land plants in the Precambrian of Venezuela (1974).

In a final statement about the whole matter, Burdick drew attention to Chadwick's withdrawal from his (Chadwick's) own discoveries and apparent change of stance.

> I saw slides of the work, which seemed to me to parallel the ones which I had obtained in Tucson. Later Chadwick seems to have changed his mind, and doubted that any ancient spores had actually been found; although I do not believe that all workers at Loma Linda share that view (1982, p. 144).

CRS Involvement

By Spring, 1983, the Research Committee decided that CRS had a major stake in this intriguing series of pollen papers! If, as Chadwick had asserted, reproducibility is a cardinal principle of the scientific method, then perhaps Chadwick's own negative results should be tested to see if they also are routinely reproducible. It was decided at the CRS meeting in April, 1983, that a wholesale reanalysis of both the Burdick and the Chadwick-Doher methods should be undertaken. E. L. Williams, G. F. Howe, and W. E. Lammerts agreed to collect samples at the Grand Canyon. Williams located a chemist, G. T. Matzko, who agreed to carry out the pollen extractions according to both procedures. G. F. Howe agreed to examine and photograph the resulting samples with a light microscope while Lammerts volunteered to carry out his own research on how likely it is that environmental pollen will contaminate microscope slide samples.

Although a brief mention of our findings has already appeared in CRSQ (Howe et al., 1986) the extensive results of these studies will be reported in two subsequent papers. It is hoped that this preliminary review will lay the foundation for later papers and perhaps challenge other workers— both creationists and evolutionists to go back to examine these supposedly ancient strata for the presence or absence of anomalous microfossils.

Acknowledgements

I thank Clifford L. Burdick for making the original discovery of spores in Precambrian Hakatai shale and other strata of Grand Canyon and thereby initiating this whole pattern of creationist interest in palynology. I am grateful, as well, to him and to Walter E. Lammerts for their permission to reproduce portions of their private correspondence. I appreciate the interest, encouragement, and financial support lent to these studies by members of the Research Committee of CRS. I also wish to acknowledge the contributions of many CRS members and friends to the Laboratory Project Fund— interest from which has covered some of the expenses involved in the investigations being reported in this series of papers. I thank Phyllis Hughes for assistance in preparation of the manuscript.

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DILUVIOLOGY AND UNIFORMITARIAN GEOLOGY— A REVIEW

A. W. MEHLERT*

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Abstract

Interpretation of the fossil record from Flood and uniformitarian geology are compared. The different approaches of Morton and Woodmorappe to Flood geology are considered. The Flood model is superior to the uniformitarian model. Likewise the fossil record does not support any long-age concept.

Introduction

When carefully considered in the light of questionable assumptions and practices engaged in by many historical geologists, the fossil "succession" can be very reasonably harmonized with modern diluviological concepts, even though much work remains for creationist geologists. Over the past few years there has been considerable discussion and controversy on the subject of Flood geology versus uniformitarian geology, and the fossil "succession" in the pages of *CRSQ*. The main proponents involved have been Morton (1982, 1983, 1984) and Woodmorappe (1978, 1980, 1981, 1982, 1983a, 1983b, 1985).

The controversy boils down to one basic argument— does the fossil record accord more with the short duration, non-evolutionary Flood geology theory, or with the historical geology theory involving long time periods and evolution? I would like to examine features which can be used to support or detract from either, but firstly we must establish the differentiations involved in both Flood and uniformitarian geology, and the questions of superficial or detailed support of the competing models.

*A. W. Mehlert, Dip.Th. receives his mail at P.O. Box 30, Beenleigh, Australia, 4207.

Competing Viewpoints

In the Flood model there is only one *main* theme; the short term Flood of Noah and its aftermaths (up to 2000 or more years thereafter). In the uniformitarian model there are two main views— (1) the gradual, non-catastrophic, long period deposition of sediments, and (2) the acceptance of some large-scale, but mainly localized, catastrophic events within a general uniformitarian frame-work. There is also a third view which should not be left out of the discussion; that is the acceptance by many creationists of general uniformitarian principles over immense ages but not of evolution itself. All three will be examined in detail below but I think it fair to say that whether one takes the evolutionist or creationist position, the fact is that geology, evolution and creationism are inextricably bound together. Only the strata and the fossil "succession" can really determine which model is most likely to be correct.

Objections to the Flood Model

Morton (1982) asserts that although the fossil succession is superficially supportive of the Whitcomb-Morris hydrodynamic sorting model, when one gets down to detail, the actual placement of the fossils in many ways contradicts the model. Morton points out that large trilobites of the Ordovician occur later (higher up) than smaller specimens of the Cambrian. He finds it hard to accept that we have virtually no fossils of humans or their implements such as plows, eating utensils etc. in the lower deposits. Even if most humans could escape to higher ground, and be buried late in the Flood, at least one would expect cultural tools and artifacts to be found much lower down the geologic "column." He also mentions 25 dinosaur eggs of the Cretaceous which had apparently had time to hatch before the next deposition buried them. Another puzzle he refers to is the alleged lack of fossils in sandstones which he considers hard to accept if the Flood was of short duration.

Other problems were angular unconformities, partial erosion of pre-existing beds and the redeposition of the eroded material into younger beds; the presence of what look like single-celled organisms in the Precambrian; the presence of algal stromatolites in the Precambrian; and the world-wide break in the deposition of strata due to a universal period of erosion between the Precambrian and the Cambrian. Mr. Morton also finds a big problem in the Tertiary record, in that Noah could not have chosen to take on the Ark only those animals which would survive until the latter stages of the Flood. (Increase in percentage ratio of occurrence of fossilized extinct specimens to living species with each succeeding epoch). Nor is he overly impressed with the ecological pre-flood zonation postulate, and he also makes much of the alleged fact of the "first appearance" of various fossil taxa in the record. Morton proposes that it is possible that the violence of the Flood was so great that all evidences of humans and their civilizations were totally obliterated. The puzzle of the (possibly human) and dinosaur footprints in the Paluxy River, with underlying fossilferous deposits several thousands of feet thick is also mentioned.

Objections to Orthodox Geology

Before examining John Woodmorappe's model (1978, 1980, 1981, 1982, 1983b) I would like to make some comments on Mr. Morton's legitimate objections to the generalized Whitcomb / Morris Flood model, but before doing so, I would like to establish one thing. Although many students accept the reality of the geologic column, I must, for many reasons, seriously question its validity, reality and meaning:

(a) Whether one is a Flood or orthodox geologist, we all must agree that *superficially* there is a "column" of sorts in a sense which agrees *broadly* with both uniformitarianism and diluviology. However, both viewpoints are beset with difficulties which require secondary hypotheses to rescue the primary hypothesis i.e. the uniformitarian must explain the many deceptive conformities and the lack of empirical evidence to support the assertion that "X" millions of years had separated the two adjacent conformable strata. The Flood geologist must find answers as to why there are thousands of feet of sedimentary deposits beneath the "human" and dinosaur footprints at Glen Rose, Texas. I believe a modified Flood theory (referred to below) requires less secondary hypotheses than the uniformitarian model, which requires many contortions in the *art* of world-wide fossil correlating.

(b) My principal objection to the orthodox theory is that we are assured by mainstream geologists that in the two billion years from the early Archeozoic to the present, just about every square mile of the earth's surface has been subjected to countless contortions, uplifts, downwarpings, depositions, erosions and various other tectonic activities of all violent kinds, over and over again. Mountain ranges have been uplifted and completely eroded away, not just once but many times over. Huge volcanic outbursts and earthquakes contributed to the frequent destruction of topographical features.

Gigantic overthrusts and tiltings have been frequent; huge forests buried to form enormous coal beds; many glaciations on vast scales; the continuous assaults by sun, wind and water etc; huge continents colliding with each other causing severe crustal buckling and mountain building etc. Also one might ask why the ancient strata, which once were allegedly the surface of the Earth for many millions of years do not show evidence of meteorite remains as do the more recent (Tertiary) deposits, if such immense time periods really existed.

In view of all these countless destructive activities, how is it that we find hundreds, nay thousands of locations all over the Earth where nicely formed, *undisturbed* sedimentary beds, many of them enor*mous in size, both vertically and in horizontal area,* ranging back to two or more billion years ago, with their embedded fossils, quietly waiting all that time to be discovered by modern paleontologists? What amazing providence perfectly preserved all these sites and shielded them all from the destruction and tectonic activity going on supposedly all over the Earth?

Were all of these thousands of sedimentary fossil areas never once uplifted and eroded away or otherwise destroyed? One may believe this could be the case if the Earth was young but if the inconceivable ages of billions of years, or even scores of millions really existed, almost all of the Earth's surface

would have been subject to wholesale destruction by erosion and other agencies, with ubiquitous reworking and mixing— in other words, an almost unintelligible mess except for the last few thousand years. I know there are many cases of "reworking" of fossils and many anomalous fossils in the uniformitarian model, but nowhere near enough if the enormous time scales were valid. The shorter period diluviological model accounts far better for what we actually find in the rocks. No!— time is the *enemy* of historical geologists. The record only makes sense if the worldś strata were laid down fairly recently. E. C. Olson, Professor of Geology, University of Chicago, tells of the "repeated upheavals that have thrust up great mountain ranges, and raised continents above the sea" in his 1966 book, The Evolution of Life (p. 21). He goes on to say "Time and again, wind, water and ice have cut and destroyed the rocks that had been elevated to form continents." He then speaks of the great erosional forces which denuded the continents of their covering rocks. After discussing fossilisation processes, Olson goes on to say— "That there is a fossil record at all seems rather remarkable." (p. 35). To which I heartily agree.

(c) The next virtually fatal problem for uniformitarian geology is the presence of thousands of cases of deceptive conformities (paraconformities) in the understrata involving both continental and marine deposits. These cases, some of them covering vast areas occur when two deposits, allegedly separated by many millions of years, lie smoothly together with not the slightest sign of erosion on the lower beds. I will let Sir Henry Howarth, a non-creationist geologist of 80 years ago, eloquently describe his thoughts on paraconformities in his 1905 work Ice or Water (pp. 330-1):

> The *absence* of the erosive agency of water, as manifested in cutting valleys and gorges in the under strata of the earth, is *fatal* to the theory that each formation has successively emerged from the sea and become the surface of the habitable world . . . What we want to see is a plain instance of valleys excavated and mountains formed in the ancient strata of the earth as we find them existing in the present day . . . until then we take leave to reject the theory . . . the parallelisms of the beds *over large regions* of the earth stands in complete opposition (to the notion that the under strata had ever been the surface of the earth for indefinite periods).

[Also quoted by Nelson, (1968 p. 150)] George McCready Price, as quoted by Daly, (1972 p. 213-15) commented:

> Nature must have served an injunction on the action of the elements . . . for millions of ages, the water neither wearing away nor building up over any part of this taboo ground during all this time.

Daly also quotes Twenhofel who admitted that:

> an unconformity separating the oldest Precambrian from the latest Pleistocene may have the same physical appearance as one between the latest Pleistocene and the middle Pleistocene. The fossils of the strata bounding an unconformity are the *only indicators* of time value. . . .

(Also quoted by Whitcomb and Morris, p. 207) W. R. Corliss, a non-creationist researcher also commented on paraconformities in his massive 1980 source book (p. 219):

> The strata on either side of the unconformities are perfectly parallel and show no evidence of erosion. Did millions of years fly by with no discernible effect? A possible though controversial inference is that our geological clocks and *stratigraphic concepts* need working on.

I also saw good examples of the parallelisms of the under strata when I inspected the Grand Canyon in March 1983. The National Park ranger, who had an excellent knowledge of geology, admitted that as far as he knew, there was no orthodox solution to the problems of paraconformities, under strata parallelisms, nor for that matter, the mystery of the missing "ages" in the Canyon. (The Silurian and the Pennsylvanian and Ordovician.) A sign in the Information Center at Bright Angel on the south rim informs visitors that— "No known theory can account for the existence of the Grand Canyon." A weekś study of the Grand Canyon should be a good cure for evolutionary geologists as it is a perfect example of Flood geology with its paraconformities and striking parallelisms of the under strata. The whole area was obviously laid down quickly, then uplifted and then the whole sedimentary area split open like a rotten watermelon. If there is erosion, then it took only five million years to wear down 500 "million" years of strata which themselves are erosion free! I do not need to belabor the point further. I will allow Daly (p. 214) to make the final comment, ". . . historical geology would be seen as it actually is, a record of events, most of which never took place, in time, much of which never existed."

(d) Another major problem for orthodox geology is the very large number of alleged overthrusts, many of them enormous in area, and most of them giving no indication whatever that such overthrust had indeed occurred *except* that the fossils are in the "wrong" order. Whitcomb and Morris (pp. 180-200) have adequately covered this subject and John G. Read (pp. 10-55) also had some strong comments on these alleged overthrusts. Although there are still many further severe problems for historical geology such as the inability to account adequately for incised meanders, geosynclines, peneplains etc., we only need to demonstrate just one genuine case of wrong order fossils, or a true paraconformity. Taken together the above three major objections are extremely serious if not fatal to evolutionary geology.

The matter of radiometric dating is another subject which has been adequately dealt with by highly qualified creationist and other scientists such as Slusher, Morris, Cook, Whitelaw, Gentry, Setterfield and Snelling, and I will be having more to say about it in a future article. Suffice it to say that given the questionable assumptions involved, there is no scientific way to *prove* the validity of any given radiometric date. Having established the relative youthfulness of the strata beyond reasonable doubt, we must look for another cause for the

existence of the fossils and the sedimentary rocks, and also examine the problems raised by Morton (1982).

Flood Geology Problems

Firstly, regarding possible time factor problems in the Flood model (one Flood year plus up to 2000 or more years of post Flood catastrophes as the earth sought to re-establish reasonable equilibrium), Morton points to the 25 dinosaur eggs of the Cretaceous, lying neatly with tops broken open indicating sufficient time was available for hatching before the next deposition. Now this event (a month or so?) obviously did not take place during the actual Flood. The key to the problem lies in the word "Cretaceous." For reasons which I will later discuss in more detail and in view of the extremely strong evidence given above for a young earth, the term "Cretaceous" as used by orthodox geologists to imply an immense time period is untenable. If the reader will bear with me for a while, I believe a strong case can be made for the dinosaur eggs event to be a post Flood situation involving a reasonably gentle deposition by inundation up to possibly 2000 or more years after the Flood, before the last dinosaurs became extinct.

The idea that man and dinosaur were contemporary is supported by (a) the (possibly human) and saurian footprints in the Paluxy River in "Cretaceous" rocks containing a small tree branch which was officially C14 dated at UCLA by Dr. Roger Barger as being only 12,800 years old (Beierle 1979 and Morris 1981 pp. 62-3) and (b) the very strong Biblical evidence contained in Job 41, which gives an excellent description of a dinosaur about 800-1000 BC (Mehlert 1983). In view of (a) and (b) above, may we not have reason to consider the possibility that terms such as "Cretaceous," "Silurian" etc., may be actually illusory in relation to time? It would seem that the "Cretaceous," at least in Texas, is certainly not 70 million years old.

With regard to the thick sedimentary layers beneath the Paluxy River site, John Morris (1981, pp. 177-85) has recognized problems for Flood geologists but noted that the area included what is called the Llano Uplift. he concludes it was one of the last areas to be *permanently* inundated by the Flood and the location of Glen Rose limestone tracks accurately outlines the fringes of the Llano Uplift itself. he states that it is quite possible that a few humans and dinosaurs could have survived the early onslaughts of the Flood and that conditions existed whereby the survivors left the Uplift only to find that the waters returned (after temporary lowering of the water levels (tidal flows?) leaving their footprints in the mud. Although Morris' comments deserve close consideration, I am more inclined to believe that the prints are post Flood, because of the two points I raised above (Beierle 1979, Mehlert 1983, Morris 1981, pp. 62-3). Final conclusions may have to await further research.

Woodmorappe (1981) says that "the successional liberties of the Jurassic and Cretaceous to . . . often not rest on the next oldest beds directly . . . may support the position that they are post Flood . . .". There is still some doubt as to whether part, most, or all the "Tertiary" is post Flood, however the question of relationship of percentages of Tertiary fossils as compared with extant *species* may be resolved in the questionable reality of the "Eocene," "Miocene" etc., (see below for further discussion) and also the use of the difficult-to-define terms "species" or "genus." I doubt very much whether anyone, be they creationist or evolutionist can ever accurately and objectively define a species or a genus. In any case, Woodmorappe (1983b) has nicely covered the problem which I find quite convincing. In fact, the problem can be neatly turned against the evolutionist— among all the millions of fossils found, only one-quarter million species are represented compared to about 1.25 million extant species. This fits well with short-term Flood geology but over 600 alleged million years of evolution, the number of species which thrived in all that time must have run into many millions. Where are all the millions of other species in the rocks? Occams Razor favors the short term diluviology approach.

The problem of the heavier and larger Ordovician trilobites being found higher then the smaller Cambrian specimens may be indeed due to the fact that often, there was superior ability to move away from the disaster area as Woodmorappe (1983a) states. Although unlikely, there is also the possibility that some of the larger "Ordovician" specimens were entombed in the "Cambrian" but have not yet been found. Who knows for certain? Anyway it is always guided by questionable co-relation methods i.e. if the larger specimens are found, they would probably be classified as "Ordovician." My own views on fossil separation are reasonably consistent with the model propounded by Woodmorappe (1983b) whose treatise would be closely examined by the reader.

Fossil Succession and Separation

Factors which must be considered when looking at the question of fossil succession are examined in considerable detail by Woodmorappe (1983b) and briefly are listed below, including some of my own and others' ideas. Some of these factors would work together to bring about what we see in the fossil record and these possible *combinations must not be overlooked* in our examination of the evidence.

(1) Hydrodynamic sorting; (2) ecological zonation; (3) preservation bias (large or small population; hard or soft parts etc.); (4) differential escape; (5) degree of intelligence; (6) degree of mobility; (7) biogeographical zonation; (8) tectonics; (9) elevation (both land and marine); (10) too much taxonomic hair-splitting (which could include confusing lateral variation within a kind with vertical evolution); (11) climatic differences; (12) lack of certainty as to exact time-range of fossil forms; (13) chance; (14) unconscious bias by the paleontologist when assigning a fossil to a particular epoch or age (stratum), because he is completely unable to think of fossils in any other way than in the evolutionary sense; (15) TABs (Tectonically Associated Biological Provinces); (16) Huge tidal forces etc. or any combinations of these factors. (The concepts of "TABs" is raised by John Woodmorppe (1983b) and he supports his argument with empirical evidence and sound reasoning.) Of course not all of these factors would apply to plants which have a much poorer fossil record than animals.

Nature of the Column'

Now at once, some will immediately object to the inclusion of 10, 12 and 14 above as these three factors

are the product of human thought rather than physical factors. I believe they are justified however because I am not convinced that the geologic column as presented to us is indeed an exact reflection of what is physically found, i.e. the "column" consists not only of physical evidence but also of human concepts.

As an example, I refer to Potapenko and Stukalina as quoted by Woodmorappe (1983b). They ruled out a Precambrian or Cambrian age for some crinoids because no previous crinoids had ever been found in rocks earlier than the early Orodovician! This is pure circular reasoning— how could they possibly know for sure that the time range for these crinoids could not have extended back to the Precambrian or Cambrian? In view of the fact that the Coelacanth fish existed from the Cretaceous (80 million years BC) to the year 1939 without leaving a single known fossil indicates that no one can be certain as to when a fossil representative really first lived nor when it exactly became extinct. Other examples are the Tuatara beakhead which represents an order of reptiles which supposedly became extinct in the late Mesozoic 130 million years ago but which survives today in islands near New Zealand. Many others are known— the living deep-sea mollusk Neopolina Galatheae from a class which has not been found as a fossil since the Devonian— 280 million years ago! It is also common knowledge that a considerable number of organisms have "skipped" various ages i.e. their fossils have been found in various ancient deposits and do not appear again until after several ages or epochs have elapsed yet they must have lived in between!

Although these cases are relatively infrequent, it is shown that no paleontologist can ever be certain as to the date of the "first" or "last" appearance of any taxon and therefore the paleontologist's evolutionary prejudice plays a considerable part in setting up the geologic "column" on paper. Similarly, the mistaking of *lateral variation* within a species or genus for vertical evolution can confuse the reality of the "column," as can pre-conceived evolutionary bias in assigning fossils to a particular age or epoch. Both other scientists and lesser educated people also tend to rather uncritically accept evolutionists' opinions about fossils, co-relation and stratigraphic sequences. Let us not be brainwashed by evolutionists'subjective approaches, based on a *conceptual view of the fossils in a long term time frame.* Even with all the built-in bias, the column still has its difficulties such as the most complex graptolites being found in the earliest beds. (Davies 1961, p. 30)

Francis Hitching (1982, pp. 19, 196) claims that there have been repeated occurrences of fudging and fixing the (fossil) evidence to fit into the straitjacket of evolutionary theory. Hitching incidentally, who is not a creationist, admits quite frankly that. "The curious thing is that . . . the fossils go missing in all the important places."

More Flood Geology Problems

Woodmorappe (1983a) has dealt with the paucity of fossils in sandstones, and I have no more to add. I can see no problem with the partial erosion of previous beds and the redeposition of the eroded material into "younger" beds. In fact, if the column is indeed up to 700 million years in age, such cases should be extremely frequent. Also, lithification processes are not very well understood and nobody can say how long it would take for any particular soft sediment to lithify. In fact it is a good argument for a young sedimentary record because there has not been enough time for many such cases to occur. The presence of single-celled organisms and algal stromatolites in the Precambrian are not a concern for Flood geologists— these organisms can be found in all strata up to the present day where we have many living examples of these microfossils virtually unchanged from their alleged evolutionary ancestors hundreds of millions of years ago. No evolution is indicated here!

The matter of the missing human pre-Flood populations is not particularly bothersome, (Wood 1976, pp. 96-109). Some have been found (Omo I and II, Swanscombe, Steinheim, Neanderthal) but once we dismiss the *concept* of the "column" as being factually time representative, the problem largely disappears. Ancient mans artifacts have been found all over the world but because of the exaggerated significance given to the geologic "column" none of them would be accepted by evolutionists as being genuine. They are ignored or considered as reworkings etc. Also the Pre-Flood population may have been relatively small. In short, Mortons concerns, although legitimate and deserving of much investigation and discussion, largely lose their value, once we rid our minds of the conceptual evolutionist framework which really lies behind the geologic column.

In a more recent article, Morton (1984) draws our attention to the phenomenon of world-wide lithologies in all "ages" most of which are accompanied by unique fossil assemblages. It must at once be admitted that considerable difficulties exist here for both uniformitarians and diluviologists. One can only wonder at the tremendous *global* depositional activities on a scale so vast that it appears to fit in with the world-wide Flood of Noah. But the many difficulties need close examination by creationist geologists. Nevertheless the orthodox geologist also has enormous problems to face and until further research is carried out we have no alternative except to postpone judgment.

Significance of Fossils

As Williamson (1981, p. 49) found with snails, the rock record shows stasis. Eldredge (1980, p. 50) tells the same story with trilobites (where, incidentally, he found the most complex forms in the "earliest" beds!). Norman Macbeth (1971, pp. 13-6) wrote that there is not really a *true* fossil succession. He noted that we have a stufenreihe (series of stages) which is taken as an Ahnenreihe (series of ancestors). The "tree of life" does not give us the phylogenies (family trees of descent) whether based on fossils, comparative anatomy or embryology. The tips of the tree are well populated while the trunk is shrouded in mist and mystery. Although Macbeth was not writing about fossils alone, Gould (1977, p. 13) did not equivocate— "the family trees which adorn our textbooks are based on inference, however reasonable, not the evidence of fossils."

Further strong evidences for the rapid and continuous deposition of almost the whole geologic column are given by Morris (1974, pp. 115-6). Woodmorappe (1983a) tells us that "there are *several* habitats of fish, reptiles etc., . . . which explain why there are different types of reptiles, mammals, invertebrates, etc. appear-

ing and disappearing in *different* parts of the column." While some degree of fossil separation and co-relation may be useful in local areas, it is very subjective and impertinent to use the system for global co-relation. As the geologist moves into far-flung areas hundreds or thousands of miles away, he is faced with many different circumstances such as different assemblages mixed with his "index" fossils, different stratigraphic topography etc., and the exercise becomes more and more a matter of subjectivity and preconception. Anyway how does anyone "know" if an index fossil in one area has exactly the same time-equivalent in any other area?

I find Morton's Flood model (1982) rather unconvincing mainly because he has tended to be overly concerned with matters which possibly indicate longer periods of time than the Flood model would allow. Most of these concerns cease to be a problem when one remembers that the Flood and its aftermaths and climatic effects right up to the present have all had their effects on the sedimentary rock record. He is of course quite correct to bring these matters to the attention of all creationists as we must not seek to evade them. However, the powerful evidences for the recent formation of the sedimentary strata plus the equally powerful objections to evolutionary time-scale geology were mostly overlooked. Morton's model proposed that the huge bulk of sediments were post Flood. I truly cannot imagine such enormous sedimentary processes within the known history of mankind all occurring since the generally accepted Flood date of around 2450 BC. Apparently the Flood of Noah left few sedimentary deposits! Morton's case is only reasonably valid if the geologic column is as *precise, and exactly physically correct* as historical geologists would have us believe. Of course problems such as the sequence found in the "Triassic" Newark Basin need a lot of very close objective examination but the answer may lie in the post Flood sedimentary activities up to as late as 1000 BC or even 1000 AD, who knows? Notwithstanding what I have just said, we must admit that there is a *broad* tendency in the column which is not incompatible with historical or Flood geology.

John Woodmorappe's works, I believe, give us reasonable answers to most of the details which would require solutions in a Flood model, and his works are the most comprehensive yet published. Even so, both evolutionists and creationists will continue to be faced with difficulties as no man was present to observe the events, but I believe the historical geologist has the most explaining to do.

Conclusions

I present the following observations and comparisons. The Flood model in detail *does* support creationism in that it predicts general stasis with variation within kinds and it predicts a fossil record with systematic gaps and extinctions. It does not support progressive creationism over long ages. The fossil record is hostile to evolutionism whether gradualistic (because of the virtual total and systematic lack of graded transitionals) or punctuated equilibria (because there is not enough time). Occam's Razor— the creationist/Flood model more easily answers the problem of the systematic fossil gaps. In short the fossil record, properly considered, is much more in accord with Flood geology than with any form of evolutionism.

Finishing on a slightly different note, the state of the fossil record led William Corliss (pp. 629-30) (a non-creationist), to say: "Evolution, though, is only a theory, and all scientists must be psychologically prepared for its eventual refutation." Corliss has pointed to only three final choices— "Either the missing links are vanishingly rare, or life evolved in quantum jumps, or progressive evolution is an illusion." I think his final word "illusion" sums up both the uniformitarian theory of geology and evolution itself.

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