

“PUNCTUATED EQUILIBRIUM” AND THE MACRO-MICROMUTATION CONTROVERSY

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Evolutionists seem to be coming more and more to admit that what was, until recently, the standard evolutionary dogma, gradual evolution through micromutations, is supported by neither the fossil record nor common sense. So the notion of saltational evolution, through macromutations and hopeful monsters, is being heard more and more. But that dogma has its own difficulties—nay, impossibilities.

It behooves Creationists to be aware of these developments. For from the controversy they can glean arguments against both kinds of evolution, and hence, by elimination, in favor of special Creation.

It is surprising what one may find in even the supposedly evolutionary and uniformitarian literature nowadays. For example, Stephen Jay Gould, professor of Geology at Harvard and associated with the Museum of Comparative Zoology there, in a recent article has stated that the modern synthetic theory of evolution is dead:

I well remember how the synthetic theory beguiled me with its unifying power when I was a graduate student in the mid-1960's. Since then I have been watching it slowly unravel as a universal description of evolution. The molecular assault came first, followed quickly by renewed attention to unorthodox theories of speciation and by challenges at the level of macroevolution itself. I have been reluctant to admit it—but if Mayr's¹ characterization of the synthetic theory is accurate, *then that theory as a general proposition, is effectively dead, despite its persistence as textbook orthodoxy.*²

Well, this is indeed news! It appears as if one of the major reasons for arriving at this conclusion is based on the lack of transitional forms in the fossil record:

The absence of fossil evidence for intermediary stages between major transitions in organic design, indeed our inability, even in our imagination, to construct functional intermediates in many cases, has been a persistent and nagging problem for gradualistic accounts of evolution.³

Or, again, in Kitts:

Despite the bright promise that paleontology provides a means of “seeing” evolution, it has presented some nasty difficulties for evolutionists, the most notorious of which is the presence of ‘gaps’ in the fossil record. Evolution requires intermediate forms between species and paleontology does not provide them.⁴

Many evolutionary scientists now admit that these “nasty difficulties” cannot be resolved by neo-Darwinism in its present form. Something new must take its place. “Saltation”, “hopeful monsters”, “Schindewolfian theory”⁵, “punctuated equilibrium”, “macromutation”; all these are proposed. These are all code words for essentially the same doctrine in evolutionary thought. They all represent the same spectrum of theory which maintains that evolution did not or could not have occurred according to the standard gradualist scenario of micromutational changes but oc-

curred in a series of “jumps” along the phylogenetic tree.

In recent years, this explanation has become much more popular, because an honest evaluation of the fossil record on the part of some evolutionists has forced them to conclude that present synthetic evolutionary doctrine is outmoded and not substantiated by the evidence. We are now faced with a new round of theories and some new phraseology, most notably “punctuated equilibrium” and “macromutation”, that seek to explain how we got here. The theory was most forcefully propounded by Niles Eldredge and Stephen Gould first in 1972.⁶ The ideas themselves are not new but have been brought out of the closet and dressed up for one simple reason—if the synthetic theory of evolution is *dead*, as Gould asserts, *something* must replace it, and, since *special creation* is not an admissible option⁷ (I wonder why!), “punctuated equilibrium” is born. Of course, there's always the “steady-state” option of interpreting the fossil data using the presupposition that

species do not originate. All they do is remain in existence or become extinct.⁸

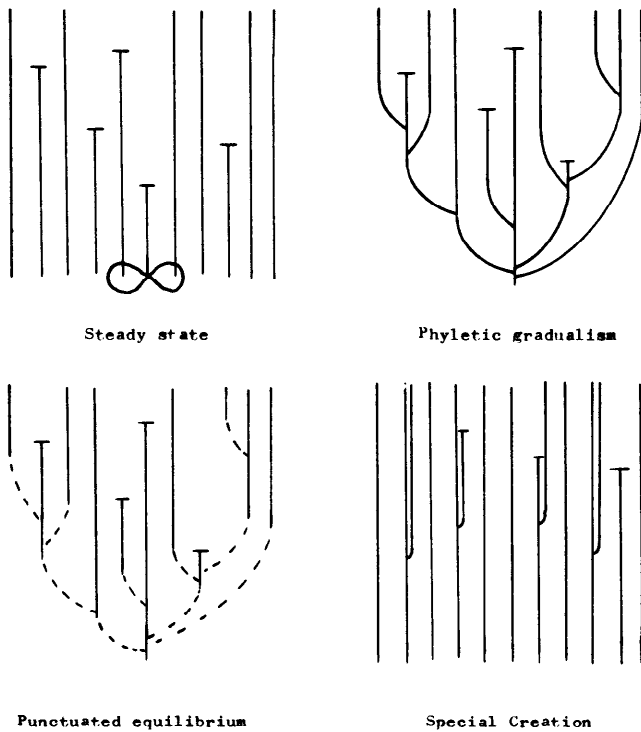
But such a position is excluded on its face even by virtue of the second law of thermodynamics. If species have *always* existed (i.e., from eternity), and new ones do not arise (old ones can only become extinct), how can any still remain? The biosphere of our planet (which supports all known life-systems) is significantly tenuous, so postulating existence *from eternity* is scientifically meaningless.

So we are actually left with very few options, (see Figure 1) and for the evolutionist who has grown up with gradualism (and all of the corollary aspects of uniformitarianism), “punctuated equilibrium” must sound somewhat frightening. But for those who have rejected the “modern synthesis”, as it is so called, it is their hue and cry.⁹ The implications of what all this may mean are only now beginning to filter down to the popular press,¹⁰ and I suspect that we shall see a great deal more to follow. The whole problem is creating quite a stir. The “gradualists”, the micromutational people, are upset:

... there are few (if any) genetically well-established cases of morphological macromutations which have been fixed in natural populations of animals. Mutations of large effect are almost always deleterious. . . .¹¹

Advocates of punctuated equilibrium and macromutation cite as evidence the frequent

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LEGEND FOR THE ILLUSTRATION

Figure 1. The various taxonomic models are contrasted graphically. A horizontal bar at the top of a line indicates extinction. In the steady state model the lines, representing kinds or species, are considered to extend back to infinity, i.e., to have existed from eternity. In the diagram of punctuated equilibrium, the broken lines show lines of descent which are supposed to have happened, but which were so abrupt as to leave no fossils. In special Creation, kinds were created separately and remain separate. However, the branching lines close to the originals are intended to show the possibility of limited variation, which many Creationists grant. For instance, dogs and wolves may have had a common ancestor.

absence of transitional forms from the fossil record.¹² This negative information is not convincing.¹³

“Macromutation” throws out the entire structure upon which modern evolutionary biology is based, that is, that there is a successful accumulation of a series of *micromutations* within a species over a long period of time which enables that species, through the means of natural selection, to evolve. This is clearly “the whole ball game” in evolutionary theory and some of the big guns of classical neo-Darwinism, such as Ernst Mayr, are joining battle:

The absurdity of believing in the simultaneous appearance of numerous ‘hopeful monsters’ as Goldschmidt (1940) has called them, was far more clearly appreciated by Darwin than by some recent evolutionists. . . .¹⁴

Mayr, of course, has to turn to his highest authority (i.e., Darwin) for at least moral support and does not give macromutational theory any more than a few condescending sentences in his major work, *Evolution and the Diversity of Life*. He concludes:

The evidence, whether genetic, morphological, or

functional, is so uniformly opposed to a saltationist origin of new structures that no choice is left but to search for explanations in terms of a gradual origin.¹⁵

And how is saltation defined? For that answer we turn to the journal *Evolution*:

By “saltation” Darwin meant precisely what has been traditionally understood by that term: a macromutation. A saltation is a big change in a single generation.¹⁶

So we have an obvious and very severe contradiction. As Lövtrop states:

I think we are here facing two alternative theories, mutually exclusive. It is, of course, possible to accept both the micromutation and macromutation theory, i.e., the comprehensive theory, but only the intellectually confused or dishonest can unite this standpoint with the claim of being a neo-Darwinian.¹⁷

In other words, Lövtrop throws out the classical label of “neo-Darwinian” for those who accept the macromutational thesis. And he also states that macromutation theory is based on a lot more than just the silence of the fossil record on this point:

The ‘creative power’ required to construct, say, a particular vertebrate, involves the origination of the epigenetic mechanism capable of creating the animal in question. And that mechanism, and hence the creative power, must be *exactly* the same, whether it originates in many small-step installments or in a few larger ones. Yet, there is a tremendous difference between these alternatives. Thus, the former implies a series of intermediate steps, which must have been grotesque in many cases. And still the theory requires that these forms have been so successful that they replaced the original ones.

In my opinion this logical deduction from the micromutation theory needs no empirical refutation, common sense suffices.¹⁸

This is precisely what Creationists have said all along.

The paradox is that the macromutational thesis, carried to its logical conclusions, is equally absurd. Thus, if a salamander hatched five eggs, and four of the five were salamanders, but the fifth (due to some postulated gross genetic mutation) was some “brown furry thing”, the “brown furry thing” not only would have to survive (in a “strange” environment providing scarce resources) but also find another “brown furry thing” which had had exactly the same level of genetic mutation—but of the opposite sex! These are our “hopeful monsters”! And to “some geneticists all monsters are hopeless”¹⁹ is the gradualist reply. How does the saltationist answer this question?:

. . . the new mutation may involve ‘major changes in genome size or organization’, in which case sexual isolation is likely. [?]

. . . But I grant my critics that if the new mutation does not involve isolation, then it *may* be fixed through outbreeding.²⁰

He thus steps around it, but even the gradualist model

is hard put to answer this question of 'mating-by-mutation':

Eventually the isolated group might attain sufficient genetic distance from the parental stock as to be reproductively isolated: hence the establishment of a new species.²¹

Again, this is essentially theory, and this theory, when raised to the macroevolutionary level, requires, as Lövtrops states, a series of grotesque intermediate forms, each of which must be ideally suited to the surrounding environment. And this "creative power", as Lövtrop calls it, must be exactly the same in its incremental stages and consistent throughout all time. Otherwise, evolution cannot and will not occur. Thus, he believes he has a much higher probability with his "hopeful monsters". This would all be nothing but simply amusing except for the fact that our schoolchildren most likely will be taught this, as "punctuated equilibrium" becomes more and more the favored step-child of the Darwinian worldview.

What we find within both of these schools of evolutionary thought, however, is that each appeals to some locus of "ultimate evidence" which it believes abrogates the other's viewpoint. The micromutationists say that macromutation as a principle is genetically out of the question. The macromutationists say that if gradualism is true, there must be some evidence of it in the fossil record, and there is not. And are Creationists the only ones plagued by the suppression and distortion of evidence on the part of the opposition? No, the macromutationists, being the "new kids on the block" are facing similar problems, and they don't like it one bit:

Another way to avoid falsification (of neo-Darwinism) consists of underrating, ignoring or suppressing conflicting evidence... If the neo-Darwinians had been able to mobilise convincing evidence in favor of their theory, the present discussion would not be waged. But without facts, how is it possible to rejoin critics? Only one means is available: words. Two ways have been followed, the first of which is to appeal to the consensus of the majority... The other expedient is to answer with dogmatic postulates... And one may even go one step further and leave behind all rules of logical reasoning.²²

So we certainly are not alone in this respect. And the level at which this particular argument is being carried out is not always understood even among the scientists themselves.

What all of this points to is the fact that even within the evolutionary world, the possibilities for semantic misunderstandings are enormous. And this is especially true as far as the "macro-micromutational controversy" is concerned. Sören Lövtrop, of the Department of Zoophysiology, University of Umea, Sweden, wrote his article entitled "Semantics, Logic and Vulgate Neo-Darwinism" in the journal *Evolutionary Theory* to clear up what he believes are gross misinterpretations of the theory of macromutation on the part of other, more orthodox neo-Darwinians.²³ Because of the outcry against them, Gould and

Eldredge in their 1977 article in *Paleobiology*²⁴ felt compelled to include the following heading: "What Eldredge and Gould Did Not (And Did) Say" (wouldn't it be wonderful if Creationists had the same opportunity to answer their critics in the pages of the major scientific journals?). So it is obvious that it is going to take some time for the smoke to clear in this whole area. In the meantime we can learn a great deal from watching this controversy unfold. Charges and counter-charges are flying back and forth among evolutionists. "Punctuated equilibrium" is a highly emotional issue, and some very unscientific attitudes are emerging:

Just imagine that scientific dispute has sunk to this level!²⁵

That is a macromutationist speaking. And then we have this comment from the micromutational side of the house:

What sort of trick should we be prepared for? Bogus history for one thing... Cracraft, supporting the "punctuated equilibrium" theory of Eldredge and Gould, tries to show that Darwin rejected 'saltation' for 'extrascientific' reasons. The argument is partly founded upon an egregious sophism.²⁶

So we sit back and observe the fray. We are not really invited to participate, and perhaps it's better that we just let the two sides hack away at each other for a while. I suspect that "punctuated equilibrium" (or "punctured" equilibrium, as I like to refer to it) will have its heyday, but in the meantime, it is performing quite a service, and in this respect I must agree with G. H. Harper most emphatically:

... punctuated equilibrists have kindly provided a non-evolutionist approach to the fossil record; steady state theorists [and Creationists—*my insertion*] can feel grateful and encourage them in their work.²⁷

Why? Because they are investigating and publicizing the very facts which Creationists have been demanding for decades. It is very refreshing to watch it all unfold, but also very disturbing to see that, regardless of the facts, most evolutionists still cling to the shreds of their theory. As Lövtrop himself asks:

What would the falsification of this prediction imply, if not Special Creation?²⁸

Indeed. But he himself does not accept it, choosing instead to believe in a world of macromutations. But for us as Biblical Creationists there is the certain knowledge that the only "positive macromutation" is a spiritual one, the one which changes a man from the creature he is into a child of God. Let us hope that more of *those* macromutations will puncture the collective consciousness of the scientific world.

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LET US REASON TOGETHER

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As members of the Creation Research Society we all claim to be Christians; when we joined the organization we declared our belief in the Bible. We long for others to have this belief and recognize that those who oppose the Bible are helping, either wilfully or thoughtlessly, to aid the forces of atheism.

The Greek philosopher, Epicurus, said that the gods, nine of them, lived on Mount Olympus, dined on honey and ambrosia, and cared but little for people on the adjoining lowlands. There is a similar disregard among the leaders of the evolution model. We call this attitude a sterile religion and also poor science. Even reason teaches us something far better.

It is easy for a person to take for granted a certain guess about nature if it is what he desires to think; then he forgets that it simply is a wish and takes it as a basis for future thought. For instance Charles Darwin states "We have seen that man appears to have diverged from the Catarrhine or Old World division of the Simiadae, after these had diverged from the New World division"¹ Not content to say as some do that man and apes have descended from a common ancestor, Darwin has seen the division from which man came. But he gives no time, place, or pictures of this occurrence. In this manner a kind of philosophy is built up which he calls science. He forgets that science starts from a large body of facts; *observed* facts.

Is Change Easy?

In the *Descent of Man*, first chapter, Charles Darwin devotes page after page to show that man is physically

like the ape. There are at least two valid reasons for this likeness. (a) To control disease man can make tests and experiments on apes and other animals which he would have no right to impose upon a human being. They are enough alike that the findings on one are valid on the other. (b) If we are keeping animals for some kind of service we judge their needs from our own, for instance we'll not let them go hungry. Darwin shows that there are physical likenesses but does not show that this similarity enables one to change into the other. Persons have taken many young apes into their homes as pets, and although they have voice boxes (larynx) very much like ours, none has been able to speak or write a single sentence; which of course is easy for a child.

A popular college textbook claims that changes in nature are rare. "Many species have remained much the same for long geologic ages. The brachiopods among animals and the sea-weeds and others among plants are examples of groups of organisms in which almost no changes are observed in present-day species as compared with fossils."²

Heritable changes, called mutations may be seen in big collections in laboratories but if they escape into the wild they do not have the strength to become established. We sometimes read in scientific literature of favorable mutations but they are hypothetical examples rather than observed ones. Men with broad ideas rooted in their desires rather than their observation have been allowed to become spokesmen for science; but a better day is dawning. It is remarkable to note the organizations which are springing up and demanding change.

Planned Construction

The members of the Creation Research Society find

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