COMMENTS ON SCIENTIFIC NEWS AND VIEWS

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Binocular Vision in Frogs

Apparently tadpoles have no binocular vision, the fields of vision of the two eyes not overlapping.[1] During metamorphosis, the eyes rotate upwards to give the adults some overlap. The transition seems to be determined genetically.

This is a very fine example of teleology. The tadpoles, apparently, have no need of binocular vision, and it would seem that many fish likewise have no overlap. But the adults need it; they live at least partly by catching insects and need some sense of depth. So they are given it.

But how could such a state of affairs have evolved? A creature either has or has not binocular vision. How could such an ability ever be introduced gradually, by tiny random changes? Like so many other abilities, binocular vision would have to be about perfect to be of any use at all; so it simply could not have been introduced gradually by "survival of the fittest."

Springs and Knees—Design

A problem in many mechanisms is to design a linkage such that the force of a spring (which follows Hooke's law: the force being proportional to the extension or compression) causes at the other end of the linkage a force which varies with position in some specified way.

It appears[2] that the same problem has been encountered in the design of the human knee joint. Here, instead of a spring, is the muscle. The "force at the other end of the linkage" is commonly one's weight, with modifications according to a variety of situations.

Now the knee joint is so designed, mainly by the shapes of parts that slide over each other, that the tension in the muscle is proportional to the "force at the other end" over quite a wide range of situations. Such an arrangement seems to be advantageous, in making it easy to adjust to a wide variety of situations.

Is it necessary to ask how such a design could possibly have evolved? Surely here is a very good engineering design, and, as usual, the design shows something of the skill of the Designer.

Identity of Eel—A Slippery Problem

A remark in *Nature* reminds us that there are still unsolved problems in the mere identification of creatures.[3] This concerns the giant *Leptocephalus*, a larva of an eel, which was once called a distinct kind of fish. It is not yet possible, we are told, to suggest which species develops from the giant leptocephalus, "if, indeed, the adult form is yet known to science."

Suppose, now, that we were dealing with fossils of these creatures. How much more chance for confusion there would be! And what about creatures which undergo metamorphoses, or in which the males and females are widely different? If there were such creatures in the past (and it is likely that there were), is it not also very likely that their fossils are being entirely misinterpreted?

For that matter, how certain can we be about the cases which seem more straightforward? How certain can we be, for instance, that the dinosaurs were really reptiles? (I am not denying that they were. My position here is as if someone had asked: "Is the Emperor really wearing anything?")

From the skeleton only, can we be all that certain, say, of the distinction between a kangaroo and a small dinosaur? If we go by teeth, should one who maintains that everything else has changed not admit that long ago kangaroo-like animals might have had the kind of teeth which we now associate with reptiles?

Is it possible that this whole subject of the interpretation of fossils is discussed repeatedly in a circular argument of the kind which is noted very frequently in presentations of uniformitarian and evolutionary dogma?

Stability in Variation

More and more, "molecular biology," which was supposed to provide a basis to explain the processes of evolution, is really making more trouble for that dogma. The author of a recent article, in fact, admits that ". . . the results of some applications of biochemical techniques to population genetics apparently contradict certain basic tenets of evolutionary theory. . . ."[4]

The findings, which are said to be "difficult to interpret," seem to show that there is more genetic variability than the stability of kinds would indicate. This, put into other words, would seem to say that "genetic variability" does not necessarily mean all-over change in the creature concerned.

Fossilization versus Flotation

A remark about hippopotamus fossils, in an article mainly on another topic[5], may help to make a point that creationists have been urging for a long time. The author comments on the ". . . well preserved state of the hippos . . . one skeleton was almost intact." He continued:

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> Observations on modern dead hippo have shown that the gases produced by bacterial. action after death cause the carcass to float. Subsequent rotting, attack by fish and current action result in individual bones being dispersed over a wide area. Only rapid burial . . . would explain the preservation of more or less complete skeletons.

Which is just what creationists have been saying: that fossils by their very existence testify to catastrophe, not to uniform conditions.

Another point seems apropos here. Bodies, which float eventually, would not likely leave fossils, as is remarked. And many of the bodies of the animals killed by the Flood might have been afloat afterward. Is it possible that some kind of sorting occurred?

It is possible, for instance, that bodies of mammals are more likely to float than those of reptiles, and those of large mammals more so than those of small animals? Such sorting, if it occurred, might do much to explain the distribution of fossils.

Those which floated would be scarce, and gathered in a few places such that those that still remained afloat were washed up onto shores as the water began to recede. Those that sank, on the other hand, would be common and widely distributed. Research directed at this question would be profitable.

Fossil Pine Pollen—Why Not Needles?

Last June, I was working in my garden, and happened to be digging under a small pine tree nearby. Then I thought of pine forests through which I have walked, and the thick carpet of needles which lies on the ground under the trees.

This set me wondering: there are certainly fossils of pine and other coniferous trees. Indeed, there is more and more evidence that they extend lower in the "geological column" than many people would have expected; pollen of such trees is reported to have been found in rocks which are considered to be very ancient.

But have the thick carpets of needles ever been found fossilized? As far as I can determine, the answer is: "No." For that matter, I can not recall that I have ever heard of fossilized layers of leaf mould. Why are these things not found? Is it because most of the fossils were formed under catastrophic conditions? During a flood, for instance, a layer of leaves or needles would be completely dispersed.

The question of "autochthonous" versus "allochthonous," *i.e.,* whether a fossil originated where it is found, has been debated especially concerning coal, but it could be asked about any fossils. The considerations just mentioned, about needles and leaves, suggest that at least some fossils of trees are allochthonous. More light might be thrown on this by noticing the positions in which fossil trees are found. Any found upside-down, e.g., are surely allochothonous.

Anyway, allochthonous fossils have certainly been moved, and what better agent could there be for moving them than a great Flood?

Ocean Sediments Bear Testimony

Some recent drilling and dredging at the bottom of the ocean has brought to light interesting results.[6,7] In connection with the JOIDES Deep Sea Drilling Project, it has been found that the discontinuity between the Cretaceous and Tertiary exists in deep ocean basins as well as on land, and it appears that ". . . a transitional sequence will probably never be found. . . ." In other words, there was a catastrophe.

In an attempt to fit this in with uniformitarianism, a mechanism is suggested which has to do with phytoplankton and the deposition of chalk in the ocean, and the removal of carbon dioxide from the air. Thus, it is proposed, that the greenhouse effect of the air was partly eliminated, the world became cooler, the difference of temperature between equator and poles became greater, and such changes happened.

Investigation of sediments from the bottom of the Atlantic, in a region from 19° N to 23° N and 34° W to 57° W is stated to show that ". . . changes over the past 200,000 years . . . have had no significant effect on the clay mineralogy of Atlantic sediments. . . ." The time was apparently estimated by assuming rates of sedimentation. We know the tendency to inflate such estimates of age. The results are stated to be a: ". . . surprise with no apparent explanation . . . ," and it is suggested that some of the clay, at least, might be from local sources, not from the continents.

Flood geologists can explain all this. For there was a catastrophe, which left a discontinuity, if (as more and more evidence seems to suggest), we identify the end of the Cretaceous with the Flood. (Incidentally, I agree with the suggestion that has been made, that Creationists should avoid using the uniformitarian names of periods, etc., as much as possible. But here it seems necessary to use the opposition's language in order to disagree.)

The sediments, likewise, might have been produced at one time (in fact, it is the appearance of just such a thing that is the difficulty, from the uniformitarian viewpoint), during or at the end of the Flood. Here, as in other cases, the attempt to work in vast ages only causes needless difficulties.

Life Elsewhere?

A recent publication of the Astronomical Society of the Pacific may be of some interest.[8] It tells how Lowell, about 1895, having convinced himself that there must be living beings on Mars, even intelligent ones, established an observatory at Flagstaff, Arizona, and began looking for evidence to support his opinions.

It is said that his writings and speeches on the subject were very popular. Scientific men, though, objected for the most part that he had already made up his mind what the facts were, and that that was no spirit in which to conduct a scientific investigation.

Is it not strange that now the shoe is on the other foot? Men of science, many of them anyway, seem to have decided, quite apart from the evidence, that there must be life elsewhere than on Earth, and they are devoting much effort to looking for it, or even some hints of it. Whereas the evidence that is available now indicates, much more strongly than what was known in Lowell's time, that there are no living beings outside the earth.

The "man in the street," on the other hand, having given up the "men from Mars," does not care at all about the lichens or such rudimentary kinds of life which seem to be all that anyone hopes to find on other planets.

Uniqueness of Life Unexplained

The official scientific view seems to be that there is nothing unique about living things, that they are just mechanical, chemical, and electrical systems of considerable complexity. Nevertheless, such a proposition is rarely expressed; for that very reason it is not so easy to attack the notions; but it is there in the background.

It is easy to think of objections to such a thesis; it is not always so easy to get a hearing for them. In passing, it may be noted that it is really not an argument for this mechanistic view to say, as is sometimes done, that it is the complexity of the organization that makes the difference in living things. For the complexity is precisely one of the things that needs to be explained; any appeal to it as an explanation is clearly circular.

In two articles, considering this and related matters, authors have about admitted that the simple mechanistic view is inadequate. One author suggests that ". . . the laws of physics, adaptable for inanimate matter, will have to be modified when dealing with more general situations in which life and consciousness play significant roles."[9]

If this is admitted, it follows that all the attempts to devise, in terms of physics and chemistry, some way in which life originated spontaneously, are likely futile. For as soon as the life start to form, the laws, assumed in the discussion, would be inadequate.

The other author suggests that there is something like consciousness, and other vital properties, associated to some extent with atoms, electrons, and other things commonly thought of as inorganic.[10] The peculiarities of wave mechanics and quantum theory, it is suggested, are manifestations of these (quasi?) vital characteristics. It is noted, moreover, that the "quantum" features are most prominent in those elements that are most important in living beings, and that this makes those elements suitable.

Notions of this sort, it is true, have been proposed before. They may help to give creationists a weapon against the old mechanistic viewpoint, which is really a relic of the last century, but which is still encountered occasionally. On the other hand, such notions might lead to pantheism, which likewise must be attacked.

One weakness of the appeal to individual "consciousness" in individual atoms, for instance, is that it does nothing about the ordering together of the whole world. On the other hand, the ordering is what would be expected from one First Cause—God. If one holds that not only did God create the world, but that He also sustains and conserves it (and I take it that most Christians would hold that doctrine), there seems to be much less need to ascribe individual consciousness to all the building blocks.

For historical reasons, creationists have been concerned especially with God's Creation of the world. A fruitful field of study might be found in His conservation of the world, and one that could have a great effect on all of the sciences.

In that connection, consider our Lord's stilling of the storm. Why did He speak to the wind and the waves? Was there something in, or having to do with, them that could hear and obey? If He did it just to impress His disciples, as has been suggested, was He being candid with them? Here is a field of inquiry which could yield most interesting results.

Time and Probability

One of the stock arguments of evolutionists is that given long enough time anything, no matter how unlikely, will happen. However, there is really a fallacy in the argument, because the meaning of "unlikely" is changed in the middle.

If the word means "happening once in a million years," well, then, it would happen in a million years. But that is not what is meant at the beginning of the argument; to do so would be to beg the question. At first, in fact, it means something like "such that one does not expect it to happen at all"; then in the course of the argument the meaning is quietly shifted.

As Chesterton pointed out in *The Everlasting Man*, as I recall, the usual evolutionary argument amounts to saying that a thing such that it is incredible that it should happen quickly is quite believable if only it happens slowly enough. But "quickly" and "slowly" are relative to us. So really such an appeal to long times amounts to saying that it would be easy to believe that a reptile could change into a bird, if only our bodily and mental processes were much slower.

The statement that anything happens, given enough time, is sometimes encountered in statistical mechanics. (Indeed, it might be worthwhile to consider sometime whether, from a Christian viewpoint, statistical mechanics needs some revision, so as not to say, or seem to say, that everything comes about by chance.)

Anyway, Dingle, the noted philosopher of science, has recently discussed this matter.[11] He wrote, in part

> . . . the view that all . . . (happenings) . . . have a definite probability . . . of being realized . . . cannot be disproved. Nevertheless, I doubt whether, in his heart of hearts, anyone believes it. It implies that . . . if we continue for an indefinite time to put kettles of water on the fire, it is certain that the water in one of them will freeze. . . . My own conviction is that it would never occur, and while of course I cannot prove this, I should look with some curiosity at anyone who assured me that he was convinced that it would. Eddington . . . admitted . . . that if he should ever experience such an event he would think it more probable that the scheme which required it was wrong than that it had proved itself right.

. . . "The scheme which required it was wrong." Is this not just what creationists have been saying? The evolutionary scheme requires dead chemicals to arrange themselves into living cells. Then, reptiles' eggs must hatch into birds. And so on. But the scheme which requires such things is wrong.

Psychology and Christian Faith

Creationists are now concerned especially with biology and geology, because it is in connection with those studies that attacks on Scriptural Christianity arise. It has not always been thus.

In the thirteenth century the menace was from metaphysics, in the form of the Averroist doctrine while St. Thomas Aquinas and others defended the orthodox position. In the eighteenth century, the attack came from mathematics (or, rather, mathematical physics). Then Berkeley upheld the Christian position. It is worthwhile to notice these facts, because we may at any time have to meet some attack on new grounds.

These thoughts were started by an article having to do with certain aspects of psychiatry.[12] The author was not concerned about Christian doctrine (except in so far as certain notions of liberty, due process of law, etc., have Christian roots); but it was concerned with the way in which psychiatry could be used, and, the author maintained, is used, to manipulate people.

T. S. Szasz, a professor of psychiatry at the State University of New York, maintained, "Psychiatrists are inquisitors." His concern is that people may be, and likely have been certified insane, not because there is all that much wrong with them, but really for the convenience of relatives, or of the state.

The trouble, Prof. Szasz maintained, is that the concept of mental illness is fundamentally faulty. It is not analogous to physical illness at all. Szasz has written a book, *The Manufacture of Madness*, on these matters.

There is another matter related to this, not contained in the article, but about which many people have been concerned. We all know that, whenever anyone has committed a particularly nefarious crime, it is likely to be claimed that he was insane. Many have suspected that those who make such pronouncements really do not wish criminals to be punished for their crimes, and take the opportunity to help them to avoid punishment.

In any event, these and other considerations make it clear that psychiatry, and along with it psychology, could be helped much by a real Scriptural Christian influence. Creation Research Society members propose to work at Christianizing all the sciences. Would now be the time to try to start something of the sort in psychology?

Perhaps it has not much to do with Creation; but, then, members are creationists because we are Christians, not vice versa. So it would seem legitimate and useful for those who can to try to restore a Christian viewpoint to psychology. Moreover, it would be for the good of the science.

Christians, we are told, are to be the salt of the Earth. Just so, Christians, working as Christians in the various sciences, can, and, I suggest, should, be the salt of those sciences. And there are few who are concerned at all with the sciences who would deny that they could use a little salt.

Incidentally, since there was occasion above to mention matters of law, would it not be in order to suggest that a real Scriptural Christian view of law is needed? This was considered in the Middle Ages, of course; and there has been scattered work since; but it would seem that there is yet much to be done.

Psychic Investigation

A certain amount of "psychic investigation" has been carried out in the name of science for the past 100 years or more; the results seem to have been inconclusive. It is said that there is now great interest in such matters in Russia, apparently with some official approval.

Investigations are mentioned into telepathy, telekinesis, healing by the laying on of hands, etc.[13] Whether the laying on of hands has anything to do with, or resembles, the laying on of hands by the Apostles, and by other Christians since, is not stated.

Some statements are very strange. There is talk of an "aura," apparently something like a halo, around people; and someone was looking for ways of making the aura visible, or photographing it. Connected with the aura, somehow, was supposedly ". . . another body, a quasi-physical duplicate. . . ."

It may be that something of the same kind is happening on this continent. We know that astrology is now very popular, that there are actually groups practicing witchcraft, and perhaps other occult manifestations. Wherever such things happen, is the reason not the same? If people turn away from God, it will not be long before they will turn to the devil.

Ancient Writing

The "critics" of 100 years or a little more ago seem to have doubted that there was writing in Moses time of about 1400 B.C. Of course we know better now; but it is odd that the critics' conclusions seem to be held still in many places, even though the evidence used has been negated.

The more we investigate, the farther back we seem to find some kind of writing. It is reported that in the Balkans pottery, earthenware discs, etc., have been found, with marks which are believed to be some kind of writing.[14] These remains are dated about 4,000 B.C.

The dating seems to have been by carbon 14, perhaps by using some materials found along with the earthenware. We know that such dates tend to be too old. Nevertheless, there seems to be no doubt that these relics are very old.

This is of interest to creationists because the older writing is, the more likely our accounts of first things are likely to have come down through written records. To say this is not to deny inspiration, but merely to notice that in giving us a history, as in other things, God often works through ordinary means as much as possible. So it is not surprising to find that there may well have been written records almost from the beginning.

Ancient Travel

Prof. A. von Wuthenau, of the University of the Americas, Mexico City, has concluded, on the basis of evidence including a Maya Stele, that there were Mediterranean people in Mexico as long ago as 700 A.D.[15] Among the markings which were found was a Star of David.

There seems to be more and more evidence that the trip by Columbus to the New World was not the first; and likely the Norse were not first either. While all this, of course, has no direct bearing on Creation, it does show that our remote ancestors were likely much better informed than might have been supposed at one time. So we should be very careful before we dismiss any accounts that have come down from them; and these accounts, of course, can include the one about Creation.

Stonehenge and Babel

Readers may have noticed some new interest in the last few years in the megalithic structures in Europe, such as Stonehenge. Books have been written on the matter, and a recent review[16] is worthy of some comment.

It is suggested that the stone structures, either alone or in conjunction with distant landmarks, were lunar observatories, and gave enough precision to allow the study of some of the fine points of the Moon's motion. The design of these structures seems to show that the builders had a considerable knowledge of geometry; and that a standard unit of length, the "megalithic yard" (about 2.72 feet), was used in widely different places. (This seems not much different from two cubits. It is possible that the builders liked even numbers?)

A suggestion comes to mind. Is it possible that the megalithic structures are really built in imitation of the Tower of Babel, by people who were dispersed over Europe after the events at Babel? The tower was not necessarily something high; the Hebrew word really means "a greatening" or something like that.

The Hebrew says literally something like "and the top of it the heavens." That is, not necessarily "reach unto the heavens," but something to do with the heavens. Use as an observatory might meet such a definition. The people, dispersed from Babel into Europe, tried to build copies of the tower, as they remembered it, but used stone, which they found ready to hand.

Nevertheless, there are two possible conclusions. First, megalithic structures are more proof that ancient men were not ignorant; so we should study their records which have come down to us with attention. In the second place, the thought that these megalithic monuments may have to do with events that happened not so long after the Flood shows that, just as Flood geology is a subject upon which work must be done, so is post-Flood archaeology.

Physics Freaks

It has been remarked often recently that many people are feeling some disillusionment with science. One letter, last May, expressed such a feeling rather vividly.[17] The author spoke of "physics freaks," arguing that people can become addicted to physics, just as much as to drugs; and that teachers do wrong to encourage such a state of affairs.

What should we creationists say about such accusations? Must we not admit that there is some truth in them? But we can say more. We can say:

> Of course physics, or another science; if it is unregenerate, can go bad, and very likely will. But the fault is not in the science, it is in the physicists. Just as a living tissue, if it dies—if it is cut off from life, so to speak—will go bad, so will any activity of living beings, if it is cut off from Him Who is the way, the truth, and the life. The cure is not in giving up science completely; by the same argument we should have to give up every other activity. Rather, the thing to do is to bring it, along with the other activities of our lives, under God's control.

Incidentally, is the analogy of the drugs not to the point in another way? In research, in schooling, in how many other things, do we find the means becoming ends? Addiction, presumably, is sometimes what happens when means become ends; and we can see the same confusion, causing its ill effects in many of the aspects of life.

Condensation of Nebulae

For a long time attempts have been made to use nebulae in evolutionary cosmogonies. At first some men asserted that nebulae condensed into systems of suns and planets. The others claimed that some of what had been taken for nebulae were, in fact, clusters of stars. In other cases, the nebulae appeared to be the remains of former stars, destroyed, maybe, by explosions into novae, rather than the material from which stars were to come.

Besides, the mechanics of the hypothetical condensations always seemed difficult; and the introduction of a separate stage, initial condensation into planetesimals, did not really remove the difficulty.

A recent author has considered something about the process of such a hypothetical condensation.[18] He was interested especially in the effects of radiation pressure. (Which, it should be noted, involves the assumption that there is already something radiating.)

The idea is that two particles, e.g., would partly shield each other from radiation on the sides facing each other. The uneven radiation pressure would then cause them to approach each other.

The author concluded, however, that, in the nebulae, ". . . ionized regions are stable against . . . condensation . . . conditions in the neutral parts of young planetary nebulae are probably unfavorable to . . . condensation. . . ." There will, of course, be gravitation between the parts, but ". . . it is doubtful if gravitational instability could be responsible for the small-scale structure of planetary nebulae."

Ratios, Not Necessarily Ages

Many attempts have been made to determine the ages of rocks by calculating the relative amounts of various radioactive elements, which decay one into another in a series. Variations on this method work with the ratios of the isotopes of some element.

It is apparent that there are many uncertainties. The methods have been criticised frequently in this Quarterly, and it has been shown that there are many reasons why false results might be obtained by these methods.

Some direct investigation into the ratios of isotopes has shown that, indeed, the ratios of the isotopes may vary, and may be rather different from what would have been expected.[19] The cause suggested here is something having to do with fractional crystallization.

Specifically, whenever rock, or anything else, hardens from the molten state (or, more generally, solidifies from the liquid state), the composition of the solid is not necessarily (one might say "not usually"), the same as that of the liquid. There is preferential solidification.

If salt water freezes, e.g., (at a lower temperature, granted), the salt mostly remains in the water. It is said that men adrift in small boats have been saved by melting ice into fresh water.

In semiconductor electronics, the method by which germanium or silicon can be brought to a fantastic purity by solidifying from the melt (the impurities remaining behind in the molten material) is well known.

Is this not a curious conclusion? The very process which can remove salt from water is one reason why the ages alleged to have been determined by the amounts of isotopes or of radioactive elements must be taken with a grain of salt.

Problems in Paleomagnetism

During experiments on material brought back from the Moon, it has been found that the coercivity (difficulty of demagnetizing) of various materials is affected by bombardment with neutrons. As is pointed out, this brings up the possibility that . . . what the paleomagnetist

might interpret as a magnetization produced by cooling in a field of given strength could have a completely different origin."[20,21]

This could be of interest, because the magnetization of old materials has been used to draw conclusions in such fields as archaeology and geology. Now there would seem to be the possibility that such methods may be subject to error, just as variations have been noted in radioactive decay rates.

Lunar "Ages" Vary

One of the purposes of samples taken recently from the Moon was to try to find out something about age of the Moon. In point of fact, however, results have been contradictory, both from sample to sample and when compared with other evidence. A recent author reports, "Uranium-lead and thorium-lead ages for Apollo 11 and Apollo 12 lunar samples do not match and, furthermore, the dust samples seem to be older than the rocks."

It is suggested that the emanation of radon may have changed the distribution of radioactivity in the materials, and thus produced contradictions.[22]

In any event, this would seem to be more evidence to show that many sources of error can affect the determination of ages by those methods that depend on radioactive decay. So the large ages that are quoted do not rule out the possibility of a young universe; there is reason to believe that the determinations may be subject to very large systematic errors.

Present May Not Be Key to Past

Pronouncements of cosmologists, or cosmogonists, that the universe started so many billions of years ago, are commonly heard. Many who hear them do not realize what a "molehill" of fact has been made into a "mountain" of speculation.

Indeed, it could be argued that these speculations are not science at all. For science has to do with what happens always or for the most part. Now surely nobody would say, "always or for the most part when a universe begins . . .;" for the universe is a unique thing, by definition one of a kind.

No, these ideas are either history or fiction, according as whether or not they are true. Indeed, scientific techniques may be used; but, then, dating by radioactive carbon is used in history, and gravity is involved in "Jack and Jill"; but that does not turn either the history or the Mother Goose into science.

Recently a well-known authority has pointed out the shaky ground on which cosmological speculations rest. He asks whether, ". . . we are justified in the belief that presently accepted laws of nature remain valid on the cosmological scale . . ."; and suggests that ". . . there are grounds for doubting that belief."[23] In other words, the present *may not be* the key to the past. And if so, clearly most speculation is futile.

Note that if it be granted that the laws of Nature have changed, there seems to be no necessity to suppose, as is usually done, that the changes have been slow, over vast periods of time. A sudden, quick change would seem just as possible. Creationists have suggested that such changes may in fact have occurred, at the time of the fall of man.

Second Thoughts on Red Shifts

The huge distances that are quoted in astronomy texts have, many of them, been deduced from studies of red shifts. It is commonly believed that the universe is expanding, that distant stars, etc., are moving away from the Earth at speed proportional to their distances. Thus, by the Doppler effect, their light is changed in frequency, appearing somewhat redder than it otherwise would.

Of course, while the light can be observed easily, it is not so easy to tell the distance. Thus, it is common to calculate distance by means of the red shift. The danger of falling into a circular argument here is obvious.

Recent observations of quasar 3C 279, by radio interferometery over a very long base line, have caused some doubts whether the red shift necessarily indicates distance.[24] (The quasars emit radio waves. The experiment is essentially that in which light, coming through two slits, shows interference fringes. In such studies the slits are several thousand miles apart, and the experiment runs backwards, so to speak.)

The quasar seems to contain two sources, moving apart. If it is as far away as the red shift would make it, the sources must be moving at about ten times the speed of light. That seems unlikely; maybe the red shift is not related to the distance as has been supposed.

It is true that creationists need not worry about having the universe very large indeed. God, Who created it, could create it as large as He wished. But He also created us with "level heads." Therefore, one should remind others occasionally how much speculation, in some of these fields, has been built on very little evidence.

Another Puzzle about Venus

The planet Venus seems never to stop giving surprises. For a long time it was supposed to keep the same side toward the Sun; only recently was it found to be otherwise. Then it was often imagined to be a wet planet; now it appears that there is hardly any water there, and that

temperatures are above the boiling point of water.

Now another surprise has been found. It appears that the atmosphere of Venus, at the higher altitudes, circulates around the planet, moving at maybe 250 miles per hour at the equator, and thus going once around in about four (Earth) days.[25] This is much faster than the rotation of the planet as a whole.

There is some evidence that something of the same kind happens on the Earth, maybe not so spectacularly; and it is speculated that it may happen also on other planets.[26]

Conclusions drawn from this are not yet very clear. However, one might ask whether it is reasonable to think that the present state of affairs on Venus, where the atmosphere is so much "out of step" with the planet, could have continued for the ages which evolutionary theorists discuss. Also, while it is not yet certain how this motion of the air is maintained, anything that can be found out about the method may throw some light on questions about how a canopy of vapour, which many believe existed formerly about the Earth, might have been maintained.

Planetesimal Shortcomings

The present fashion, in many places, is to say that the planets and other bodies were formed from "planetesimals," little pieces of material which stuck together somehow. Indeed, it has been argued that particles would not have adhered, on the average, until the bodies which were supposed to be in the course of formation were already quite large.

Aside from that, we know something about the rate at which meteorites collide with the Earth; we can make some guesses about the rate at which, in the past, they have collided with the Moon. From this information we should be able to deduce something about the formation of the Earth and the Moon, if, indeed, they were so formed as some theorists propose.

What is, in fact, deduced is that ". . . the extrapolation of the observed rate of fall of bodies on the Moon backward in time does not give sufficient material to build the Moon. It falls short by several orders of magnitude. . . ."[27]

Of course, the conclusion is not let stand thus. It is always possible to "doctor up" the assumptions to get more or less what is wanted. But, of course, to do so is to abandon the uniformitarian viewpoint; it is to deny that "the present is the key to the past."

Here, as elsewhere, is Creation not really much more reasonable? Of the huge swarms of planetesimals, which must be supposed, we know nothing. And from nothing comes nothing. But of an all-powerful God we do know something, through His providence.

And from His providence it would be reasonable to deduce His work of creation, even if we did not have His testimony about it. Moreover, anyone who will follow the way set forth may know something of His providence. So on the side of Creation there is some evidence, on the side of evolution none at all. Why should anyone hesitate as to where to put his belief?

Cosmogonic Speculation

Privately, no one doubts that in cosmogony, speculation has "run riot." An author has now said much the same thing publicly.[28] He remarks,

> . . . the difference between solar model calculations, based on the best current parameters, and observation has been . . . increasing . . . at least one part of the theory of stellar interiors is probably wrong . . . the solution . . . may affect other applications . . . such as the dating of old globular and galactic clusters. . . .

He goes on to say that facts can be lost sight of in the mazes of speculation: ". . . we ask . . . whether or not they believe particular hypotheses. We frequently settle important scientific issues by acclamation rather than observation."

These things are mentioned here, and particularly the point about old clusters, to show that the uniformitarian view is not without difficulties. In fact, the creationist view, and the concept of a young universe, really does not present any more difficulties; and, since it is supported by revelation, it is surely what creationists should believe.

More on Continental Drift

Most geophysicists have taken up the notion of continental drift. Yet there is opposition, and it has been summed up rather well: ". . . evidence against drift . . . in five main sections . . . drift is found to be inadequate by itself to account for geophysical data, and may well be mechanically impossible."[29]

Speculation, it is maintained, has exceeded the evidence, especially speculations as to which coast lines once fitted together: "Lyustikh . . . plots a series of random coastlines next to each other, all of which look as if they fit together, but none of which have a drift basis. . . ."

Again, ". . . Axelrod . . . shows that an unbiased examination of fossil floras suggests stable as opposed to drifting continents. . . ."

Other surprises mentioned include the ". . . discovery, by dredging of [presumably, fossil] trilobites in the northleast Atlantic. . . ."

It is concluded that ". . . evidence is being

misinterpreted." With that, I think, we could all agree.

Creationists have, I suppose, no objection to the concept of continental drift in itself. Indeed, whatever happened in Peleg's time could, perhaps, have been something like continental drift. But creationists will not wish to allow the enormous times which are ordinarily assigned for a continent to drift anywhere. On the other hand, creationists can hold that much of what might be assigned to the drifting really comes from the enormous readjustments in the Earth's crust at the end of the Flood.

Educational Impracticalities of BSCS

Education has always been a matter of great interest to creationists, because they are commanded to "train up a child in the way he should go";[30] and the way he should go certainly includes belief in, and respect for the word of Him in Whom "we live. and move. and have our being."[31]

Thus creationists must oppose anything that goes counter to Cod's word, for it is in childhood and youth that the foundations of belief and of character are being laid, and "If the foundations be destroyed, what can the righteous do?"[32] It is especially in connection with the teaching of the dogma of evolution that this arises and that is why the subject of biology is the central one which creationists seek to "reform."

There is another point to all this. Scripture teaches plainly that the responsibility of training up children is primarily that of parents. Others, such as teachers, may be called in to help, but their authority derives from that of parents. Thus it has been said that a teacher stands *"in loco parentis."*

Some years ago, Chesterton had occasion to complain somewhere about teachers who were not functioning *in loco parentis* but rather *contra parentes.* How much more is that the situation if teachers use their position to expound doctrines which are an abomination to the parents!

This is all the more abominable in that teachers are, in fact, being paid by the parents for what they do. These points have been made by creationists before and in view of them it is apparent why so much work has been done in the reformation of curricula.

We find repeatedly that if something is contrary to Scripture it is also objectionable in other ways. It is becoming apparent that such is the case with some of the courses of study which are permeated with evolution. There have been numerous complaints about the BSCS courses in biology on grounds having nothing in particular to do with evolution. A recent writer said:

> These programs . . . do not seem planned to reach the average student. . . . Even the brightest students are not mature enough to appreciate a course like BSCS . . . it is murder to too many youngsters. It seems to me that the students' success in the national BSCS programs is decreasing annually.[33]

It is suggested by some that it would be more reasonable to have physics first, then chemistry, then biology. Such a sequence has been tried at the Rome Free Academy, Rome, N.Y., with fairly encouraging results.

Many creationists have objected to such programs as the BSCS on the same grounds. Being permeated with evolution, they are to that extent false. But they are also unsuitable for other reasons. As for placing physics first in the curriculum, if biology is to be considered as a special part of chemistry, and chemistry a special part of physics, such an arrangement is logical. But is it right, or helpful, to consider things in this way?

A good case can be made for saying that biology transcends chemistry, or that it should. It is precisely the transcendant portion, having to do with whole living creatures, which are of the most interest to beginning students.

Likewise, the physics of atomic structure surely presupposes the evidence provided by chemistry. It may be common to start from the other end, i.e. from atomic structure nowadays; but surely that is to put the cart before the horse, and to reduce instruction to imparting everything on grounds of *ipse dixit.*

It is perhaps of interest that, in the same issue of *The Physics Teacher,* somewhat similar comments were made about the teaching of mathematics in high school.[34] It was asserted that too much time is spent in matters of interest only to the purely professional mathematician; i.e., on sets, on proofs of things that are obvious to ordinary mortals, etc. Indeed, in Ontario at least (and I suspect that matters are much the same in other provinces, and in much of the U.S.), anyone who has children in elementary or high school must wonder what in the world is being attempted these days under "mathematics."

Someone once said that war is too important to be left to generals. Is it not also clear that instruction in mathematics in one sense is too important to be left to mathematicians, physics too important to be left to physicists, and biology too important to be left to biologists?

Is this not an area in which creationists can contribute significantly? Creationists know that, in comparison with eternal matters, supposedly important professions do not matter much, so there is not so much temptation to try to indoctrinate students in them. On the other hand, all professions do contribute to the working of our society, so creationists shall try to impart as much as is helpful. Not only in biology, but in studies generally, creationists should be the salt of the earth, in an academic sense.

References

[1]Binocular connexions, *Nature,* 230(5292):281-282. 1971.

[2]Roberts, T. D. M. 1971. Standing with a bent knee, *Nature,* 230(5295):499-501.

[3]Giant *Leptocephalus*, *Nature*, 230(5292):278. 1971.

[4]O'Brien, S. J. and R. J. MacIntyre. 1971. Transient linkage disequilibrium in *Drosophia, Nature,* 230(5292): 335-336.

[5]Carney, J., A. Hill, J. A. Muller, and A. Walker. 1971. Late Australopithecine from Baringo District, Kenya, *Nature.* 230(5295):509-514.

[6]Worsley, T. R. 1971. Terminal Cretaceous event, *Nature,* 230(5292):318-320.

[7]Why uniform sediments?, *Nature,* 230(5292):278. 1971.

[8]Hetherington, N. S. 1971. Lowell's theory of life on Mars. Astronomical Society of the Pacific, Leaflet No. 501, March,

[9]Wigner, E. P. 1970. Physics and the explanation of life, *Foundations of Physics,* 1(1):35-45.

[10]Cochran, A. A. 1971. Relationships between quantum physics and biology, *Foundations of Physics,* 1(3): 235-250.

[11]Dingle, H. 1970. Causality and statistics in modern physics, *British Journal for the Philosophy of Science,* 21(3):223-248.

[12]Cohen, D. 1971. Heretic among psychiatrists, *The New Scientist.* 50(754):583-585.

[13]Do we possess another body?, *The Kingston Whig-Standard,* Kingston, Ontario, Canada, 14 May 1971, p. 30.

[14]The first script, *Nature,* 230(5296):552. 1971.

[15]*The Kingston Whig-Standard,* Kingston, Ontario, Canada, 5 May 1971, p. 33.

[16]Review of *Megalithilic Lunar Observatories* by A. Thom. *Nature,* 230(5292):299-300. 1971.

[17]Davidson, J. 1971. Physics freaks, *Physics Today,* 24(5):11. May.

[18]Capriotti, E. 1971. The formation of condensations in planetary nebulae, I, *The Astrophysical Journal,* 166(3):563-572.

[19]Garlick, G. D., I. D. MacGregor, and D. E. Vogel. 1971. Oxygen isotope ratios in eclogites from kimberlites, *Science,* 172(3987):1025-1027.

[20]Radiation confuses the history of lunar magnetism,

[21]Butler, R. F. and A. V. Cox. 1971. A mechanism for producing magnetic remanence in meteorites and lunar samples by cosmic ray exposure, *Science,* 172(3986): 939-941.

[22]Adams, J. A. S., P. M. Barretto, R. B. Clark and J. S. Duval. 1971. Radon-22 emanation and the high apparent lead isotope ages in lunar dust, *Nature,* 231 (5299):174-175.

[23]Bergmann, P. G. 1970. Cosmology as a science, *Foundations of Physics,* 1(1):17-22.

[24]Stubbs, P. 1971. Red shift without reason, *The New Scientist,* 50(749):254.

[25]Gold, T. and S. Soter. 1971. Atmospheric tides and the 4-day circulation on Venus, *Icarus,* 14(1):16-20.

[26]Revolutionary activity in the upper atmosphere, *Nature,* 231(5398):79-80. 1971.

[27]Baldwin, R. B. 1971. On the history of lunar impact cratering: the absolute time scale and the origin of the planetesimals, *Icarus,* 14(1):36-52.

[28]Bahcall, J. M. 1971. Some unsolved problems in astrophysics. *The Astronomical Journal,* 76(4):283-289.

[29]Wesson, P. S. 1970. The position against continental shift, *Quarterly Journal of the Royal Astronomical Society,* 11(4):312-340.

[30]Proverbs 22:6.

[31]Acts 17:28.

[32]Psalm 11:3.

[33]Palomki, J. 1971. The illogic of teaching bio before chem and physics, *The Physics Teacher,* 9(1):39-40.

[34]Anderson, R. 1971. A request, *Ibid.*

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