

There is Really Nothing Reptile-Like About Monotremes

It has been claimed that some of the monotremes' cells, tissues, and organs are reptile-like; for instance the cortical tissue of the *Tachyglossus* and even more so of the *Zaglossus*. In comparison with the diploglossian reptiles, for instance, it has been stated that the type of cell, and arrangement into tissues is so similar that the one might pass for an illustration of the other.

Very strong words these—and they might lead one to think (maybe they were intended to do so) that these characteristics have been passed down by evolution from reptiles. Or, at least that the monotremes have some reptilian components, again explicable by evolution.

But what is the truth? It is that these animals have no real reptilian tissues, cells, or components. They are true mammals.

Again, it might be argued that the peculiarities of the monotremes have descended from mammal-like reptiles of the past. But one can reply:

1. If the mammal-like reptiles which are invoked were real reptiles having reptile-like tissues which, however, formed mammal-like structures; then in the monotremes, which were supposed to be closely related, the opposite occurs: mammal-like tissues form reptile-like structures. Such a state of affairs would be strange, to say the least!

2. Again, if it should be said that the cells, tissues, and organs of the monotremes are the same as those found in the so-called mammal-like reptiles, then those reptiles must really have been mammals; for the monotremes are without doubt a type of mammal.

3. The only way, then, to argue for a connection with reptiles would be to maintain that the characteristics of the monotremes are really reptilian. But that, as already noticed, would be false. The monotremes have no real reptilian tissues. So the alleged connection with reptiles is completely cut.

In conclusion, then, there is no reason to doubt that these animals were created more or less as we find them, to fill their peculiar niche. If, however, some changes have taken place over the centuries, those changes were not such as to move the monotremes from one kind into another. Again, what I have called the fourth law of creation is seen.

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AN ESTIMATE OF THE CURRENT STATUS OF EVOLUTIONARY THINKING

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This article is a critical examination of current evolutionary thinking, as exemplified in statements by prominent evolutionists. Six points especially noticeable in this thinking are (1) disregard of the grounds of and limiting principles of scientific methodology; (2) equivocations of the word "evolution"; (3) primary reliance on circumstantial evidence; (4) extensive extrapolation; (5) dependence on error; and (6) use of "cover words" as practiced by evolutionists.

Introduction

An estimate of the current status of evolutionary thinking¹ could be implemented by a critical review of the book, *Evolution*,² a 1977 composite publication of statements by four important evolutionists. Another approach to the task of appraisal and judgment of evolutionary thinking could be offered in an article-by-article critique of the September 1978 issue of *Scientific American* (entitled "Evolution") in which nine evolutionists present *their* statements of the current status of evolutionary thought.

In the latter publication the authors are very candid when they admit several problem areas that evolutionists face. With regard to the earliest cells, J. William

Schopf states, "Although much remains uncertain . . ." (p. 137). Then James W. Valentine admits, "The details of the diversity and abundance of plant species through Paleozoic and Mesozoic eras are largely unknown." (p. 158) With regard to ecological systems, Robert M. May recognizes that there is a "lack of convincing explanation". (p. 175) And Sherwood L. Washburn is most candid in his statement that the origins of human speech remain a mystery. (p. 206)

As further introduction I provide a specific list (with page references of current problems (explicit and implicit) contained in expressions by the *Scientific American* issue authors:

1. What is the role of chance? (p. 53)
2. What specifies the sequence of nucleotide bases? (p. 56) Which might be transcribed into the question, What is the "code" of the code?
3. How is supposed evolutionary progress to be explained by errors due to mutations? (p. 58)

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4. What is the empirical evidence of gradual accumulation of minor mutations? (p. 59)

5. What is the explanation of the fact that no new physical traits result from mutation, but only modifications of existing traits result from mutations? Which might be transcribed into the question: If an allele arises by mutation from a preexisting gene, what is the source of any new physical trait? (p. 60)

6. How do species arise? (p. 66)

7. How did living substance arise by non-biological means? (p. 70ff)

8. Which came first: metabolism or duplicating molecule?, protobiont or naked gene? (p. 73), amino acid matching or changing enzyme? (p. 86)

9. What is the cellular source of prokaryotes? (p. 140)

10. Which came first, the ecological niche or organismal adaptation? (p. 216)

Of course the greatest problem of all: How did "evolution" start?, involves sub-problems, such as: How were raw materials formed? How are monomers formed? How did polymerization occur? How did segregation of living matter from the environment occur? How did reproductive machinery occur? (p. 73)

With statement of these problems as background, the following material is presented as a broad, wide-ranging analysis.³ My appraisal of the current status of evolutionary thinking is provided in six sections dealing with (1) disregard for the grounds of and limiting principles of scientific methodology, (2) equivocations of the word "evolution", (3) primary reliance on circumstantial evidence, (4) extensive extrapolation, (5) dependence on error, and (6) use of "cover words" as practiced by evolutionists.

(1)

Evolutionist thinking is based upon a "reaction in grand scope" to the philosophical ground of the scientific discipline and, in turn, upon actual disregard for scientific methodology.

Modern science started in the 1600's when the earliest scientists began to use mathematics and experience as "guiding rules" for their explanations of physical phenomena. Their emphasis on quantitative measurements was in specific contrast to Aristotelian metaphysics and Scholastic philosophy, which emphasized a qualitative approach through deductive reasoning primarily. The founders of modern science developed a logico-mathematical and empirical approach in their studies of the physical environment; the expression, "experimental science", was first used by Roger Bacon.⁴

Though the point is not generally discussed in this twentieth century, modern science began because the "founders" believed⁵ that the universe was contingent upon the creative acts of a Supreme Being. Early modern scientists acknowledged that no human being had observed the beginning of the universe, or of life on the earth, or of the first human beings. They knew that no ordinary human beings had observed first origins of their natural environment. They were particular inheritors of a written tradition about origins that is now considered by some specialists as recorded in the Ebla

tablets of around 2300 B.C., which was approximately 1000 years before Moses who is properly credited with the editorship of Genesis 1.

Many of the earliest modern scientists, who began the studies of astronomy, mechanics and physics, were first-hand students of Genesis 1. It can be shown that Kepler, Newton, Boyle, Pascal, Faraday, Clerk-Maxwell, Ray, Linnaeus, Pasteur and many, many other leading scientists who came after the early work of Bacon, Descartes and Galileo, accepted the position of Genesis 1 on first origins. Thus, modern science was begun by men who accepted Theism as the grounds for their presuppositional positions about first origins. It is possible to document⁶ quite positively the compound assertion that scientists until mid-nineteenth century formulated their ideas and methodologies consistent with presuppositional statements of "founding" physical and biological scientists who accepted Christian Theism as a "world view".

Since the founders and developers of modern science knew that they had not created themselves, and had not created the surrounding natural environment (including the celestial as well as the terrestrial), it is possible to identify certain *limiting principles* in their thinking and procedures. Their scientific work was:

1. *empirical*, that is, observational. They studied things in their natural environment and used tools and measurements to extend their ability to observe. The empirical principles of science were special means for defining the nature of scientific beliefs; that is, beliefs were not regarded as scientific unless they could be tested by scientific methods.

2. *quantitative*, that is, based upon measurements of changes of objects in their natural environment. They were concerned with physical reality, and restricted their investigating actions to the kind of reality that is measureable. Many of them deliberately altered or moved real objects so as to measure changes or aspects of relationships of those objects. Physical scientists especially set the style, so to speak, in always seeking to gain quantitative measurements, in terms such as length, weight, volume, and density. Just because values, morals, and spiritual aspects of human beings were intangible and immeasurable did not mean that they were unreal, but that they were outside the scope of scientific investigation.

3. *mechanical*, that is, these scientists sought to represent the order and patterns of things they found around them. They took the view that natural phenomena can and should be studied, described and explained by reference to matter and motion and identified physical laws. Science, then, was restricted to the direct or indirect study of the behavior of objects and/or events in the natural environment which were involved in cause and effect series. In some cases they set up physical models of what they were studying; in other instances they were able only to prepare orderly lists and stated divisions and subdivisions of classifications of objects and events.

4. *correctable*, that is, under repeated examination and re-examination errors could be detected, and the same results under similar conditions could be gained

and compared time after time. Through such steps they were able to arrive at certain lawful relationships of objects and/or events.

Because of the Industrial Revolution, and accelerated by other factors, more and more scientists applied, in extreme manner, the logico-mathematical and experiential approach to their natural environment. As a result more and more scientists turned from Theism to Deism, and next to Naturalism, and even to Atheism in search of "grounds" for their increasing success in applying a quantitative, physico-mathematical approach to all that they studied—even including themselves as objects of study. The ever increasing success of scientists who quantified and "materialized" their natural environment resulted in a "reaction in grand scope" against the supernatural outlook of Theism.

Hence many scientists accepted and adopted the evolutionary outlook so successfully popularized by Charles Darwin and his followers since 1859. Many, many scientists in the nineteenth century became almost complete *reactionaries* against Theism. (Note: A reactionary is one who seeks to check, undo, or reverse an adopted position.) Evolutionists have applied their reactionary approach widely, as is fully evident in the quotation cited by John N. Deely in his study⁷ of the philosophical repercussions of evolutionary science:

The triumph of the theory of evolution as a concept, however ambiguous, metaphorical, or equivocal, is that it provides a means of synthesizing knowledge about the cosmos within a natural continuum of explanation. The order of nature cannot be described except in natural terms, the theory asserts; there is a natural bond connecting cosmic entities in their space-time continuum. As long as there is hope of joining prehistories of cosmic species in a natural sequence by a natural explanation, cosmic problems remain in the province of natural science. No preternatural, miraculous, or special Divine Intrusion need be postulated until the possibility of these natural causal relationships be ruled out. This frame of mind is largely due to the achievement of evolutionary theory in underscoring the continuity of natural events in time and space and in insisting on searching for natural relationships among all natural events to make them intelligible in terms of natural causes. This is excellent natural science; this is the premise of realistic natural philosophy; this is axiomatic to the natural theologian.

As a result of such reactionary thinking many astrophysicists, cosmogonists, reductionist biochemists, and megaevolutionists comprise a *cadre* of scientists who regularly disregard the philosophical ground of the scientific discipline, and also disregard the limiting principles recognized and followed by the founders of the scientific discipline. But the search by this cadre of scientists for "*natural relationships among all natural events to make them intelligible in terms of natural causes*" (Emphases added) has broken down, since no real "continuity of natural events in time and space" has been found. This cadre of evolutionists has let their thinking transcend normal limits of naturalism. This cadre of scientists has let their thinking go beyond the

limits of proper and orderly scientific work, which for centuries has been based upon the direct or indirect study of objects and/or events occurring in the natural environment.

"Natural" commonly refers to all objects and/or events that exist or occur in the physical environment (including the terrestrial and the celestial). In the logico-mathematical and experience tradition, within which modern science has developed so successfully, scientific hypotheses have been formulated about natural objects and/or events in the physical environment. Scientific hypotheses are necessarily those ideas of modern scientists that are empirically testable. As Ayala writes, "A hypothesis that is not subject to the possibility of rejection by observation and experiment cannot be regarded as scientific."⁸

But no evolutionist can accept or reject the Big Bang "hypothesis", the Autotrophic "hypothesis", the Heterotrophic "hypothesis", and any "hypotheses" about human origin on the basis of observation and experiment dealing with those events of origin. First origin questions do *not* involve naturally occurring events. Rather evolutionists practice extended extrapolation far beyond the dimensions and magnitudes of naturally occurring objects and events, as will be itemized in the fourth section of this paper.

Proponents of the evolutionary outlook desire to be "free" of the mathematical mode of Newton, that is, free of cause-effect relationships. Clearly the leaders of this nucleus of scientists need to be brought up short regarding their proclivity to transcend the natural and normal limiting principles of proper and orderly scientific procedure. However the evolutionist leader Mayr considers that "one of the most important contributions to *philosophy* made by the evolutionary theory is that it has demonstrated the independence of explanation and prediction."⁹ (Emphasis added) About this conclusion Deely remarks,

If, however, by contrast, Mayr and Scriven are right in contending that the organization of evolutionary research has demonstrated the independence of explanation and prediction, then, in the light of the essential considerations bound up with such a demonstration, it becomes necessary to acknowledge that the significance of Darwin consists less in any particular discovery than in a *return* to the ancient conception of sciences as *reasoned facts*.¹⁰ (Emphases added)

In other words, fundamentally, evolutionists are attempting to re-establish a philosophy of nature whereby reality is conceived in terms of accident, in terms of qualities, of imagined and "reasoned causes". Protagonists of the evolutionary outlook, as a sufficient and necessary explanation of *all* reality, push for an "evolutionist mentality" that rests upon fragile towers of "hypothesis" built upon "hypothesis", with much emphasis upon scenarios of what might have occurred in the past and much "at least in principle" reasoning.

Evolutionists go beyond fruitful, scientific research for normal, natural events when they write scenarios, that is, imaginative narratives, about supposed origins of observed objects and/or events in the present natural

environment. Evolutionists invent "hypotheses" which they believe are testable "at least in principle" about supposed origin of the universe, origin of life on the earth, origin of human beings. They think that if a "hypothesis" is testable "at least in principle" that such an idea is within normal, natural scientific processes.¹¹

Put another way, modern scientists conduct empirical tests of an idea about presumed past events, and then suggest, suppose, imagine that possible similar events did occur in the distant past. Such thinking entails the belief that simulated conditions in the present experience of research scientists were the actual conditions that occurred in the distant past. Yet scientists who think in such patterns do not establish unequivocally that simulated events, as tested, ever did in fact occur in the distant past.

Thus evolutionists have reacted against the ground of proper and orderly natural science to the extreme degree that they let their thought patterns transcend normal, natural objects and/or events. Actually evolutionist reactionaries employ a significant number of *supra*-natural concepts, that is, concepts beyond the natural. Violations of the logico-mathematical and experience "guidelines" of experimental science are multiple and repeated by evolutionists who search for *supra*-natural events which they try to make intelligible in terms of *supra*-natural causes.

(2)

Evolutionist thinking is based squarely upon *equivocation of the term "evolution."* Proponents and opponents, of course, agree that the term "evolution" can be understood to mean change. But what kind of change is intended?

Quite often proponents of evolutionist thinking will assert that "evolution" means *any* change. Thus some evolutionists actually hold that an individual "evolves" as embryological changes occur, resulting in more and more specific manifestation of the complexity of structure and function that was set essentially at the time of fertilization (that is, at the time of conception, as the term might be applied to human beings). To consider embryological changes in this way means that "evolution" and embryological development may be too easily accepted as synonyms.

But during embryological development the only changes that occur are manifestations of complexity already contained in the code in zygote, say, of each vertebrate—just to give attention to one large group of organisms as evolutionists do with regard to evidence of comparative anatomy and comparative embryology. Thus embryological development *cannot* be the same as complex structural and functional changes of physical traits (such as, feathers for scales, or wings for forelimbs, or netted venation for parallel venation), as are necessarily entailed when evolutionists claim that all kinds of animals have a common origin, or that all kinds of plants have a common origin.

Thus a real ambiguity exists with regard to the referent of the term "change" involved in the use of the term "evolution". And evolutionists do not eliminate the ambiguity in any significant manner when some maintain

that "evolution" is any change in the genetic composition of a population of organisms over successive generations.

Creationists insist upon rigorous resolution of the identified ambiguity with regard to actual referent for the term "evolution". The ambiguity about the meaning of "evolution", and hence the possible equivocation of embryological development and "evolution", must be resolved by evolutionists.

(1) On the one hand, do they mean genetic variational changes that are known to occur *within* all easily recognized kinds of organisms? (These readily documented and demonstrated changes might be labelled *microevolution*. But many well qualified scientists insist that the term is unnecessary since *limited genetic variation* is all that is involved.)

(2) On the other hand, do they mean that, over great extensions of time, genetic variational changes have occurred so that totally new kinds of organisms have come into existence from existing kinds of organisms? (That is, have present kinds of organisms come presumably from previously existing organisms which came from other organisms with the beginning of life on the earth in some unicellular organization of living matter? This magnitude of change *between* kinds of organisms might be labelled *megaevolution*.)

Which of the above two distinct magnitudes of "change" do evolutionists mean by their use of the term "evolution"? Their thinking and writing seems often so confused that it is impossible to be certain. Perpetuation of ambiguity about the meaning of the term "change" causes evolutionists to commit repeatedly the fallacy of equivocation.

Too often some evolutionist thinkers show disregard for actual and distinct magnitudes of change involved in their written and spoken expressions. The title of the second article, "The Mechanism of Evolution", in the September 1978 *Scientific American* by Dr. Francisco J. Ayala is a case in point. Primary discussion by Dr. Ayala is about genetic variations *within* separate, easily recognized populations of organisms (even *within* a single species). Thus Dr. Ayala writes primarily about limited genetic variation. Time and time again evolutionist thinkers refer to empirically demonstrated genetic variation *within* a population, and then they extrapolate to supposed changes in lineages of kinds of organisms that would involve presumably genetic changes of *all* populations. (The problem of extensive extrapolation by megaevolutionists is discussed in the fourth section of this paper.)

In this day of heightened emphasis upon precision and exactness in technical and legal fields it would seem most fitting and proper to this writer that specialists and non-specialists alike could expect that all evolutionist thinkers would practice the highest degree of care regarding their use of words and terminology in their specialty. Regrettably leading proponents of "evolution", and some editors of scientific journals and authors of scientific textbooks, seem willing to perpetuate confusion and maintain ambiguity of meaning when they do not make explicit efforts to give clear and definitive attention to recognizable meanings of the

term "change". Empirically demonstrated genetic changes *within* a single population of organisms should be adopted as the commonly understood referent of limited genetic variation. Supposed genetic changes *between* all populations of organisms should be adopted as the commonly understood referent of *megaevolution*.

(3)

Megaevolutionists make multiple use of *circumstantial evidence of similarities* detected among living things, or similarities among extinct, fossil things, or similarities among living and dead things. They emphasize the circumstances of similarities of genic materials, anatomy, embryology, cell biology, geographic distribution, protein components, and behavior. Then megaevolutionists use such comparative studies to "reconstruct evolutionary history" of past and present organisms, they claim that those organisms that are more similar to each other must have been more closely related than organisms less similar to each other. Of course all such comparative reasoning from detected circumstances is built upon one *basic assumption*: *The degree of relationship depends upon the degree of similarity.*

Rarely do megaevolutionists state this basic assumption so clearly as does Dr. Francisco J. Ayala in the second article in the *Scientific American* (September 1978) wherein on page 68 he admits that this "simple assumption is the logical basis of efforts to reconstruct evolutionary history" by means of comparative studies involving circumstances of similarities. Notice that Dr. Ayala mentions "logical" basis, and he does not write "biological" basis. It is well that he writes as he does, because all such efforts to "reconstruct evolutionary history" are just so much recitation of circumstantial evidence for a pattern of comparative reasoning that may be plausible to a megaevolutionist, yet is not at all biological. No actual lineages of different kinds of organisms are established by means of the circumstantial evidence of similarities. No breeding tests establish any actual biological affinities in the sense of lineages of different kinds of organisms.

Ideas of relationship by megaevolutionists based upon circumstantial evidence of similarities cannot be submitted to the very test of limits of variation recommended and called for by megaevolutionists themselves. In their definition of species megaevolutionists hold that interbreeding may be a test of relationship. As author E. Peter Volpe states, "Only through breeding tests can the basis of the variation be firmly established."¹²

Thus many, many variations or diagrammatic representation by megaevolutionists of supposed relationships or lineages among kinds of living and extinct things may seem plausible, but they are merely circumstantial, and do not represent scientifically established kind-to-kind lineages. Following are ten such examples (with page references) which megaevolutionists include in the *Scientific American* issue in which authors make statements on the current status of evolutionary thinking:

1. Time chart and organismal changes, pp. 54-55.
2. Amino acid sequence of cytochrome c, p. 69.

3. Chart of eukaryotes from prokaryotes, pp. 132-133.

4. Chart of kingdoms of organisms, p. 140.

5. Chart of supposed fish changes, p. 146.

6. Chart of supposed reptilian changes, p. 148.

7. Chart of supposed mammalian changes, p. 152-153.

8. Chart of supposed plant changes, p. 156.

9. Chart of immunological distances, p. 195.

10. Chart of supposed human evolution, pp. 196-197.

Actually these seemingly erudite representations of presumed lineages are based solely upon arguments from homology. The reader is reminded that the term "homology" means essentially that similar structures have the same (common) gene origin. In point of application, then, megaevolutionists are confident that detected similarities of the forelimb bone pattern of vertebrates are a *bona fide* basis for claiming relationship, close or distant; for all vertebrates with the same basic forelimb bone pattern *must* have come from the same gene pool. Ergo, all vertebrates are presumed by megaevolutionists to be related in some degree (depending upon the degree of similarity, over all). The megaevolutionist argument can be extended and represented:

- A. Similarities of bones—same gene source assumed
- B. Similarities of embryos—same gene source assumed
- C. Similarities of proteins, amino acids—same gene source assumed
- D. Similarities of brain form—same gene source assumed

However, Sir Gavin de Beer remarks as follows:

It is now clear that the pride with which it was assumed that the inheritance of homologous structures from a common ancestor explained homology is misplaced; for such inheritance cannot be ascribed to identity of genes. The attempt to find "homologous" genes, except in closely related species, has been given up as hopeless What mechanism can it be that results in the production of homologous organs, the same "patterns", in spite of their *not* being controlled by the same gene? I asked this question in 1938, and it has not been answered.¹³ (Emphasis in the original)

Thus the supposed lineages of different kinds of organisms that megaevolutionists present to the reader public as supported by the homological argument are nothing but circumstantial similarities that are completely non-nucleogenic, for two very specific reasons: (1) denial of the presumed common gene source, and (2) the clear lack of any interbreeding fertility of the distinct kinds which megaevolutionists claim are related. Any *ad hoc* "hypothesis" about suppressor gene mutations does not alter the complete genetic gap between major kinds of organisms, or the fully recognizable discreteness of all major kinds of organisms. Paleontologists more or less readily assign all fossils to one kind of organism or another; and all researchers, in the field or in the laboratory, always conclude their research with the very same recognizable kind of organism with which they began.

(4)

Megaevolutionist thinking is based upon *extensive extrapolation*. To identify the broad scope of the multiple facets of conceptualization involved in the extensive extrapolations of megaevolutionists I use the rubric, "Total Evolutionism".

From the excellently well documented meaning of the term "change" that is so demonstrably shown to occur *within* easily recognized kinds of organisms (which most properly should be labelled "genetic variation"), megaevolutionists extrapolate backward through immense time. The lead article by Dr. Ernst Mayr in the *Scientific American* (September 1978) affords a clear indication of the grand magnitude of megaevolutionary extrapolations. Presumably biological (organic) evolution was preceded by chemical (molecular) evolution, which was supposedly preceded by atomic (cosmic) evolution. (And specialists in social studies have extended evolutionist thinking to propose societal (social) evolution as a type of postlude to "biological evolution".)

But a most candid appraisal of this type of grand scale extrapolation brings out that megaevolutionists go far beyond the bounds of the viewpoint or world view of naturalism. Megaevolutionists do not restrict themselves to study or consideration of only naturally occurring objects and/or events. Fully integral to megaevolutionist thinking is the repeated inclusion of catastrophic, *unnatural* objects and events of truly colossal magnitude in comparison to any known naturally occurring aspects of the physical environment.

Actually megaevolutionists (that is, total evolutionists) begin their universe with a supposed explosion of some dense substance; then accretion of celestial objects, including the terrestrial globe called the earth; followed by spontaneous appearance of some living substance as progenitor of all present life on this earth; and then presumed gradual accumulation of errors due to minor mutations resulting in totally new organisms, including human beings.

However each one of these supposed changes is essentially *supra-natural*; that is, each one is beyond the scope of the natural. (Again, the term "natural" can commonly be understood to refer to those objects and/or events that occur and exist in the physical environment.) In no way does the total evolutionist possess any "key" in the present to help document the unnatural changes of catastrophic magnitude which are entailed in the full range of extrapolation from "cosmic evolution" to "chemical evolution" to "biological evolution" to "societal evolution". Following is an itemization of some of the missing "keys":

1. Megaevolutionists cannot find any "key" in the present of some naturally occurring explosion of a dense substance comparable to the major concept of the Big Bang "hypothesis". (Robert Jastrow admits that no cosmologists can scientifically study the events involved in the formation of the present circumstances of the universe.)

2. Megaevolutionists cannot find any "key" in the present of some naturally occurring combination of sub-molecular parts of matter that form into any living

substance. (J.D. Bernal admits that no biochemist can apply experimental research methods to the events involved in the formation of the circumstances of existing living substance.)

3. Megaevolutionists cannot find any "key" in the present of any naturally occurring events involving movement of dry rock masses that result in new mountains, nor the erosion to sea level of any mountain ranges.

4. Megaevolutionists cannot find any "key" in the present of any naturally occurring single land mass breaking into smaller land masses that move apart.

5. Megaevolutionists cannot find any "key" in the present of any naturally occurring mutational changes that result in any *new* physical traits. (Stephen Gould and David Kitts admit that there is no indisputable fossil evidence for gradual, megaevolutionary change of organisms in the past.)

As a corollary to these missing "keys" I call attention to the weaknesses of "historical reconstruction" of past objects and/or events that are so freely included in written and spoken expressions of megaevolutionists. Most properly "reconstruction" follows particular "construction" work by human beings. But megaevolutionists practice their "art" of developing reconstructions by plausible sounding explanations, such as: (a) human beings are here so they *must* have come from some "lower" source: (b) life already exists on the earth so there *must* have been prior conditions where there was no life; and (c) the universe is here and seems to be "expanding" so it *must* have come from a state of greater density.¹⁴ Megaevolutionists, then, do not, in any rigorous sense, "reconstruct"; rather they generate extensive imaginative scenarios about possible animal "ancestors" of human beings, imaginative explanations about previous conditions of rocks and land features (hence presumed environments of living things), or imaginative narratives about the origin of the solar system and the universe.

Dr. Richard E. Dickerson provides an extensive example of scenario "reconstruction" in his article, "Chemical Evolution and the Origin of Life", in the *Scientific American* (September 1978). He clearly writes about a five-part scenario (one of his own words) regarding raw materials, monomers, polymers, isolation of living substance, and reproductive continuity as he considers "the problem of the evolution of living cells". Of course Dickerson admits early in his article (on page 73) that it is one thing to propose *scenarios* of the origin of life that *might* have been, and another thing to demonstrate that such scenarios are either possible or probable. (The reader of the September issue finds that Dickerson states that he provides a "story" of beginning life on the earth. Another author in the same issue writes of the "story" of presumed evolution of animal behavior (p. 191), which follows mention (p. 161) of a book entitled, *The Ecological Theater and the Evolutionary Play*. Are these stories fully credible examples of "scientific writing?")

In sum, megaevolutionists use "reconstruction" as a cover word for their extensive extrapolations, as is pointed out in the final section of this appraisal of the state of affairs concerning evolutionist thinking.

(5)

Megaevolutionist thinking is based squarely upon *multiple errors*; that is, upon supposed fortuitous mistakes. I refer, of course, to the control position of the concept of mutation in megaevolutionist thought patterns. Megaevolutionists always turn to mutations as the ultimate source of all genetic variation. Just such a statement is made by Dr. Francisco J. Ayala on page 58 of his contribution to the *Scientific American* (September 1978). On the same page Ayala recognizes that a mutation can only be considered an *error* in replication of DNA.

Since a gene mutation, then, is equivalent to a mistake, megaevolutionists have based their entire position upon some supposed gradual accumulation of minor mutations; that is, minor errors of the genic components of living things. Presumably the genetic message has been altered over time by slow accumulation of errors. Yet where is there any citation of actual empirical evidence of accumulation of mutational changes in genic materials resulting in the appearance of totally *new* physical traits?

In my assessment of the current status of evolutionist thinking, I find that "disciples" of the late Theodosius Dobzhansky are proponents of a fallacious, deceitful position when they commonly state that mutations are raw materials upon which natural selection acts. Since "natural selection" is no more than a cover expression for the fact that differential elimination occurs, and not any actual selection, as animals and plants interact with the natural environment, stability of kinds is *the* fully empirical datum of modern biologists. Conservation of kinds of animals and plants obtains as a result of the genetic aspects of the reproductive processes, sans any consideration of extinction of some kinds in recent decades (and evidently in years past according to interpretations of certain fossil materials).

Setting aside the oft repeated claim that some mutations can be beneficial, the fact remains that mutations are regularly identified as deleterious, debilitating and degenerative. Mutations, then, are representative of a type of biological entropy. Mutations commonly result in reduced viability and/or lethal conditions for affected individuals.

But most critical to the full dependence of megaevolutionists upon mutations is the very significant point that no *new* physical traits result from mutations. Gene mutations are no more than aberrations of already existing genes. Gene mutations result only in modifications of already existing physical traits.

Modifications of bacterial metabolism may be due to gene mutations. Modifications in wing condition or eye color, as demonstrated in *Drosophila*, may be due to gene mutations. But gene mutations result in no more than aberrations of already existing genes for wingedness or for eye color, and hence no more than aberrations in *existing* physical traits occur—*no new* physical traits come into existence. Even homeotic mutations do not result in new physical traits.

Megaevolutionists exhibit an incredible dependence upon demonstrated mistakes in gene duplication (mutations) and presumed accumulation of such mistakes to

"explain" their imagined transmutational scenarios about plants and animals. Such scenarios may seem plausible to persons with prior commitment to the megaevolutionist point of view, but the scenarios have no biological basis.

Gene mutations do not result in any new physical traits. Yet explanation of the origin of highly unique physical traits (such as, upright-bipedal locomotion, hair, mammary glands, wingedness, feathers, internal skeletons, hollow bones, dicotyledons, pollination resulting in enclosed seeds, vascular bundles, life cycles, photosynthetic processes dependent upon chlorophyll) *must* be provided by megaevolutionists, if their scenarios are to be taken at all seriously. Gene mutations, as errors, are totally lacking in any explanatory value, since no new physical traits result from gene mutations.

(6)

Lastly, megaevolutionist thinking is based upon an *almost indiscriminant use of words*; that is, (a) words which might be called "cover words", and (b) extensive use of qualifying words about presumed objects and/or events of the past.

(a) "Cover Words"

By "cover words" I mean terms that are often used in misleading ways in written and spoken expressions about presumed megaevolution. Consideration of at least a dozen commonly used "cover words" should make this point quite clear.

1. *Adaptation, adapted*: These words merely refer to observed circumstances or conditions that exist; no substantive explanation is gained as to how the recognized conditions came into existence. To write that an organism is "adapted" seems to explain something, but no real knowledge is gained as to how fish came to live and swim in water, or for that matter how birds came to fly in the air.

2. *Date, dating*: These terms are used with respect to rocks or events of the past to convey the connotation of the degree of accuracy gained from specific measurements by man-made chronometers, or the known time of beginning of some man-made product. The time of commencement of a trip can be checked against a watch. The first cotton gin can be dated, as the first automobile can be dated, since some records of such man-made objects are available. "Dates" of rocks are *only* estimates. The age of a rock can only be *estimated*.

3. *Historical, history*: Proper use of such terms involves activities of human beings; so misleading use by megaevolutionists with respect to imagined geologic events conveys the connotation that real objects and events were involved in presumed past eras of time. Most properly all imaginative narratives of geologists are *pre-historical*.

4. *Hypothesis*: In careful, proper, orderly scientific practice this term should be applied only to concepts that are testable by empirical procedures. Megaevolutionists make indiscriminant use of this term and hence give the impression that many of their ideas are in the same status as actually testable generalized statements

formulated by empirical scientists.

5. *Measurement*: Too, too often this word is used when the term "estimate" would be more accurate, as was stated above with emphasis in comments on the term "date".

6. *Natural, Nature*: Megaevolutionists grossly misuse this term, as if they have knowledge of or have studied natural objects and/or events of the past. Too often megaevolutionists, and students who study their books, consider that if some event or process can be thought of; that is, if an idea is "thinkable", then, the event or process involved is "natural". Such is not the case, for example, for tectonic or orogeny concepts regarding mountain building, since such concepts are supranatural in the degree or magnitude imagined by megaevolutionists.

When the term "nature" is capitalized, as "Nature", then reification and deification of part of the natural environment ensues. Such anthropomorphic usage is inappropriate for scientists who claim to be operating from a naturalistic position.¹⁵

7. *Natural selection*: This expression is a cover for differential elimination (or differential survival). Commonly the term "selection" conveys the connotation of volitional (willful) choice by human beings, and usually according to certain criteria (as in artificial selection); yet no criteria of selection exist in the natural environment. Volitional choice of the type practiced by human beings in artificial selection *does not occur* as organisms interact with each other and with the natural environment.

8. *Reconstruction*: Megaevolutionists use this cover word to gain connotative meaning for imagined scenarios about supposed past geologic features and/or events (or about exterior appearances of organisms when only articulated skeletons are known). The word is properly associated with such work as the reconstruction of Williamsburg, Virginia, of the colonial time period. In the latter reconstructive work, actual records and eye-witness reports of previously existing constructions are available, whereas no such records or reports of participants are available to megaevolutionists. "Reconstructions" by megaevolutionists are no more than imagined narratives or imagined appearances.

9. *Record*: This term usually is associated with activities of human beings; so when megaevolutionists use the term as in "geologic record", or the "fossil record", they improperly convey the connotation of actually witnessed occurrences. Megaevolutionists can write and speak accurately only about the *existence* and *description* of rock layers or fossil materials.

10. *Related, relationship*: When megaevolutionists employ these terms with regard to different kinds of organisms they convey the connotation of observable, reproducible lineage relationships. Actually, megaevolutionists can write or speak accurately, in rigorous discourse, only of mere *similarities*, since "relationship" is discernable only by means of breeding practices to set the limit of variation.

11. *Sequence*: When megaevolutionists use the term in connection with discussions of rock layers they convey the connotation of some known cause-effect rela-

tionship. Megaevolutionists are not able to discern such relationships between fossil materials in the rocks, and hence go beyond exactness of observable conditions. When megaevolutionists write or speak about rock layers or fossils as in "sequences", they regularly commit the fallacy of *post hoc ergo propter hoc*, which is the logical error of reasoning that something is the cause of something else merely because the former is presumed to be earlier in time.

12. *Trace*: Megaevolutionists use this word for presumed detection of lineages of plants and animals; but such activities can only be deemed plausible, yet they are not at all biological. Such use of this term "covers over" the proper distinction between speculated lineages, and actual events "traced" by careful analysis conducted by human beings, often employing technical detection equipment.

(b) Qualifying Words

An explanatory comment is in order regarding use of qualifying words by megaevolutionists about presumed objects and/or events of the past. It is true that empirical scientists make use of such terms as "might", "assumed", "possible", "could" or "should"—but such usage is proper just because empirical scientists actually submit their qualified phrases (usually parts of hypotheses) to direct and indirect test, and even to re-test. Megaevolutionists, however, who use such qualifying words about the past, wherein no human experiences are possible, give the impression that their statements are in a similar testable status as the qualified phrases of empirical scientists.

I have analyzed the September 1978 issue of *Scientific American* for author use of qualifying words. Authors of the nine articles contained in that issue were summarizing what is understood by the majority about the current status of evolutionist thinking about the so-called "history" of life on the earth. Of a total of 36 qualifying words counted in the cited articles, the most repeatedly used words (with frequency counts) were:

may, might (79)	probably (18)
could (53)	must (17)
would (51)	perhaps (15)
suggested, suggestion (32)	argued (10)
seem (28)	suppose (9)
appears, apparent (21)	assume, assuming (8)

Other words used were: conceived, believed, surely, expect, should, plausible, thought, presumably, guess, and proposed.

One author acknowledges his "qualifying statements" about chemistry of life and another writes, "Setting aside these caveats . . .", which are refreshing indications of candidness on the part of megaevolutionists. Nevertheless the reader of article after article by megaevolutionists, and book after book by megaevolutionists, is kept very busy noting the exceedingly high usage of qualifying words. In contradistinction to the practices of empirical scientists, megaevolutionists are quite incapable of testing, let alone re-testing, their qualified statements about objects and/or events of the past where human experience is totally impossible.

Conclusions

A wide-ranging appraisal of the current status of evolutionary thinking has been provided. Leading evolutionists are most pointedly identified as reactionaries against the world view of Theism, which was the ground for presuppositional positions of early scientists who were "founders" of the scientific discipline. Because of a steady disregard for the limiting principle so well practiced by founders of scientific methodology, modern evolutionists are violators of logico-mathematical, experience-oriented scientific endeavor. Modern evolutionists are really attempting to return to a philosophy of science by which they stress qualities and accidents in their dependence upon plausible arrangements of concepts that are not at all natural, that are not at all biological.

And because of their disregard for limiting principles recognized by founders of the scientific discipline and their continued generation of merely imagined scenarios, evolutionists practice equivocations of the word "evolution". They fail to distinguish between limited genetic variation and *megaevolution*. Further, when evolutionists fail to make clear distinctions between genetic variation *within* easily recognized kinds of organisms and presumed change *between* easily recognized kinds of organisms (*megaevolution*), they hide from their readers the fact that *megaevolution* is based primarily upon circumstantial evidence. *Megaevolution* may be plausible to someone with prior commitment to the evolutionary outlook, but the changes necessarily entailed are not biological.

Because of their prior commitment to a non-theistic viewpoint, a wide variety of reactionary evolutionists have been proponents of Total Evolutionism as *the* explanatory belief system that is both necessary and sufficient to encompass *all* of reality. The several subparts of Total Evolutionism were identified as Atomic (Cosmic) Evolution, Chemical (Molecular) Evolution, Biological (Organic) Evolution, and Societal (Social) Evolution. Thus evolutionists are quite guilty of over-extrapolation.

Evidently, again, because of their prior commitment to a non-theistic viewpoint, reactionary evolutionists are forced to rely heavily upon *error*, that is, mistakes of gene replication, called mutations. Yet *megaevolutionists* are completely unable to afford an empirical evidence for appearance of a single new physical trait as a result of mutational changes. Evolutionists regularly employ "cover words" that potentially convey quite inaccurate and inappropriate meanings when compared to proper and orderly scientific methodological procedures.

In summary, *megaevolutionist* thinking is a bankrupt world view that has been consciously developed as a *reaction* to the original Theism that was accepted and adopted by founders of the scientific discipline. The "evolutionist mentality" allows for statement subject to "all the dangers of extrapolation, all the limits of an in-

complete fossil record, all the weaknesses of indirect evidence and inference."¹⁶

Notes and References

¹The word "thinking" is used in this paper to avoid the ambiguous term "theory", which is used much too indiscriminantly by non-scientists, and not at all rigorously by evolutionists. Non-scientists may express some "theory" about almost any current problem or inquiry when actually the person really offers only a speculation or conjecture. Evolutionists do not usually differentiate between their "theories", which are merely speculations or conjectures about unrepeatable past events, and other scientific theories associated with repeatable aspects of the contemporary environment of laboratory or field scientists.

²Dobzhansky, Th., F. J. Ayala, G. L. Stebbins, and J. W. Valentine, 1977, *Evolution*. San Francisco: W. F. Freeman and Company.

³Other "tests" or analyses that I have published are: 1972 Chromosomes, mutations, and phylogeny, *Creation Research Society Quarterly*, 9 (3):159-171; and 1973 Retrieval system problems with articles in *Evolution*, *Creation Research Society Quarterly*, 10 (2):110-117.

⁴Maritain, Jacques, 1941, The conflict of methods at the end of the Middle Ages, *The Thomist* III (4):527-538.

⁵Butterfield, H. 1949 (Rev. Ed.), *The origin of modern science*. London: Macmillan & Co.; Hooykaas, R. 1972, *Religion and the rise of modern science*. Grand Rapids, Michigan: William B. Eerdmans Publishing Company; Jaki, Stanley L., 1974, *Science and culture (From eternal cycles to oscillating universe)*. New York: Science History Publications; Jaki, Stanley L., 1978, *The origin of science and the science of its origin*. South Bend: Regnery/Gateway, Inc.; Klaaren, Eugene M., 1977, *Religious origins of modern science (Belief in creation in seventeenth-century thought)*. Grand Rapids, Michigan: William B. Eerdmans Publishing Company.

Further corroboration of the fact that modern science is based upon the Christian world view has been stressed by both Whitehead, Alfred North, 1926, *Science and the modern world*. New York: Macmillan and J. Robert Oppenheimer; *On science and culture Encounter*, October 1962.

⁶See documentation in footnote 5.

⁷Deely, John M., and Raymond J. Nogar, 1973, *The problem of evolution*. New York: Appleton-Century-Crofts, p. 22.

⁸Ayala, Francisco J., 1977, Philosophical issues (Chapter 16) (in) *Evolution*, Theodosius Dobzhansky, Ayala, G. Ledyard Stebbins, and James W. Valentine. San Francisco: W. H. Freeman and Company, p. 476.

⁹Mayr, Ernst, 1961, Cause and effect in biology, *Science*, 134 (3489):1501-1506. See especially p. 1504.

¹⁰Deely, *Op. cit.*, p. 62.

¹¹Ayala, *Op. cit.*, p. 479, and also pp. 503 and 511.

¹²See *Understanding evolution*, 1977, Third Edition. Dubuque, Iowa: W. C. Brown Company Publishers, p. 4.

¹³de Beer, Gavin, 1971, *Homology, the unsolved problem*. London: Oxford University Press, p. 16. (Also No. 11 pamphlet in Oxford Reader Series distributed by Carolina Biological Supply Company, Burlington, North Carolina 27215.)

¹⁴See Dickerson, Richard E., 1978, Chemical evolution and the origin of life, *Scientific American*, 239 (3):70-86. He affords two more examples of "must" thinking because on page 73 he explains that nucleic acids and enzymes *must* have "evolved" together, and on page 86 he "explains" that the entire apparatus of the genetic machinery *must* have "evolved" in concert.

¹⁵Further examples of anthropomorphic expressions used by evolutionist authors are listed as excerpts from *Scientific American* (September 1978), and page references are provided:

(a) "... decisions of natural selection ..." (p. 51)

(b) "... living cell has two central talents ..." (p. 73)

(c) "... higher plants have mastered the technique ..." (p. 79)

(d) "... from which evolution re-created large animals ..." (p. 157)

(e) "... success of evolution in adapting organisms ..." (p. 158)

¹⁶Deely, *Op. cit.*, p. 23.