use.

Experience has indicated that this approach is more exciting, both to students and teachers, than the one-sided indoctrination in evolutionism which is common today. Teachers and school administrators are urged to give it a fair trial.

This book itself is intended to serve primarily as a source for background information needed by the teacher, rather than as an actual textbook to be used in elementary or secondary school classes. It can thus be adapted as needed, in accordance with the teacher's own preferences, to whatever subject or grade level may be involved. It can also be used, of course, as an actual textbook in formal courses on origins, in either high school or college.

In general, whether as a textbook or as a book for personal study and reference, it is believed that this book will fill the need for a scholarly, yet simple, presentation of all the major evidence and arguments for special creation, as well as the related evidence for a young earth and worldwide flood.

#### Impossibility of Scientific Proof of Origins

The preceding section has stressed the vital importance of studying the subject of origins. At the same time, it must also be emphasized that it is impossible to *prove* scientifically any particular concept of origins to be true. This is obvious from the fact that the essence of the scientific method is experimental observation and repeatability. A scientific investigator, be he ever so resourceful and brilliant, can neither observe nor repeat *origins*!

This means that, though it is important to have a philosophy of origins, it can only be achieved by faith, not by sight. That is no argument against it, however. Every step we take in life is a step of faith. Even the pragmatist who insists he will only believe what he can see, *believes* that his pragmatism is the best philosophy, though he can't prove it! He also believes in invisible atoms and in such abstractions as the future.

As a matter of observation, belief in something is necessary for true mental health. A philosophy of life is a philosophy, not a scientific experiment. A life based on the whim of

the moment, with no rationale, is "a tale told by an idiot, full of sound and fury, signifying nothing."

Thus, one must *believe*, at least with respect to ultimate origins. However, for optimally beneficial application of that belief, his faith should be a reasoned faith, not a credulous faith or a prescribed faith.

To illustrate more exactly what we mean when we say origins cannot be proved, a brief discussion is given below on each of the two basic concepts of origins, creation and evolution:

#### A. *Creation cannot be proved*

1. Creation is not taking place now, so far as can be observed. Therefore, it was accomplished sometime in the past, if at all, and thus is inaccessible to the scientific method.
2. It is impossible to devise a scientific experiment to describe the creation process, or even to ascertain whether such a process *can* take place. The Creator does not create at the whim of a scientist.

#### B. *Evolution cannot be proved*

1. If evolution is taking place today, it operates too slowly to be measurable, and, therefore, is outside the realm of empirical science. To transmute one kind of organism into a higher kind of organism would presumably take millions of years, and no team of scientific observers is available to make measurements on any such experiment.
2. The small variations in organisms which are observed to take place today (see pp. 51-58) are irrelevant to this question, since there is no way to prove that these changes within present kinds eventually change the kinds into different, higher kinds. Since small variations (including mutations) are as much to be expected in the creation model as in the evolution model, they are of no value in discriminating between the two models.
3. Even if modern scientists should ever actually achieve the artificial creation of life from non-life, or of higher kinds from lower kinds, in the laboratory, this would not *prove* in any way that such changes did, or even

could, take place in the past by random natural processes.

Since it is often maintained by evolutionists that evolution is scientific, whereas creationism is religious, it will be well at this point to cite several leading evolutionists who have recognized that evolution also is incapable of being proved.<sup>1</sup>

#### Evolution operates too slowly for scientific observation

One of the nation's leading evolutionists, Theodosius Dobzhansky, has admitted:

"The applicability of the experimental method to the study of such unique historical processes is severely restricted before all else by the time intervals involved, which far exceed the lifetime of any human experimenter. And yet, it is just such impossibility that is demanded by anti-evolutionists when they ask for 'proofs' of evolution which they would magnanimously accept as satisfactory."<sup>2</sup>

Note the tacit admission that "the experimental method" is an "impossibility" when applied to evolution.

#### Evolution is a dogma incapable of refutation

Two leading modern biologists have pointed out the fact that, since evolution cannot in any conceivable way be disproved, therefore, neither can it be proved.

"Our theory of evolution has become . . . one which cannot be refuted by any possible observations. It is thus 'outside of empirical science,' but not necessarily false.

<sup>1</sup> It is interesting and encouraging to note that, in the Foreword to the most recent edition of Darwin's *Origin of Species*, a leading British evolutionary biologist, Professor L. Harrison Matthews, F.R.S., recognizes that "Belief in evolution is thus exactly parallel to belief in special creation — both are concepts which believers know to be true but neither, up to the present, has been capable of proof." (London: J.M. Dent & Sons, Ltd., 1971), p. x.

<sup>2</sup> Theodosius Dobzhansky, "On Methods of Evolutionary Biology and Anthropology," *American Scientist*, Vol. 45 (December, 1957), p. 388.

No one can think of ways in which to test it. . . . (Evolutionary ideas) have become part of an evolutionary dogma accepted by most of us as part of our training."<sup>1</sup>

Similarly, Peter Medawar recognized the problem entailed by the fact that no way exists by which to test evolution.

"There are philosophical or methodological objections to evolutionary theory. . . . It is too difficult to imagine or envisage an evolutionary episode which could not be explained by the formulae of neo-Darwinism."<sup>2</sup>

In other words, both the long neck of the giraffe and the short neck of the hippopotamus can presumably be explained by natural selection. A theory which incorporates everything really *explains* nothing! It is tautologous. Those who survive in the struggle for existence are the fittest because the fittest are the ones who survive.

#### Evolution is an authoritarian system to be believed

"It seems at times as if many of our modern writers on evolution have had their views by some sort of revelation and they base their opinions on the evolution of life, from the simplest form to the complex, entirely on the nature of specific and intra-specific evolution. . . . It is premature, not to say arrogant, on our part if we make any dogmatic assertion as to the mode of evolution of the major branches of the animal kingdom."<sup>3</sup>

"But the facts of paleontology conform equally well with other interpretations. . . . e.g., divine creation, etc., and paleontology by itself can neither prove nor refute such ideas."<sup>4</sup>

Thomas Huxley, probably more responsible than any other one man for the acceptance of Darwinian philosophy, nevertheless recognized that:

<sup>1</sup> Paul Ehrlich and L.C. Birch, "Evolutionary History and Population Biology," *Nature*, Vol. 214 (1967), p. 352.

<sup>2</sup> Peter Medawar, *Mathematical Challenges to the Neo-Darwinism Interpretation of Evolution*, (Philadelphia: Wistar Institute Press, 1967), p. xi.

<sup>3</sup> G. A. Kerkut, *Implications of Evolution*, (London: Pergamon, 1965), p. 155.

<sup>4</sup> D. Dwight Davis, "Comparative Anatomy and the Evolution of Vertebrates," in *Genetics, Paleontology and Evolution*, (ed. by Jepsen, Mayr and Simpson, Princeton University Press, 1949), p. 74.

“. . . 'creation' in the ordinary sense of the word, is perfectly conceivable. I find no difficulty in conceiving that, at some former period, this universe was not in existence; and that it made its appearance in six days . . . in consequence of the volition of some pre-existing Being."<sup>1</sup>

The reason for favoring evolution is not because of the scientific evidence

An outstanding British biologist of a number of years ago made the following remarkable observation:

"If so, it will present a parallel to the theory of evolution itself, a theory universally accepted not because it can be proved by logically coherent evidence to be true but because the only alternative, special creation, is clearly incredible."<sup>2</sup>

The only reason for saying that special creation is incredible would be if one had certain knowledge that there was no God. Obviously, if no Creator exists, then special creation is incredible. But since a universal negative can only be proved if one has universal knowledge, such a statement requires omniscience. Thus, by denying God, Dr. Watson is claiming the attributes of God himself.

There are some scientists, at least, who find it easier to believe in the deity of an omnipotent Creator than in the deity of Professor Watson.

### The Two Models of Origins

It is, as shown in the previous section, impossible to demonstrate scientifically which of the two concepts of origins is really true. Although many people teach evolution as though it were a proven fact of science, it is obvious that this is false teaching. There are literally thousands of scientists<sup>3</sup> and other educated intellectuals today who reject evolution, and this would certainly not be the case if evolution were as obvious as many scientists say it is.

<sup>1</sup>Leonard Huxley, *Life and Letters of Thomas Henry Huxley*, (London: Macmillan, Vol II, 1903), p. 429.

<sup>2</sup>D.M.S. Watson, "Adaptation," *Nature*, Vol. 123 (1929), p. 233.

<sup>3</sup>The Creation Research Society, for example, numbers over 700 M.S. and Ph.D. scientists on its rolls.

The same is true of creation, of course. Although many believe special creation to be an absolute fact of history, they must believe this for theological, rather than scientific reasons. Neither evolution nor creation can be either confirmed or falsified scientifically.<sup>1</sup>

Furthermore, it is clear that neither evolution nor creation is, in the proper sense, either a scientific theory or a scientific hypothesis. Though people might speak of the "theory of evolution" or of the "theory of creation," such terminology is imprecise. This is because neither can be *tested*. A valid scientific hypothesis must be capable of being formulated experimentally, such that the experimental results either confirm or reject its validity.

As noted in the statement by Ehrlich and Birch cited previously, however, there is no conceivable way to do this. Ideally, we might like to set up an experiment, the results of which would demonstrate either evolution or creation to have been true. But there is no one test, nor any series of tests, which can do this scientifically.

All of these strictures do not mean, however, that we cannot discuss this question scientifically and objectively. Indeed, it is extremely important that we do so, if we are really to understand this vital question of origins and to arrive at a satisfactory basis for the faith we must ultimately exercise in one or the other.

A more proper approach is to think in terms of two scientific models, the *evolution model* and the *creation model*. A "model" is a conceptual framework, an orderly system of thought, within which one tries to correlate observable data, and even to predict data. When alternative models exist, they can be compared as to their respective capacities for correlating such data. When, as in this case, neither can be proved, the decision between the two cannot be solely objective. Normally, in such a case, the model which correlates the greater number of data, with the smallest number of unresolved contradictory data, would be accepted as the more probably correct model.

<sup>1</sup>Dr. N. Heribert-Nilsson, Director of the Botanical Institute at Lund University, Sweden, said "My attempt to demonstrate evolution by an experiment carried on for more than 40 years has completely failed. . . . The idea of an evolution rests on pure belief." (*Synthetische Artbildung*, 1953).

When particular facts do show up which seem to contradict the predictions of the model, it may still be possible to assimilate the data by a slight modification of the original model. As a matter of fact, in the case of the evolution model, as Ehrlich and Birch said: "Every conceivable observation can be fitted into it."

The same generalization, of course, is true of the creation model. There is no observational fact imaginable which cannot, one way or another, be made to fit the creation model. The only way to decide objectively between them, therefore, is to note which model fits the facts and predictions with the smallest number of these secondary assumptions.

Creationists are convinced that, when this procedure is carefully followed, the creation model will always fit the facts as well as or better than will the evolution model. Evolutionists may, of course, believe otherwise. In either case, it is important that everyone have the facts at hand with which to consider *both* models, rather than one only. The latter is brainwashing, not brain-using!

Since the rest of this book is devoted primarily to a comparison of these two models, it is important that everyone using it, both teachers and students, clearly understand the formulation of the two models and their implications.

#### A. *The Evolution Model*

The evolutionary system attempts to explain the origin, development, and meaning of all things in terms of natural laws and processes which operate today as they have in the past. No extraneous processes, requiring the special activity of an external agent, or Creator, are permitted. The universe, in all its aspects, evolves itself into higher levels of order (particles to people) by means of its innate properties.

To confirm that this is the essential nature of the evolution model, several recognized authorities are cited below, giving their own concepts of evolution.

"Most enlightened persons now accept as a fact that everything in the cosmos—from heavenly bodies to human beings—has developed and continues to develop through evolutionary processes."<sup>1</sup>

<sup>1</sup>Rene Dubos, "Humanistic Biology," *American Scientist*, Vol. 53 (March 1965), p. 6.

"Evolution comprises all the stages of the development of the universe: the cosmic, biological, and human or cultural developments. . . . Life is a product of the evolution of inorganic nature, and man is a product of the evolution of life."<sup>1</sup>

"Evolution in the extended sense can be defined as a directional and essentially irreversible process occurring in time, which in its course gives rise to an increase of variety and an increasingly high level of organization in its products. Our present knowledge indeed forces us to the view that the whole of reality is evolution — a single process of self-transformation."<sup>2</sup>

"Biological evolution can, however, be explained without recourse to a Creator or a planning agent external to the organisms themselves. There is no evidence, either, of any vital force or immanent energy directing the evolutionary process toward the production of specified kinds of organisms."<sup>3</sup>

Thus evolution entails a self-contained universe, in which its innate laws develop everything into higher levels of organization. Particles evolve into elements, elements into complex chemicals, complex chemicals into simple living systems, simple life forms into complex life, complex animal life into man.

Summarizing, evolution is: (1) naturalistic; (2) self-contained; (3) non-purposive; (4) directional; (5) irreversible; (6) universal; and, (7) continuing.

#### B. *The Creation Model*

Diametrically opposed to the evolution model, the creation model involves a process of special creation which is: (1) supernaturalistic; (2) externally directed; (3) purposive, and (4) completed. Like evolution, the creation model also applies universally. It also is irreversibly directional, but its

<sup>1</sup>Theodosius Dobzhansky, "Changing Man," *Science*, Vol. 155 (January 27, 1967), p. 409.

<sup>2</sup>Julian Huxley, "Evolution and Genetics," Chap. 8 in *What Is Science?* Ed. J. R. Newman, (New York: Simon & Schuster, 1955), p. 272.

<sup>3</sup>Francisco J. Ayala, "Biology as an Autonomous Science," *American Scientist*, Vol. 56 (Autumn 1968), p. 213.

direction is downward toward lower levels of complexity rather than upward toward higher levels. The completed original creation was perfect and has since been "running down."

The creation model thus postulates a period of special creation in the beginning, during which all the basic laws and categories of nature, including the major kinds of plants and animals, as well as man, were brought into existence by special creative and integrative processes which are no longer in operation. Once the creation was finished, these processes of *creation* were replaced by processes of *conservation*, which were designed by the Creator to sustain and maintain the basic systems He had created.

In addition to the primary concept of a completed creation followed by conservation, the creation model proposes a basic principle of disintegration now at work in nature (since any significant change in a *perfect* primeval creation must be in the direction of imperfection).

The two models may be easily compared by studying the table below:

<i>Evolution Model</i>	<i>Creation Model</i>
Continuing naturalistic origin	Completed supernatural origin
Net present increase in complexity	Net present decrease in complexity

The questions of the *date* of creation (old or young) and the nature of cosmic processes *since* creation (dominantly naturalistic and uniform or catastrophic) are separate issues.

It is proposed that these two models be used as systems for "predicting" data, to see which one does so more effectively. To do this, one should imagine that neither the evolutionist nor the creationist knows in advance what data will be found. They do not know what they will find but bravely make predictions, each on the basis of his own model.

The following table indicates the predictions that would probably be made in several important categories.

Category	Basic Predictions of	
	Evolution Model	Creation Model
Galactic Universe Structure of Stars	Galaxies Changing Stars Changing into Other Types	Galaxies Constant Stars Unchanged
Other Heavenly Bodies Types of Rock Formations	Building Up Different in Different "Ages"	Breaking Down Similar in All "Ages"
Appearance of Life Array of Organisms Appearance of Kinds of Life	Life Evolving from Non-Life Continuum of Organisms New Kinds Appearing	Life Only from Life Distinct Kinds of Organisms No New Kinds Appearing
Mutations in Organisms Natural Selection Fossil Record Appearance of Man Nature of Man	Beneficial Creative Process Innumerable Transitions Ape-Human Intermediates Quantitatively Superior to Animals	Harmful Conservative Process Systematic Gaps No Ape-Human Intermediates Qualitatively Distinct From Animals
Origin of Civilization	Slow and Gradual	Contemporaneous with Man

It should be noted that the tabulated predictions are predictions of the *primary* models, as defined in their most general terms as in the foregoing discussion. These primary models may be modified by secondary assumptions to fit certain conditions. For example, the basic evolution model may be extended to include harmful, as well as beneficial, mutations, but this is not a natural prediction of the basic concept of evolution. If the "predictions" of evolution, as listed in the above table, were actually observed in the natural world, they would, of course, in every case be enthusiastically acclaimed as strong confirmations of the evolution model. That fact justifies the conclusion that these are the *basic* predictions of evolution.

The above predictions are merely suggestive of the types of entities that can be used to contrast the two models. Several of these will be discussed in some detail later. At this point, it may be noted that creationists maintain that the predictions of the creation model do fit the observed facts in nature better than do those of the evolution model. The data must be *explained* by the evolutionist, but they are *predicted* by the creationist.

#### Pedagogical Advantages of the Creation Model

There are great benefits to be derived, for both student and teacher, from a sound exposition of the creation model



along with the evolution model. It is strange and disturbing that resistance is encountered from many scientists and teachers to a proposal which is so reasonable and salutary.

Some of these benefits are listed below:

1. It stimulates real thinking on the part of the student, as he is asked to compare these two important models.
2. Creationism is consistent with the innate thoughts and daily experiences of the child and thus is conducive to his mental health. He knows, as part of his own experience of reality, that a house implies a builder and a watch a watchmaker. As he studies the still more intricately complex nature of, say, the human body, or the ecology of a forest, it is highly unnatural for him to be told to think of these systems as chance products of irrational processes.
3. The greatest joy of scientific discovery is to find evidence of beauty and pattern in the processes and structures of nature, especially when, as great scientists<sup>1</sup> such as Newton and Kepler have testified, one senses that he is merely "thinking God's thoughts after Him." This will develop a love and enthusiasm for science in the child more effectively than will anything else.
4. There is no greater stimulus to responsible behavior and earnest effort, as well as honesty and consideration for others, than the awareness that there well may be a personal Creator to whom one must give account. This applies both to student and teacher.

In public schools, both evolution and creation should be taught as equally as possible, since there are children of taxpayers representing both viewpoints in the classes. If people wish *only* evolution to be taught, they should establish private schools with that purpose.

Likewise, an essential purpose of most private Christian schools is to teach creation as the true doctrine of origins

<sup>1</sup>It is significant that most of the founding fathers of modern science (Newton, Bacon, Kepler, Galileo, Boyle, Pascal, Faraday, Pasteur, Maxwell, Ray Cuvier, Linnaeus, Agassiz, and a host of others) were creationists, even though they were aware of the various evolutionary concepts of their times.

and they have been established on that basis. This does not mean, however, that students in such schools should not also be instructed concerning evolution. Since they will be living in a world dominated by evolutionary philosophy they should, by all means, be well versed in evolutionary concepts and the supposed evidences for evolution. At the same time they should be informed of the fallacies in those concepts and evidences, as well as the basis for creationism.

The most effective means of accomplishing these goals is probably to evaluate the two models of origins first on a purely scientific basis, following the same procedure in the Christian school as recommended for the public school. Many students in private Christian schools will already have been indoctrinated in evolutionary thinking by previous experiences in the public schools before transferring, and they need first of all to be purged of the ingrained idea that evolution is scientific and creation is "religious." This can best be accomplished by thorough exposure to scientific creationism in a step-by-step comparison with the evolution model.

Accordingly, the next six chapters of this book will deal with the two models of origins on a purely scientific basis with no reference to the Bible or other religious books. It is shown that, at every point, the creation model is superior to the evolution model.

Then, in the final chapter of this book, the general creation model is defined more explicitly in terms of Biblical revelation. The whole question of origins and development is brought into its proper Biblical and theological context, and the student can be led into a comprehensive, coherent, and satisfying world-view centered in his personal Creator and Saviour, the Lord Jesus Christ.

It should be emphasized that this order is followed not because the scientific data are considered more reliable than Biblical doctrine. To the contrary, it is precisely because Biblical revelation is absolutely authoritative and perspicuous that the scientific facts, rightly interpreted, will give the same testimony as that of Scripture. It is not creationists who have to distort the facts of science to fit their creation model. It is rather the evolutionists who, in attempting to justify their faith in evolution, are perpetually modifying and expanding the basic concept of evolution in order to explain away all

the scientific fallacies and contradictions which it entails.

### Evolution as Religion

Since evolution has not been scientifically proved and, in fact, cannot even be tested, in the long-range sense, it must be accepted on faith. Even so-called micro-evolution, or variation, which presumably *can* be tested, has so far failed to exhibit an "upward" trend, and thus has *failed* the test. The mechanism of evolution, if such a mechanism really exists, is still "the central mystery."

Many evolutionists have been highly vocal in contending that creationism (even *scientific* creationism) is inherently religious, since it is a basic tenet of Biblical "fundamentalism." It is, of course, true that religions based on the Bible (whether Protestant, Catholic, Jewish or even Islamic), are monotheistic and thus inherently creationist.

It is equally true, however, that religions which are basically polytheistic, pantheistic, humanistic or atheistic, must be based on some form of evolution. Thus, not only do all atheists and humanists *believe* in evolution, but so do Buddhists, Confucianists, Taoists, Hindus and animists, not to mention Marxists and Nazis, and even the "liberals" in the nominally monotheistic faiths.

Nevertheless, although both creation and evolution have important religious, moral and social implications, they can also each be used to correlate and predict scientific data. The next six chapters will show that the scientific creation model does a better job of this than the evolution model. There are still problems, and more research needs to be done to resolve these, but the problems of the evolution model are far more serious.

As a result, there are today *thousands* of recognized, qualified scientists who have become creationists, in spite of the evolutionary indoctrination which they received in school and the evolutionist intimidation which they now face in organized intellectualism. In a very real sense, creationism is more scientific than evolutionism, and evolutionism is far more religious than creationism.

## CHAPTER IV

### ACCIDENT OR PLAN?

#### The Complexity of Living Systems

The evolutionary model attributes all of the systems and structures of the universe to the operation of natural processes operating under the impetus of the innate properties of matter and the laws of nature. It assumes that no external supernatural agent plans and directs these processes; the universe is self-contained and self-evolving by random actions of its components.

On the other hand, the creation model attributes the systems and structures of the cosmos to a planned, purposive creation of all things in the beginning by an omniscient Creator. The creationist maintains that the degree of complexity and order which science has discovered in the universe could never be generated by chance or accident.

This issue can actually be attacked quantitatively, using simple principles of mathematical probability. The problem is simply whether a complex system, in which many components function unitedly together, and in which each component is uniquely necessary to the efficient functioning of the whole, could ever arise by random processes. The question is especially incisive when we deal with living systems. Although inorganic relationships are often quite complex, living organisms are immensely more so. The evolution model nevertheless assumes all of these have arisen by chance and naturalism.

#### 1. *Probability of a complex system arising instantly by chance.*

Assume a "sea" of freely available components, each uniquely capable of performing a specific useful function. What is the probability that two or more of them can come together by chance to form an integrated functioning organism?

As long as the number of components in the organism is small, the chance association in this way is a reasonable

possibility. For example, consider two components, A and B. If they happen to link up in the form A-B, say, the combined system will work, but B-A will not work. Thus, there is one chance out of two that these two components will combine into a functioning system. That is, there is a 1/2 probability of "success."

If there are three components, — A, B and C — there are six possible ways these can link up, ABC, ACB, BAC, BCA, CAB, and CBA. Since it is assumed that only one of these will work, there is a 1/6 probability of success. The number of combinations is calculated by multiplying each factor in the series together. Thus:

No. of combinations for 2 components =  $1 \times 2 = 2$   
 No. of combinations for 3 components =  $1 \times 2 \times 3 = 6$   
 No. of combinations for 4 components =  $1 \times 2 \times 3 \times 4 = 24$   
 No. of combinations for 5 components =  $1 \times 2 \times 3 \times 4 \times 5 = 120$   
 No. of combinations for n components =  $1 \times 2 \times 3 \dots \times n$

The shorthand way of identifying such products is as the "factorial" of the specified number of components, written as "n!". For example,  $1 \times 2 \times 3 \times 4$  is equal to 4! ("four factorial"), or 24.

The "factorials" become exceedingly large as the number of components increases.

6! = 720	10! = 3,628,800	(1,000,000)! $\approx 10^{3,000,000}$
7! = 5,040	100! $\approx 10^{158}$	etc.
8! = 40,320	200! $\approx 10^{375}$	
9! = 362,880		

Consider, for example, an organism composed of only 100 integrated parts. Remember that each of these parts must fulfill a unique function in the organism and so there is only one way in which these 100 parts can be combined to function effectively. Since there are  $10^{158}$  different ways in which 100 parts can link up, the probability of a successful chance linkage is only one out of  $10^{158}$  (Note that  $10^{158}$  is equal to a number written as "one" followed by 158 "zeros").

This number is too large to comprehend properly. To give a rough idea, however, one may note there are only approximately  $10^{80}$  electrons in the entire universe! Assuming that this represents the number of particles available to serve as potential components in our 100-part organism, this means that  $10^{78}$  such groups of 100 parts each could be formed at

any one time. To be sure to get the one that works, however, there must be  $10^{158}$  such groups formed. It is, therefore very unlikely that one of the  $10^{78}$  actual groups would be the one needed.

However, in event none of the first trial groups work, assume that they unlink, mix around, and then try again. Then, let them all try again, and again, and keep on trying, as long as possible.

The universe is said by astronomers to be less than 30 billion years old. One can calculate that, in 30 billion years, there would be  $10^{18}$  seconds. Now let us assume that each of the above cycles of linking, unlinking and reshuffling, occupies only a billionth part of a second, so that a billion ( $10^9$ ) trials can be made each second.

Thus the maximum number of trial combinations that could be made in all the universe in 30 billion years, even under such absurdly generous conditions, is still only  $10^{78} \times 10^9 \times 10^{18}$ , or  $10^{105}$  combinations. There need to be  $10^{158}$  such combinations, however, to be certain of getting the one which will work.

Finally, then, the chance that one of these  $10^{105}$  possible combinations will be the correct one is one chance in  $10^{158}/10^{105} = 1$  in  $10^{53}$ .

This is still an almost infinitesimally small number, actually one chance out of a hundred million billion billion billion billion billion. For all practical purposes, there is no chance at all!

And yet an organism composed of only 100 parts is impossibly simple. Research sponsored in part by NASA<sup>1</sup> (for the purpose of enabling astronauts to recognize even the most rudimentary forms of life on other planets) has shown that the simplest type of protein molecule that could be said to be "living" is composed of a chain of at least 400 linked amino acids, and each amino acid is a specific combination of four or five basic chemical elements, and each chemical element is a unique assemblage of protons, electrons and neutrons.

<sup>1</sup> Harold J. Morowitz, "Biological Self-Replicating Systems," *Progress in Theoretical Biology*, Ed. F. M. Snell (New York: Academic Press, 1967), pp. 35ff; See discussion in James F. Coppedge *Evolution: Possible or Impossible* (Grand Rapids: Zondervan, 1973), pp. 95-115.

It is thus inconceivable (to anyone but a doctrinaire evolutionist) that a living system could ever be formed by chance. Yet, if a Creator is excluded from the problem, there is no other way that at least the *first* living system could have been formed.

### 2. *Probability of Synthesis of DNA Molecule*

The problem discussed in the preceding section is really oversimplified. A simple linked protein molecule, or any other such system, could never reproduce itself. In the world of living organisms, as discussed in the preceding chapter, the phenomena of reproduction and inheritance are always directed by the DNA molecule. The evolution of life therefore must have involved somehow the accidental synthesis of the first such DNA molecule. Frank Salisbury, who is himself an evolutionary biologist, discusses this riddle as follows:

"Now we know that the cell itself is far more complex than we had imagined. It includes thousands of functioning enzymes, each one of them a complex machine itself. Furthermore, each enzyme comes into being in response to a gene, a strand of DNA. The information content of the gene (its complexity) must be as great as that of the enzyme it controls."

"A medium protein might include about 300 amino acids. The DNA gene controlling this would have about 1,000 nucleotides in its chain. Since there are four kinds of nucleotides in a DNA chain, one consisting of 1,000 links could exist in  $4^{1000}$  different forms. Using a little algebra (logarithms) we can see that  $4^{1000} = 10^{600}$ . Ten multiplied by itself 600 times gives the figure 1 followed by 600 zeros! This number is completely beyond our comprehension."<sup>1</sup>

It seems beyond all question that such complex systems as the DNA molecule could never arise by chance, no matter how big the universe nor how long is time. The creation model faces this fact realistically and postulates a great Creator, by whom came life.

<sup>1</sup> Frank B. Salisbury, "Doubts about the Modern Synthetic Theory of Evolution," *American Biology Teacher*, (September 1971), p. 336.

### 3. *Probability of Synthesis by Gradual Accretion*

Some evolutionists suggest that it is not necessary to suppose that complex molecules arose all at once. They might have been slowly and gradually synthesized by some process analogous to natural selection. That is, a system might advance from one part to a two-part system, then from two parts to three parts, and so on. At each step, if the combination turned out to be advantageous in its immediate environment, it would survive and then be ready to undertake the next step.

On the other hand, if a particular trial step turned out to be harmful, as it normally would (since a random change in a well-functioning system normally would decrease its efficiency), then presumably the molecule would be destroyed, or at least would be inhibited from further advance. Furthermore, many environmental pressures would continually be operating which would tend to break it back down into a simpler form.

In order to continue toward higher and higher order, therefore, each trial step would have to be immediately beneficial; there could be no failures or backward steps. This chain of unbroken successful trials would have to be continued until the molecule arrived at a degree of order or information which enabled it to reproduce itself, at which point, presumably, it would have attained the stage of life.

We can examine this process probabilistically by assigning an arbitrary probability to each step of the process. All would agree, surely, that a probability of  $1/2$  for each change would be quite optimistic. That is, we shall assume it is just as likely that each change will be successful as that it will be unsuccessful. Undoubtedly the actual probability of success is far less than that.

With this assumption, however, the probability of ultimately becoming a living system is obtained by multiplying the probabilities of every step together. If  $n$  steps are necessary to build the required degree of order, then the probability becomes equal to  $(1/2)^n$ , or one chance out of  $(2)^n$ .

Now the question is how many such steps are needed—what is the value of  $n$ ? The problem is analogous to designing a machine capable of building a duplicate machine. A prominent scientist in the field of information theory analyzes this problem as follows:

"Suppose we wanted to build a machine capable of reaching into bins for all of its parts, and capable of assembling from these parts a second machine just like itself. What is the minimum amount of structure or information that should be built into the first machine? The answer comes out to be of the order of 1500 bits—1500 choices between alternatives which the machine should be able to decide. This answer is very suggestive, because 1500 bits happens to be also of the order of magnitude of the amount of structure contained in the simplest large protein molecule which, immersed in a bath of nutrients, can induce the assembly of those nutrients into another large protein molecule like itself, and then separate itself from it."<sup>1</sup>

According to these studies (and other more recent studies have given about the same result), the number of such steps needed to build the first machine (or protein molecule) by chance is 1500. The probability of this being achieved by chance is therefore  $(1/2)^{1500}$ , or one chance out of  $(2)^{1500}$ , which number is equal to  $(10)^{450}$ .

This number is again almost incalculably great. Even if we were to assume the complete set of trials up to the point of failure (or 1500 in the event of success) could be accomplished in a billionth of a second, and even if we assume there are  $10^{80}$  systems attempting these trials ( $10^{80}$  equals the total number of particles in the universe), and that they keep trying for 30 billion years ( $10^{18}$  seconds), there could still be only the following number of attempts to achieve such a replicating molecule in all the universe in all time:

$$\text{No. attempts} = 10^{80} (10^{18})(10^9) = 10^{107}$$

This number is immensely smaller than the number of attempts  $(10)^{450}$  that would be required to be sure that one of them would work. Thus the step-by-step process of trying to achieve through a natural selection technique the encoding of sufficient "information" to synthesize a replicating molecule seems beyond all plausibility.

A further instructive comparison of the amount of information contained in this imaginary simplest replicating

<sup>1</sup>Marcel J. E. Golay, "Reflections of a Communications Engineer," *Analytical Chemistry*, Vol. 33 (June 1961), p. 23.

molecule is with the amount of information contained in all the books of the world. Let us assume every word in every book is a unit of information. Now make the following reasonable additional assumptions (each one is actually unreasonably generous):

Average number of words per page = 500

Average number of pages per book = 500

Average number of copies printed of each book = 10,000

Average number of books published per year = 10,000,000

Total number of years during which books have been published = 4000

Multiplying all these numbers together, the total number of meaningful words ever published equals

$$500 \times 500 \times 10,000 \times 10,000,000 \times 4,000 = 10^{20}$$

This number is also equal to  $(2)^{66}$ , and so would represent only 66 successive, successful choices between equally probable alternatives. This number is, obviously, tremendously smaller than the 1500 successful choices required to synthesize a replicating molecule. There is far more information in the simplest living system than in all the copies of all the books ever written!

This amazing fact is easily explained by the creation model but poses a gigantic problem to the evolution model. Dr. Larry Butler, professor of biochemistry at Purdue University, indicates<sup>1</sup> that he likes to issue the following challenge to his students and biochemist colleagues:

"Assume any primordial soup you wish, with all the organic chemicals you specify—including enzymes, nucleic acids, sugars, or whatever you like, as long as they are not living. The mixture must be sterile, of course, to prevent bacterial contamination. Assume also any kind of atmosphere you wish, including any compounds known to be present anywhere in the solar system. Then assume any kind of energy source you wish—electrical sparks, heat, ultraviolet light, or any known form of energy. Now show, either analytically or experimentally, that a truly living organism will arise out of this set of materials."

<sup>1</sup>Personal Communication.

So far, no one has accepted his challenge!

#### 4. *Probability of Increasing Complexity of Living Systems*

The problem of life's origin is "solved" by evolutionists by ignoring the difficulties. Consider the following remarkable statement by Harvard professor George Wald:

"The important point is that since the origin of life belongs in the category of at-least-once phenomena, time is on its side. However improbable we regard this event, . . . given enough time it will almost certainly happen at least once. . . . Time is in fact the hero of the plot. . . . Given so much time, the 'impossible' becomes possible, the possible probable, and the probable virtually certain. One has only to wait: time itself performs miracles."<sup>1</sup>

But we have already shown there is not nearly enough time available to perform such a miracle.

At any rate, ignoring this problem, let us go on and assume we do have, somehow, functioning living organisms. The problem is how can a population of living organisms structured at one degree of complexity be elevated by random processes to a higher degree of complexity?

The accepted explanation, of course, is that of random mutation and natural selection. As a matter of fact, however, this kind of problem is essentially the same as that of "inorganic natural selection" operating on molecular systems changing randomly. We have just shown this process to be utterly inadequate from a probabilistic point of view, and there is no reason to suppose natural selection will be any more successful in producing increased order in the organic realm.

Nevertheless, evolutionists have a tremendous faith in the efficacy of natural selection to do just this. Julian Huxley has a fascinating discussion of this in one of his books. He says:

"A proportion of favorable mutations of one in a thousand does not sound much, but is probably generous. . . . And a total of a million mutational steps sounds a great deal but is probably an understatement. . . . However, let us take these figures as being reasonable estimates.

<sup>1</sup>George Wald, "The Origin of Life," in *The Physics and Chemistry of Life* (New York: Simon & Schuster, 1955), p. 12.

With this proportion, but without any selection, we should clearly have to breed a million strains (a thousand squared) to get one containing two favorable mutations; and so on, up to a thousand to the millionth power to get one containing a million. Of course this could not really happen, but it is a useful way of visualizing the fantastic odds against getting a number of favorable mutations in one strain through pure chance alone. A thousand to the millionth power, when written out, becomes the figure 1 with three million noughts after it; and that would take three large volumes of about 500 pages each, just to print! . . . No one would bet on anything so improbable happening. And yet it has happened! It has happened, thanks to the working of natural selection and the properties of living substance which make natural selection inevitable!"<sup>1</sup>

Natural selection must indeed be a wonderful thing, if it can thus convert an impossibility into an inevitability! Creationists, however, point out that all *observed* instances of natural selection involve conservative adaptations to environment (e.g., the peppered moth), not generation or preservation of mutants of higher order. Mutations are harmful, not helpful, and natural selection acts to try to prevent their getting established in the population as a whole.

Again, however, let us be as generous as possible, and assume that each successive evolutionary step has a probability of success of 1/2. That is, a given population representing, say,  $n$  degrees of order (information content in its genetic code) has as great a probability of changing to a population of  $(n + 1)$  degrees of order as it does of slipping back to  $(n - 1)$  degrees of order or lower.

Actually it is far more probable that the population will slip backward. There are far more harmful mutations than good ones and, although many of the more harmful ones would be eliminated altogether by natural selection, those that are only slightly harmful will persist and gradually build up the "genetic load" in the population, as discussed in Chapter III.

<sup>1</sup>Julian Huxley, *Evolution in Action* (New York: Harper and Brothers Co., 1953), p. 41.

"The somatic effects of mutations vary from great to barely perceptible or, quite likely, to imperceptible by usual methods of observation. The probabilities that a mutation will survive or eventually spread in the course of evolution tend to vary inversely with the extent of its somatic effects. Most mutations with large effects are lethal at an early stage for the individual in which they occur and hence have zero probability of spreading. Mutations with small effects do have some probability of spreading and as a rule the chances are better the smaller the effect."<sup>1</sup>

Consequently, a probability of 1/2 for the successful accomplishment of each successive evolutionary advance seems quite generous. Even if an individual *does* experience a good mutation ("good" in the sense of a higher degree of order), it would be ineffective unless it could somehow be transmitted through the population by an inbreeding mechanism which would cause the inbreeding sub-group to predominate in the population before deleterious mutations cause its elimination. The process of having such a good mutation spread through the population to elevate the entire population to a higher degree of order seems extremely difficult and unlikely.

Futhermore, when we deal with the evolution of higher kinds of organisms such as, say, the vertebrates, the degree of complexity is tremendously higher than the "simple" protein and DNA molecules we have been considering heretofore. Each such animal is an organized system of trillions of living cells, each one of which is uniquely equipped for a specific job in the organism of which it is a part. Then, each one of these cells is a highly organized system in itself, containing vast numbers of component protein molecules, each one in its own unique place. And all of this complexity is directed and controlled in its construction by the many thousands of DNA molecules in the germ cells.

For one kind of animal to evolve into a distinctly higher kind of animal would require a tremendous number of

<sup>1</sup>George Gaylord Simpson, "Uniformitarianism: An Inquiry into Principle Theory and Method in Geohistory and Biohistory," Chap. 2 in *Essays in Evolution and Genetics*, Ed. by Max A. Hecht & Wm. C. Steeres (New York: Appleton-Century Crofts, 1970), p. 30

mutational steps. Huxley's example, previously quoted, mentioned a "million mutational steps," for the assumed evolution of a horse. Considering that mutations must be small, each one probably imperceptible, a million seems small indeed.

Obviously, from our previous discussion, a million successive, successful mutational steps, each with a probability of one-half, is almost as inconceivable as the instantaneous chance assemblage of a million components into an integrated whole. The chance of success in this case becomes one out of (2)<sup>1,000,000</sup>, or one out of (10)<sup>300,000</sup>.

Such numbers are so large as to convey no real understanding of their magnitude. The universe of 5-billion light-years radius contains only 10<sup>80</sup> particles of electron size. If there were no empty space at all, with the entire universe solid-packed with electrons, it could still hold only 10<sup>130</sup> electrons. If each such electron were a mutating system, going through the required million mutations a billion times every second for the 10<sup>18</sup> seconds in 30 billion years, the total number of attempts that could be made is only 10<sup>157</sup>. There is not the remotest possibility that one of these would be successful, since the chance of one success is only one out of 10<sup>(300,000 - 157)</sup> or one out of 10<sup>(299,843)</sup>.

The probabilities become more and more infinitesimal as we ascend the scale of complexities in the living world. Meditate, for example, upon the ten billion integrated cells in the cerebral cortex of the human brain!

The creation model is not embarrassed by such complexities, as all of them simply reflect the omniscient, omnipotent Creator. The evolutionist who rejects the concept of special creation as "incredible" seems willing to exercise a highly credulous faith in natural selection and all its statistical incredibilities. The faith of the creationist seems at least as reasonable as the faith of the evolutionist.

#### Similarities and Differences

In the organic realm, there are many similarities between different kinds of plants and animals, and evolutionists have interpreted these as evidence of common ancestry. Creationists, on the other hand, interpret the same similarities as evidence of common creative planning and design. The



evolutionist has to assume all such characteristics have developed by chance mutations and natural selection. Creationists explain them as structures designed by the Creator for specific purposes, so that when similar purposes were involved, similar structures were created.

One might write this issue off as an impasse, since similarities are expected in both the evolution and creation models. However, we also have *differences* to account for!

For example, cats and dogs are somewhat similar, but they have many differences as well. The creation model says that similar structures on both were created for similar functions for both, and that different structures were created for their different functions.

The evolution model, on the other hand, encounters a real problem. If the cat and dog evolved from a common ancestor in the same environment by the same process, how did they ever get to be different? It would seem there ought rather to be an integrated series of animals between cats and dogs, so that one could never tell where "cats" stop and "dogs" begin.

Dr. W. R. Thompson, for many years the director of the Commonwealth Institute for Biological Control in Ottawa, Canada, in his comments written for the special Centennial Edition of Charles Darwin's *Origin of Species*, commented on these ubiquitous differences between organisms as follows:

" . . . but taking the taxonomic system as a whole, it appears as an orderly arrangement of clearcut entities, which are clearcut because they are separated by gaps. . . . The general tendency to eliminate, by means of unverifiable speculations, the limits of the categories nature presents to us, is the inheritance of biology from the *Origin of Species*. To establish the continuity required by theory, historical arguments are invoked, even though historical evidence is lacking. Thus are engendered those fragile towers of hypotheses based on hypotheses, where fact and fiction intermingle in an inextricable confusion."<sup>1</sup>

<sup>1</sup>W. R. Thompson, "Introduction" to *Origin of Species* (New York: Everyman's Library, Dutton, 1956).

As Dr. Thompson points out, a "continuity" of organisms is required by the theory, but there is no evidence that it exists now or has ever existed. The evolution model implies that all organisms have come from a common ancestor. Since they all live in a continuity of environments in the same world and have developed by the same natural processes, the primary prediction from the evolution model must be that of a continuum of organisms, rather than distinct kinds separated by gaps. To explain the gaps, numerous secondary assumptions have to be introduced into the model—the "towers of hypotheses based on hypotheses" noted by Dr. Thompson.

The creation model, once again, does not have to "explain" the data by introducing such secondary assumptions. To the contrary, it *predicts* the data. That is, an array of distinct kinds of organisms, separated by gaps, with *both* similarities and differences.

In view of the foregoing facts, it is strange that evolutionists constantly place such strong emphasis on similarities as evidence of evolution. In every case the similarities are better explained by creation and the differences are predicted by creation. Consider the following superficial similarities, cited commonly as evidence for evolution.

#### 1. *Similarities in Morphology (Comparative Anatomy)*

Similarities in structure are considered one of the main evidences of evolution. To some extent, since the standard Linnaean classification scheme is arbitrary and man-made, such similarities may actually indicate common ancestry. This is certainly true at the level of varieties, and possibly also at the species level and occasionally at the level of higher categories. It should be remembered, however, that no observational or experimental evidence exists for ancestral relationships in these higher categories. This is purely an evolutionary assumption.

Probably the leading American taxonomist (*taxonomy* is the science of classification) is Ernst Mayr, of Harvard. Professor Mayr emphasizes that all such higher categories (genera, families, orders, etc.) are quite arbitrary, since no experimental proof can be offered to demonstrate any such relationships. A reviewer of Mayr's most authoritative

work, *Principles of Systematic Zoology* (New York, McGraw-Hill, 1969, 434 pp.), makes the following illuminating comment:

"According to the author's view, which I think nearly all biologists must share, the species is the only taxonomic category that has at least in more favorable examples a completely objective existence. Higher categories are all more or less a matter of opinion."<sup>1</sup>

The fact that men are able to arrange plants and animals in a classification table on the basis of their morphologic features, certainly is no proof that those more closely associated in the table are more directly related by evolutionary descent. All such an arrangement proves is that man has the ability to devise methods for classifying and categorizing assemblages of data.

As a matter of fact, the classification table is a much better support for the creation model. If an evolutionary continuum existed, as the evolution model should predict, there would be no gaps, and thus it would be impossible to demark specific categories of life. Classification requires not only similarities, but differences and gaps as well, and these are much more amenable to the creation model.

### 2. *Similarities in Embryology*

Even before the time of Charles Darwin, evolutionists were claiming that similarities in embryonic development indicated a common ancestry. Textbooks today still show sketches of embryos of such animals as chickens, rabbits and lizards, along with those of men, noting striking similarities between them as presumed evidence of common ancestry.

This type of similarity proves common ancestry no more clearly than it proves common design. On the assumption of creation, since most higher animals were designed to reproduce their own kinds by the same type of reproductive process, it would be expected that embryonic development would be similar for all such animals.

Since the embryonic animal begins its existence in each case as a single-celled union of two parental cells, and the following cell multiplication must operate for some time in

the same type of environment, and since furthermore many of the structures to be developed must be somewhat similar (limbs, head, etc.), it would be natural that the developing embryos would look much alike for the initial stages of their development.

At such time, however, as it becomes necessary for specialized characters to begin to form, corresponding to the parental kinds, then these superficial resemblances give way to the appropriate distinctive characteristics. Actually, these significant differences show up quite early in the embryonic development.

The differences, even at the initial stages, are again much more important than the similarities. The DNA for the chicken is utterly different from that for the lizard, even though the difference is not obvious visually. The distinctive genetic code programmed for each kind of animal assures that only that kind will develop from the embryo. Superficial brief similarities are irrelevant to the evolution-creation question; the intricately designed differences constitute the greater reality.

### 3. *Similarities in Biochemistry*

Now that we have mentioned DNA, it is noteworthy that even this has been offered as evidence of evolution. That is, the fact that the DNA molecule is basic in the reproductive mechanisms for all kinds of organisms is assumed to suggest common ancestry. The infinitely more significant fact that each specific kind of organism has its *own* DNA molecular structure, different from that of every other kind, is ignored. The tremendous complexity of DNA molecules has already been discussed; such a system could never have evolved itself by chance. Neither could one type of DNA evolve into the DNA for another type of organism; its structure is designed to prevent that very thing. It is hard to imagine a more solid evidence for special creation than the mere existence and function of DNA.

Other chemicals in living organisms have likewise been studied on a comparative basis, especially such proteins as gamma globulin, insulin, cytochrome C, hemoglobin and others. Various techniques have been used to test these molecules on a comparative basis for a wide variety of organisms. In general (though with a great many exceptions) the respective similarities in these biochemical systems align

<sup>1</sup>G. W. Richards, "A Guide to the Practice of Modern Taxonomy" *Science*, Vol. 167 (March 13, 1970), p. 1477.

themselves in about the same way as do the more traditional similarities based on anatomical and other gross morphological features.

This, of course, is exactly what would be expected on the basis of the creation model, so it certainly cannot be used as legitimate evidence for evolution. These studies in *molecular taxonomy* can actually prove helpfully supplemental to older studies in *morphological taxonomy*, with a view to eventual determination of the true boundaries of the original created kinds, beyond which variation and mutation cannot go.

#### 4. *Similarities in Behavior*

Occasionally, similarities in animal behavior have been cited as evidence of relationship. Examples are difficult to find, however, and the much more typical situation is that of different behavior patterns. Even closely related kinds are often found to have drastically divergent habits or instincts. Once again, such similarities in behavior as may actually exist can be well explained in a creationist context.

#### 5. *Deceptive Similarities*

There are many cases of what appear to be striking similarities which even evolutionists do not believe came from a common ancestor. They attribute these either to convergence or mimicry.

*Convergence*, or parallelism, is the assumed parallel and independent evolutionary development of similar features in unrelated animals. Wings, for example, are believed to have evolved completely independently four different times (in insects, flying reptiles, birds and bats) from four different non-winged ancestors. The eye of the squid is believed to have been evolved independently from the eye of the fish, even though both types of eyes are structurally very similar. The whale is believed to have evolved from a land mammal, even though its shape is like that of a fish. There are numerous other examples of convergence.

*Mimicry* is a phenomenon in which one type of organism appears as though it were imitating another type—for example, in coloration—in order to achieve the same type of environmental protection. The main examples of mimicry are found among insects.

Evolutionists use the explanations of either convergence or mimicry to explain superficial similarities which, for some

reason (usually other more significant similarities—e.g., the mammalian features of the whale) do not lend themselves to the direct evolutionary explanation.

The point is, however, if there are actually numerous similarities among organisms which cannot be attributed to common ancestry, how then can we be sure which, if any, similarities *are* due to common ancestry?

The creation model, remember, does not encounter such problems. It suggests an array of similarities and differences, so that similarities simply suggest similar purposes (e.g., both birds and bats needed to fly, so the Creator created wings for both of them). This concept would apply equally well to so-called convergent evolution and cases of mimicry. All were created as distinct kinds, with similar structures for similar purposes and different structures for different purposes.

#### Vestiges and Recapitulations

A long-cited evidence of evolution, used even before Darwin, is that certain vestigial remnants of assumed former evolutionary changes can still be seen in the structures of organisms living today. These remnants are of two main types, the so-called vestigial organs and recapitulating embryos. These are assumed to have significance as a record of former evolution but no longer to have utility in living organisms today.

If these features really exist, the creation model could explain them in terms of the decay principle associated with the Second Law of Thermodynamics. At most, they would not testify of evolution into higher order but rather of decay into lower order. In this case the creation model would not actually *predict* such features, but at least it could explain them as well as the evolution model (which would not have predicted them either).

As a matter of fact, however, it is very doubtful that such phenomena exist at all. We consider them each briefly below:

##### 1. *Vestigial Organs*

Certain organs on man, as well as on various animals, have long been described as useless vestiges of structures which were useful in a former evolutionary stage. However, this evidence is no longer offered with the confidence which

once accompanied it. Practically all the so-called "vestigial" organs, especially those in man, have been proved in recent years to have definite uses and not to be vestigial at all. At one time, evolutionists claimed there were about 180 such vestigial organs in man, but practically none are claimed now. Some of these were the thyroid gland, the thymus, the coccyx, the pineal gland, the ear muscles, the tonsils and the appendix. All of these are now known to have useful, and often essential, functions.

In view of the history of this subject, it would seem the better part of wisdom not to claim any organs at all as vestigial. The ignorance of scientists about the specific functions of such structures does not prove they have none. It is more likely than not that in the very few cases remaining more intensive study will, as it often has in the past, reveal specific functions actually accomplished by these supposedly useless organs.

The small residuum of what may be true atrophies are surely poor examples of evolution! They are degenerative changes, if anything, possibly the result of harmful mutations.

## 2. *The Recapitulation Theory*

The hoary evolutionary cliché, "Ontogeny recapitulates phylogeny," is a popular definition of what used to be called the "biogenetic law." *Ontogeny* is the development of the embryo, and *phylogeny* is the imagined evolutionary development of the kind of animal. In the case of man, for example, it was taught that the human embryo began life as a marine protozoan, developed in a watery environment into a worm with a pulsating-tube heart, then into a fish with gill-slits and a two-chambered heart, then into an amphibian with a three-chambered heart and a mesonephros kidney, then into a mammal with a four-chambered heart, metanephros kidney, and a tail, and finally into a human being. In this way, the human embryo actually retains "vestiges" of its former evolution by recapitulating its major phases.

The rationale of this strange idea apparently was that new evolutionary stages of the kind of adult animal were acquired by a sort of extension of the embryonic development corresponding to its previous stage, but that the embryo always had to go through all its previous stages first to get to the new stage.

Modern studies in molecular genetics have shown the impossibility of such concepts. The DNA for a man is not the DNA for a fish, nor is it the DNA for a fish with something new added. The DNA for each kind is uniquely programmed to produce its own kind, not to produce a temporary replica of some other kind.

Furthermore, embryologic studies have shown that there are so many omissions, additions, and inversions in the embryologic sequences, as compared to the supposed evolutionary sequences, that the idea of recapitulation could certainly not be called a *law*! Even the few apparent parallels are quite superficial and in no sense could represent an actual recapitulation.

The most famous and impressive of these parallels has undoubtedly been the supposed development of "gill slits" in the "fish stage" of human embryonic growth. This supposed recapitulation was entirely superficial; the human embryo never at any time develops gills or gill slits, and therefore is never a fish. It has no fish tail, fins, or any other fish structures.

The human embryo does develop pharyngeal pouches, as does the fish embryo. In the fish, these later become the site of the gills. In the human, they become the eustachian tubes, the thymus and parathyroid glands. In the meantime, as they are developing, they serve as essential guides for the developing blood vessels, and are thus not useless vestiges at all.

The same applies to the developing kidneys, heart and other features. A great deal of evidence exists now that all aspects of all stages of the development of all embryos have vital roles in the progress of the embryonic growth of each specific creature. There are no redundant vestiges of former evolutionary stages; all steps are necessary components of the present organism. The creation model would, in fact, expect them all to reflect careful planning and design, and this is exactly what they do.

Consequently, very few modern embryologists place any confidence today in the recapitulation theory. It is surprising that so many prominent evolutionists continue to refer to this idea as evidence for evolution. Those who are knowledgeable, either in embryology or paleontology, do not. For example, a Columbia University biologist, in a recent review

of the work of Haeckel (the contemporary of Charles Darwin who popularized the recapitulation theory) has stressed that the theory has "... been demonstrated to be wrong by numerous subsequent scholars."<sup>1</sup>

### Systematic Gaps in the Fossil Record

It is significant that the same array of similarities and differences between organisms is found in the realm of the fossils as in the realm of the living. The same types of gaps between kinds exist in the fossil record as in the Linnaean classification system for plants and animals in the present world.

As we have seen, if the evolution model were valid, one would expect to find a horizontal continuum of living organisms, rather than clearcut categories. Gaps between kinds can only be explained by a series of secondary assumptions, postulating special environments and selection histories for the various gaps.

Gaps in the fossil record require still more secondary assumptions. In this case, there must have been at least a "vertical" continuum between each fossil organism and its evolutionary ancestors, so that the absence of such transitional fossils is certainly not a primary prediction of the evolution model, as it is for the creation model. The gaps in this case cannot be explained by assuming the transitional forms never developed at all, as is done for the living array of organisms. They must somehow be explained instead as due to special conditions which prevented the transitional forms which did exist from being fossilized or those which were fossilized from being found.

The creation model, on the other hand, requires no such secondary assumptions. It predicts that there would be systematic gaps in the fossil record and that these would be essentially the same gaps as in the present world. The same plan of creation, with similar structures for similar purposes

<sup>1</sup>Walter J. Bock, "Evolution by Orderly Law," *Science*, Vol. 164 (May 4, 1969), p. 684. Similarly, Professor C. H. Waddington, of the University of Edinburgh, has said "The type of analogical thinking that leads to theories that development is based on the recapitulation of ancestral stages or the like no longer seems at all convincing or even very interesting to biologists." (*Principles of Embryology*, 1965, p. 10).

and different structures for different purposes applies to all organisms, whether living or extinct. The fossil record can no more be a random collection of chance products of random processes than can the living world. Even animals which have become extinct (and extinction is an example of decay, not development) must have been a part of the original created categories.

If evolution were true, one would suppose that the classification system itself would evolve over the ages. If all animals and plants are randomly changing, the categories of classification should likewise be changing. The fact is, however, that it has been the same since the beginning, even assuming the geological ages are as taught in orthodox geology. Note the following:

1. All kingdoms and subkingdoms are represented in the geologic record from the Cambrian onward.
2. All phyla of the animal kingdom are represented from the Cambrian onward.
3. All classes of the animal kingdom are represented from the Cambrian onward, except:
  - (a) Moss-corals (Ordovician onward)
  - (b) Insects (Devonian onward)
  - (c) Graptolites (Cambrian to Carboniferous)
  - (d) Trilobites (Cambrian to Permian)
4. All phyla of the plant kingdom are represented from the Triassic onward, except:
  - (a) Bacteria, algae, fungi (Precambrian onward)
  - (b) Bryophytes, pteridophytes (Silurian onward)
  - (c) Spermophytes (Carboniferous onward)
  - (d) Diatoms (Jurassic onward)
5. All orders and families (as well as kingdoms, phyla and classes) appear suddenly in the fossil record, with no indication of transitional forms from earlier types. This is true even of most genera and species.

The following statements from leading evolutionists confirm the fact that most of the forms of plants and animals have arisen suddenly in the fossil record. There is no evidence that there have ever been transitional forms between these basic kinds.

"In spite of these examples, it remains true, as every paleontologist knows, that *most* new species, genera and families, and that nearly all categories above the

level of families, appear in the record suddenly and are not led up to by known, gradual, completely continuous transitional sequences."<sup>1</sup>

"There is no need to apologize any longer for the poverty of the fossil record. In some ways it has become almost unmanageably rich, and discovery is outpacing integration. . . . The fossil record nevertheless continues to be composed mainly of gaps."<sup>2</sup>

"So far as we can judge from the geologic record, large changes seem usually to have arisen rather suddenly, in terms of geologic time . . . fossil forms intermediate between large subdivisions of classification, such as orders and classes, are seldom found."<sup>3</sup>

To be more specific, we continue to document in more detail the fact that the transitions between major kinds are missing in every case. Consider the significant gaps enumerated below:

#### 1. *From Protozoans to Metazoan Invertebrates*

One of the most important fossil gaps is that between the questionable, one-celled microorganisms found in Precambrian strata and the abundant complex marine invertebrate life of the Cambrian, as well as the strange "Ediacaran" fossils of the Precambrian.

"The introduction of a variety of organisms in the early Cambrian, including such complex forms of the arthropods as the trilobites, is surprising. . . . The introduction of abundant organisms in the record would not be so surprising if they were simple. Why should such com-

<sup>1</sup>George Gaylord Simpson, *The Major Features of Evolution* (New York: Columbia University Press, 1953), p. 360.

<sup>2</sup>T. Neville George, "Fossils in Evolutionary Perspective," *Science Progress*, Vol. 48 (January 1960), pp. 1, 3.

<sup>3</sup>Paul A. Moody, *Introduction to Evolution* (New York: Harper and Row, 1962), p. 503. N. Heribert-Nilsson, of Lund University in Sweden, after 40 years of study in paleontology and botany, finally was forced to conclude: "It is not even possible to make a caricature of an evolution out of paleobiological facts. The fossil material is now so complete that . . . the lack of transitional series cannot be explained as due to the scarcity of the material. The deficiencies are real; they will never be filled." (*Synthetische Artbildung*, 1953).

plex organic forms be in rocks about six hundred million years old and be absent or unrecognized in the records of the preceding two billion years? . . . If there has been evolution of life, the absence of the requisite fossils in the rocks older than the Cambrian is puzzling."<sup>1</sup>

"One of the major unsolved problems of geology and evolution is the occurrence of diversified multicellular marine invertebrates in Lower Cambrian rocks and their absence in rocks of greater age. These early Cambrian fossils included porifera, coelenterates, brachiopods, mollusca, echinoids, and arthropods. Their high degree of organization clearly indicates that a long period of evolution preceded their appearance in the record. However, when we turn to examine the pre-Cambrian rocks for the forerunners of these Early Cambrian fossils, they are nowhere to be found."<sup>2</sup>

"Granted an evolutionary origin of the main groups of animals, and not an act of special creation, the absence of any record whatsoever of a single member of any of the phyla in the Precambrian rocks remains as inexplicable on orthodox grounds as it was to Darwin."<sup>3</sup>

There is obviously a tremendous gap between one-celled microorganisms and the high complexity and variety of the many invertebrate phyla of the Cambrian. If the former evolved into the latter, it seems impossible that no transitional forms between any of them would ever be preserved or found. A much more likely explanation for these gaps is that they represent permanent gaps between created kinds. Each organism has its own structure, specifically designed for its own purpose, not accidentally evolved by random processes.

#### 2. *From Invertebrates to Vertebrates*

The evolutionary transition from invertebrates to vertebrates must have involved billions of animals, but no one has

<sup>1</sup>Marshall Kay and Edwin H. Colbert, *Stratigraphy and Life History* (New York: John Wiley & Sons, 1965), p. 102.

<sup>2</sup>Daniel I. Axelrod, "Early Cambrian Marine Fauna" *Science*, Vol. 128 (1958), p. 7.

<sup>3</sup>T. Neville George, "Fossils in Evolutionary Perspective," *Science Progress*, Vol. 48 (January 1960), p. 5.

ever found a fossil of one of them. Invertebrates have soft inner parts and hard outer shells; vertebrates have soft outer parts and hard inner parts—skeletons. How did the one evolve into the other? There is no evidence at all.

The "earliest" vertebrates are certain orders of fish, the Osteostraci and the Heterostraci. Concerning these, one of the nation's leading vertebrate paleontologists, Dr. Alfred Romer of Harvard, has written:

"In sediments of late Silurian and early Devonian age, numerous fishlike vertebrates of varied types are present, and it is obvious that a long evolutionary history had taken place before that time. But of that history we are mainly ignorant."<sup>1</sup>

Which means, simply, that there are no fossils yet available of incipient forms leading up to these fish from their assumed invertebrate ancestors. Surely it is more reasonable to believe that vertebrates and invertebrates were separate creations from the beginning.

### 3. *From Fishes to Amphibians*

The next major evolutionary advance must have been from fish to amphibian. Somehow the fin of the fish must have been transformed into the foot of the amphibian, not to mention the myriad of other necessary changes. To date, however, no fossil of a "fishibian," with fins partly converted into feet (or any other transitional characters) has ever been found.

The chief candidate for such a transitional form was long supposed to have been the coelacanth, a crossopterygian fish, which was supposed to have certain limb-like characters on its fins indicating initial advance toward amphibianhood. Ultimately it was destined, so it was believed, to become a primitive amphibian known as a labyrinthodont. The coelacanth was believed to have finished this transition

<sup>1</sup>A. S. Romer, *Vertebrate Paleontology* (Chicago: University of Chicago Press, 1966), p. 15. Similarly, F. D. Ommanney, in his book *The Fishes* (Life Nature Library, 1964, p. 60) says: "How this earliest chordate stock evolved, what stages of development it went through to eventually give rise to truly fishlike creatures we do not know. Between the Cambrian when it probably originated, and the Ordovician when the first fossils of animals with really fishlike characters appeared, there is a gap of 100 million years which we will probably never be able to fill."

sometime in the Mesozoic, since no fossils have been found subsequent to that era.

Evolutionists were embarrassed when it was discovered in 1938 that these fish are still alive and well, living in the waters near Madagascar.

"Throughout the hundreds of millions of years the coelacanths have kept the same form and structure. Here is one of the great mysteries of evolution."<sup>1</sup>

It is hard to see how these fish could have become amphibians when they are still the same as they were a hundred million years ago when they began to make the transition. There seem, however, to be no other candidates. The lung-fish, the "walking catfish," and other fish that seem to have certain resemblances to land animals, have all been ruled out by evolutionists for various other reasons.

### 4. *From Amphibians to Reptiles to Mammals*

The fossil record throws very little light on the hypothetical evolution of amphibians into reptiles, or that of reptiles into mammals. All of them are four-legged vertebrates with similar skeletal structures and thus their fossilized remains provide little basis for distinguishing between them. Among animals living today, there are certain reptiles whose bony parts closely resemble those of certain amphibians and others that closely resemble certain mammals. The external characters and appearance, as well as the physiological functions, of amphibians, reptiles and mammals, are all vastly different from each other, but these differences need not show up in the fossil record.

The fact that it may be difficult to tell, for example, whether a certain fossil was a reptile or a mammal does not mean at all that it was transitional between the two in an evolutionary sense. If we could see the whole animal, and not just its skeleton, it would quickly be apparent which it was.

Of much more significance is the fact that each of the various orders of amphibians, reptiles and mammals appears suddenly in the fossil record, without incipient forms leading

<sup>1</sup>Jacques Millot, "The Coelacanth," *Scientific American*, Vol. 193 (December 1955), p. 37. Dr. Millot was the Director of Madagascar's Institute of Scientific Research, and also associated with the Paris Museum of Natural History.

up to it and without transitional forms between it and any other order.

For example, the paleontologist George Gaylord Simpson notes that each of the 32 orders of mammals in the classification system appears suddenly in the fossil record with all its distinct ordinal characteristics fully expressed. Concerning this, he says:

"This regular absence of transitional forms is not confined to mammals, but is an almost universal phenomenon, as has long been noted by paleontologists."<sup>1</sup>

To take one example of these mammalian orders, consider the rodents. In number of species and genera, the rodents exceed all other mammals combined, so they would be most likely of all to show evidence of intermediate forms. The paleontologist Alfred Romer says, however:

"The origin of the rodents is obscure. . . . Presumably, of course, they had arisen from some basal, insectivorous, placental stock, but no transitional forms are known."<sup>2</sup>

The most unique mammal is probably the bat, with its wings. To produce a bat from whatever its mammalian or reptilian ancestor may have been, there must have been innumerable transitional forms, but none has ever been found.<sup>3</sup>

##### 5. *From Reptiles to Birds*

Evolutionists universally maintain that reptiles are the evolutionary ancestors of birds. Again, however, there is no fossil evidence of this, despite the famous *Archaeopteryx*. W. E. Swinton has admitted:

"The origin of birds is largely a matter of deduction. There is no fossil evidence of the stages through which

<sup>1</sup>George Gaylord Simpson, *Tempo and Mode in Evolution* (New York: Columbia University Press, 1944), p. 106.

<sup>2</sup>Alfred S. Romer, *Vertebrate Paleontology* (Chicago: University of Chicago Press, 1966), p. 303.

<sup>3</sup>A remarkable photo of what is called the "oldest known bat," quite indistinguishable from modern bats, is shown on the cover of *Science*, Vol. 154 (December 9, 1966); Photo taken by G. L. Jepsen.

the remarkable change from reptile to bird was achieved."<sup>1</sup>

The interesting fossil, *Archaeopteryx*, however, had certain characteristics (e.g., teeth) which were deemed to be reptilian and others (e.g., wings and feathers) which were deemed avian. Consequently, this is always the most emphasized example, in evolutionary textbooks, of evolution between two major classes of animals. If there is any transitional form at all, *Archaeopteryx* is the one. As Dunbar says:

"It would be difficult to find a more perfect 'connecting link' between two great groups of animals, or more cogent proof of the reptilian ancestry of the birds."<sup>2</sup>

Yet this same author, in the very same paragraph, recognizes that *Archaeopteryx* is not part reptile at all, but 100 per cent bird. He says it is:

". . . because of its feathers distinctly to be classed as a bird."<sup>3</sup>

The fossilized impressions of the feathers on the wings of *Archaeopteryx* have been found and this shows it was warm-blooded, not a reptile with scales and cold blood.

Thus, *Archaeopteryx* is a bird, not a reptile-bird transition. It is an extinct bird that had teeth. Most birds don't have teeth, but there is no reason why the Creator could not have created some birds with teeth. Not all reptiles have teeth, though some do. The same is true of fishes, amphibians and mammals. Some have teeth and some don't. The same evidently was true of the original birds. For some reason, those that were created with teeth have since become extinct.

At the very least, there must have been a tremendous number of transitional forms between *Archaeopteryx* and its imaginary reptilian ancestor. Why does no one ever find a fossil animal with half-scales turning into feathers, or half-forelimbs turning into wings? Such animals must have lived in great numbers over long periods of time, but no fossils of

<sup>1</sup>W. E. Swinton, *Biology and Comparative Physiology of Birds*, A. J. Marshall, Ed., (New York: Academic Press, 1960), Vol. I, p. 1.

<sup>2</sup>Carl O. Dunbar, *Historical Geology* (New York: John Wiley and Sons, 1961), p. 310.

<sup>3</sup>*Ibid.*



them have ever been found. There are not even any fossils of forms intermediate between the flying reptiles (pterosaurs) and *their* non-winged reptilian ancestors. All of this is very strange in the context of the evolution model, but is directly predicted by the creation model.

#### 6. *Origin of Insects*

If the evolutionary origin of the higher animals is obscure, the origin of insects is completely blank. Insects occur in fantastic number and variety, but there is no fossil clue to their development from some kind of evolutionary ancestor.

Of course, it is remarkable that insect fossils are found at all. Nevertheless, they have been found fossilized in considerable numbers, preserved in amber, coal, volcanic ash, or such materials. All such deposits must have been formed rapidly, of course, or the insect fossils could not have endured so long.

The most remarkable feature about such fossil insects as are known is that they are very similar to those living now. In many cases, however, they are much larger than their modern relatives. There are giant dragonflies, giant cockroaches, giant ants, and so on. But their form is no different in essence from that of modern insects.

"... by and large, the insect population of today remains remarkably similar to that of the earlier age. All the major orders of insects now living were represented in the ancient Oligocene forest. Some of the specific types have persisted throughout the 70-million years since then with little or no change."<sup>1</sup>

#### 7. *Origin of Plants*

The study of paleobotany has been even more disappointing to evolutionists than that of ancient animal life. One of the outstanding paleobotanists of modern times was Professor C. A. Arnold, of the University of Michigan. In his authoritative treatment of this subject he noted this fact as follows:

"It has long been hoped that extinct plants will ultimately reveal some of the stages through which existing

<sup>1</sup>C. T. Brues, "Insects in Amber," *Scientific American*, Vol. 185 (November 1951), p. 60.

groups have passed during the course of their development, but it must be freely admitted that this aspiration has been fulfilled to a very slight extent, even though paleobotanical research has been in progress for more than one hundred years. As yet we have not been able to trace the phylogenetic history of a single group of modern plants from its beginning to the present."<sup>1</sup>

Likewise, Professor Corner of the Botany Department of Cambridge University, though an evolutionist himself, has said:

"... but I still think that to the unprejudiced, the fossil record of plants is in favor of special creation."<sup>2</sup>

#### 8. *Persistence of Kinds through Geologic Time*

We have already noted that all the kingdoms, phyla and classes in the organic world have been essentially unchanged since life began, and that even the orders and most of the families, genera, and even species appear suddenly in the fossil record, with no incipient forms leading up to them.

This constancy of the classification system and persistence of the major categories of organisms is of course contrary to what one would expect from the evolution model, but is a prediction of the creation model. It is a testimony to creative purpose and design, rather than chance variation and natural selection.

To point up the essential identity of the fossil world of organisms with the world of living organisms, the following list may be helpful, especially in emphasizing in the classroom the fact that, after all, animals today are not too much different than in the past.

#### *Examples of Persistence of Fossil Communities (among many others)*

Precambrian:	Algae, bacteria, fungi
Cambrian:	Sponges, snails, jellyfish
Ordovician:	Clams, starfish, worms
Silurian:	Scorpions, corals
Devonian:	Sharks, lungfish

<sup>1</sup>C. A. Arnold, *An Introduction to Paleobotany* (New York: McGraw-Hill Publ. Co., 1947) p. 7.

<sup>2</sup>E. J. H. Corner, *Evolution in Contemporary Botanical Thought*, ed. by A. M. MacLeod and L. S. Copley (Chicago: Quadrangle Books), 1961.

Carboniferous:	Ferns, cockroaches
Permian:	Beetles, dragonflies
Triassic:	Pines, palms
Jurassic:	Crocodiles, turtles
Cretaceous:	Ducks, pelicans
Paleocene:	Rats, hedgehogs
Eocene:	Lemurs, rhinoceroses
Oligocene:	Beavers, squirrels, ants
Miocene:	Camels, wolves
Pliocene:	Horses, elephants
Pleistocene:	Man

The list above could easily be greatly expanded; the examples given are typical, not exhaustive. It is obvious even from this limited summary that while there may have been many changes within the kinds (as provided by creative forethought, through adaptation to changing environments facilitated by the created genetic variational potential in each kind), the kinds have apparently not varied since the beginning, except for those that have become extinct.

#### 9. *Living Fossils*

A number of modern organisms have been found *only* in ancient strata. Until their unexpected discovery in recent years, still living, it was thought that they had been extinct for, in some cases, over a hundred million years. They were actually used previously as "index fossils," dating the strata in which they were found. The use of these "living fossils" as index fossils, of course, immediately had to cease as soon as they were found still living. Though they had not been preserved in the strata representing the imagined intervening aeons, they must have been there somewhere!

There has been so little change in these "living fossils" that it is hard to believe the evolution model is really valid. What makes an organism evolve into a high degree of complexity (with no evidence of this evolution in the fossil record) and then stop evolving? Perhaps the most anomalous of all situations is that among these "living fossils" are those one-celled organisms which are supposed to have started the evolutionary process in the first place.

"Among single-celled organisms, the discovery, during the past decade, of survivors from a very remote past has been equally remarkable, though here it is a matter

of finding essentially modern forms as Precambrian fossils. The most remarkable of these and also one extraordinary form first known as a fossil and then discovered living today, came from the Gunflint Iron Formation of Southern Ontario, which is about 1.9 billion years old."<sup>1</sup>

This is a remarkable testimony to evolutionary stagnation! Other living fossils include the following, among others:

Tuatara (beakhead reptile):	"extinct" since Cretaceous
Coelacanth (crossopterygian fish):	"extinct" since Cretaceous
Neopilina (segmented mollusk):	"extinct" since Devonian
Lingula (brachiopod shellfish):	"extinct" since Ordovician
Metasequoia (dawn redwood):	"extinct" since Miocene

Since most index fossils are small marine organisms, and since the depths of the ocean are relatively unexplored, it is not at all impossible that some of these (trilobites, graptolites, ammonites, etc.) will be found still living someday.

Now the question is how does the evolutionary model account for these systematic, regular, ubiquitous gaps in the fossil record? It does not predict such gaps, as does the creation model and so must try to accommodate them by various secondary assumptions. In view of the wealth of fossils now available, it is impossible to say any longer, as Darwin did in his day, that the gaps will be filled in by further fossil collecting.

The usual assumption is that: (1) evolution took place in small segregated populations, and (2) the mutation rate was accelerated due to temporarily increased environmental radiation.

"It seems likely that the dominant core of a population or species is rarely primarily involved in the evolutionary process."<sup>2</sup>

"Inasmuch as evolutionary changes are at least in part the result of genetic mutations, an increase in the flux of ionizing radiation, however small, will act to accelerate the evolutionary process."<sup>3</sup>

<sup>1</sup>G. Evelyn Hutchinson, "Living Fossils," *American Scientist*, Vol. 58 (September 1970), p. 534.

<sup>2</sup>John J. Christian, "Social Subordination, Population Density, and Mammalian Orders," *Science*, Vol. 168 (April 3, 1970).

<sup>3</sup>John F. Simpson, "Evolutionary Pulsations and Geomagnetic Polarity," *Bulletin, Geological Society of America*, Vol. 77 (February 1966), p. 200.

"The boundaries between eras, periods and epochs on the geological time scale generally denote sudden and significant changes in the character of fossil remains. . . . Researchers have sometimes come up with drastic explanations for these changes such as an increase in mutation rates due to cosmic rays."<sup>1</sup>

The combination of small populations and rapid evolution is offered in lieu of the missing transitional forms. This is clearly a case of special pleading and is both untestable and unlikely. Evolutionists in effect are saying we can never hope to see evidence of evolution; it went too fast in the past and is senescent in the present!

#### Punctuated Equilibrium

A colorful new term coined by Niles Eldredge and Stephen Jay Gould to denote this mysterious hypothetical process of rapid evolution in small populations is "punctuated equilibrium." Steven M. Stanley calls it "quantum speciation." Older writers (e.g., Richard Goldschmidt) called it "hopeful monsters."

Such an imaginary process might help explain the universal absence of transitional structures in the fossil record, but there is no *genetic* evidence of any such process. Keith S. Thomson, Professor of Biology and Dean of the Graduate School at Yale, says the mechanism of evolution is still the "central mystery."<sup>2</sup>

The really central mystery is why, after 150 years of futile searching for some genetic mechanism that could generate real "vertical" evolution, evolutionists still believe in evolution at all!

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<sup>1</sup> "Fossil Changes: 'Normal Evolution' " *Science News*, Vol. 102 (Report on the International Geological Congress at Montreal), (September 2, 1972), p. 152.

<sup>2</sup> Keith Stewart Thomson, "The Meanings of Evolution," *American Scientist*, Vol. 70 (Sept./Oct. 1982), p. 529.