

THE STRUCTURE AND FABRIC OF GEOLOGY

CLIFFORD L. BURDICK*

This paper is not a complete summary of Flood Geology. It is rather an answer to some of the more common criticisms offered by such geological writers as Dr. J. R. van de Fliert of the Netherlands, and others. Dr. van de Fliert has written a critique of Flood Geology in the September, 1969 issue of the Journal of the American Scientific Affiliation, under the title, "Fundamentalism and the Fundamentals of Geology."

This present paper is written to show that imagined differences between Uniformitarian Geology and Flood Geology are based more on semantics than on actual evidence. The chasm of separation was greater a century ago when Lyell was taken too seriously. Now Uniformitarian geologists admit past periods of catastrophism, and while Flood geologists have always recognized cataclysmic tectonic events in the crust of the earth, including the Flood of Noah; they also recognize that the major portion of geologic time was not so much different from the present. However, Flood geologists contend that burial of fossil life required catastrophism.

Although biologists look to geology for evidence for organic evolution, according to the law of superposition, some Flood geologists reason in a circle; for when exceptions to the evolutionary order of fossils in the rocks do occur, they are inclined to doubt the physical evidence, rather than to trim the hypothesis to fit the facts.

Attempts to age-date the moon contend with the same difficulties that are encountered in radiometry with rocks from the crust of the earth.

Introduction

A critique of Flood geology by J. R. van de Fliert¹ in the September, 1969 issue of the *Journal of the American Scientific Affiliation*, contained the following statement, "If I had been told a few years ago that an apparently serious attempt would be made to re-introduce the diluvialistic theory on Biblical grounds as the only acceptable working hypothesis for the major part of the geological sciences, I would not have believed it".

Van de Fliert's basic assumption apparently is that the Flood of Noah as recorded in the Bible, is pure folklore, perhaps based on some local flood in the Euphrates River valley, as other "Theistic Evolutionists" have expressed it. Dr. van de Fliert seems to believe that the Flood Geology theory was exploded some 150 years ago and disproved scientifically. He appears surprised that competent scientists at this late date in the advancement of science would have the audacity to re-introduce it.

When van de Fliert saw photographs of dinosaur and giant human tracks together in the Paluxy river bed of Texas, in the Whitcomb and Morris book, *The Genesis Flood*,² he crossed this evidence off as "pretended but definitely not human footprints".

It is not clear how van de Fliert can be so positive that the prints are not human impressions without an on-the-site examination of these Lower Cretaceous formations of Texas. Dr. A.

E. Wilder Smith of the University of Illinois Medical College spent some time examining these tracks, and came away convinced, as can be ascertained by reading Dr. Smith's book, *Man's Origin, Man's Destiny*.

Dr. van de Fliert compares this find with the elephant bones of a few generations ago, thought by some at that time to be bones of human beings destroyed in the Flood; the inference being that present-day Flood geologists must be a throw-back to the Dark Ages. Such innuendo obscures the real questions under discussion and has no place in scientific literature.

In criticisms of Flood Geology the argument comes up that the Bible is not a book of science; the inference being that it is not dependable when dealing with the realm of science. Naturally if it were a textbook of science, it would have to be expanded to encyclopedic size. However, this fact does not detract from its authenticity when it does make a scientific statement.

One should not infer that the whole or entire faith in God's Word is based on the present state of science. Acceptance of Jesus, the Messiah, as a person He claimed to be authenticates the Mosaic accounts of Creation and the Flood because Christ corroborated them. In spite of all that, many are led to doubt because of the undermining influence of materialistic science. If and when scientists discover the assumptions in such claims and find corroborative evidence in new scientific discoveries, the publication of such evidence does a double service—to science and to faith in the veracity of the Bible.

*Clifford L. Burdick is a consulting geologist. He holds the M.S. degree in geology and an honorary Ph.D. degree.

Catastrophism

Flood Geology certainly involves catastrophism, but that does not mean that our world has always been in a continuous state of catastrophe. Differences are often aggravated by overemphasis on semantics. New discoveries demonstrate that the discipline of geology embraces both catastrophism and uniformity.

Norman Newell³ of the American Museum of Natural History admits that newer ideas of cataclysmic events such as the "Big Bang" theory, disastrous earthquakes and floods force us to readmit catastrophism as a tectonic process along with uniformity.

Geology students are taught that the "present is the key to the past" and they too often take it to mean that nothing ever happened that is not happening now. But since the end of World War Two, when a new generation moved in, we have gathered more data, and we have begun to realize that there were many catastrophic events in the past, some of which happened just once.

Again quoting from van de Fliert's paper,⁴ he affirms (perhaps unwittingly) the essential harmony of present-day geology with the Flood Geology concept. He admits that geological thinking has changed from the time of Lyell.

Most present-day geologists do not accept this (uniformity) principle exactly in the sense as it was understood by Lyell, but use it in the sense of a constancy of physical and biological laws, which does not exclude for example, periods with climates differing from that which we know presently, or alternating longer quiet periods with shorter "catastrophic" or paroxysmal episodes.

Flood Geologists and Creationists could agree almost 100% with this modern concept of the union of uniformitarianism with catastrophism. As already mentioned, many assumed differences amount largely to a matter of semantics. A careful definition of terms often irons out many apparent differences.

Flood geologists are often accused of trying to abrogate well established laws of physics and chemistry. Few scientists or meteorologists would call for the abrogation of natural laws when weather changes from a gentle zephyr to 200 mile an hour hurricanes, or from a light drizzle to 12 inches of rainfall in 24 hours.

In like manner it is not apparent why an earth-covering prolonged rainfall would call for an abrogation of the laws of nature. It is known that all the moisture now held in the atmosphere at any one time would not raise the ocean level more than a few inches. Here Flood Geology alone does not clear up the scientific discrepancy but calls on Creationism for the answer.

The inspired historian, Moses, who explained in Genesis that when God made the world and created water, He separated it into two main bodies, the lower division comprising the seas, and the upper part above the firmament. Whether or not Dr. Newell will grant it, Bible believers realize that the Flood of Noah was a miraculous event not subject to repeated analysis.

This upper moisture blanket could well have provided a heat insulating layer that provided a relatively uniform climate over the earth. Before the Creator released the moisture canopy onto the earth during the Noachian Flood, very possibly the moisture blanket fostered rich vegetational cover even in the earth zones that are presently covered with ice. The Almighty is not limited to the use of the few natural laws that man has been fortunate enough to discover.

Vast coal measures in Antarctica yield valid evidence of a mild climate on a world-wide scale, which explains the presence of vast herds of mammoths, mastodons, rhinoseroses, ground sloths, and other creatures found in fossil graveyards. The sudden extinction of so much biological life has always been a puzzle to scientists, and their best explanation seems to have been a change of climate. Since this explanation happens to coincide with the Bible account, scientists and others can thus place more confidence in the scientific accuracy of the Scriptures. That the climate did change, and suddenly, is evidenced by the perfectly preserved mammoths and other beasts dug from the arctic ice.

If in 1845 someone had predicted that the World War of the 1940's would be decided by the explosion of atomic bombs, some scientists would doubtless have derided him. Following Dalton's ideas, the critic would have called it an abrogation of the laws of physics to split the atom, since the atom was assumed by some to be the smallest division of matter. Since those early days man has discovered previously unknown laws of nature. This same principle may be applied to God's dealings in the past. During the Flood, God may have released forces and factors that are not observable or clearly understood at present.

The Scablands of Montana

Norman Newell began the process of softening Charles Lyell's hard line on uniformitarianism, and started a drift back toward catastrophism. J. Harlen Bretz,⁵ of the Department of Geophysical Sciences of the University of Chicago, added evidence to the catastrophist cause with his outstanding paper in the September, 1969 issue of the *Journal of Geology*, concerning the Montana Scablands.

Bretz is a recognized authority on the scablands, having spent years studying and writing concerning the geology of the region. Other geologists have followed the standard uniformity line in explaining the fossil river gorges cut deep into the basalt.

In 1938, Flint argued that the scablands were made by "leisurely" streams during the removal of the fills. The term "floods" was repugnant to him. On the other hand, Bretz declared that

Only extraordinary flooding could have crossed the violated pre-glacial divides, and only extraordinary velocity (from huge volume) could scarify the bedrocks so tremendously.⁶

Eyebrows were raised by this interpretation. A storm of protest arose. But Bretz did not back-track for he was fortified with facts. Bretz (1969), described the bursting of the Lake Missoula glacial dam as follows:

When it burst, the nearly 2,000 foot head of impounded water was free to escape from the Clark Fork River valley system of western Montana and across northern Idaho. It catastrophically invaded the loess-covered Columbia Plateau in southeastern Washington and reached Pacific Ocean levels via the Columbia River, 430 or more miles from the glacial dam. So great a flood is unknown at present elsewhere in the world. It has been estimated to have run two weeks. It was 800 feet deep through the Wallula Gap on the Oregon-Washington line.

Bretz was here describing a cataclysmic upheaval in nature; very likely an aftermath of the Noachian Flood though on a smaller scale. He says the upper Grand Coulee was 25 miles in length, while the greatest cascade was nine miles wide.

The flood rolled boulders many feet in diameter for miles and subsiding, left river bars now standing as mid-channel hills more than 100 feet high. Current ripples 10 feet and more in height diversify some bar surfaces. A gravel delta 200 square miles in area was built at the junction of the Willamette and Columbia river valleys.

In 1963 Trimble⁷ had written of "flood waters of almost unbelievable proportions" along the Columbia Valley.

Bretz also refers to the time when former Lake Bonneville in Utah burst through a new-formed trench, and 482 cubic miles of water escaped down into the Snake River valley. "Like the Scablands," he says, "they can be accounted for by the passage of a catastrophic flood."

The International Association for Quarternary Research held its 1965 meeting in the United States. Among the many field excursions was one

in the northern Rockies and the Columbia Plateau in Washington, studying the Scablands phenomena. Bretz, who was unable to attend received a telegram of "greetings and salutations," which closed with the sentence, "We are now all catastrophists."

Flood Geology and Fossil Record

Van de Fliert refers to R. H. Rastall⁸ of Cambridge University who admitted that from a philosophical standpoint geologists have been arguing in a circle.

The succession of organisms has been determined by a study of their remains embedded in the rocks, and the relative ages of the rocks are determined by the remains of organisms that they contain.

Thereupon van de Fliert wrote that Rastall is all wrong. To elucidate: biology, per se, has no compelling evidence for organic evolution; comparative anatomy and recapitulation do not prove a thing. So men turn to geology. In an undisturbed geologic column, they reason, if there has been evolutionary progression through the ages, then—assuming long ages for the deposition of the sediments—simple biologic forms should be found on the bottom of the rock pile, and higher, more advanced life forms should be near the top.

If the fossil record always proved true to that generalization, evolutionists would have a good argument, but in numerous places in the world a reversed order exists, as in Glacier National Park, Montana; in Banff, Canada; Wyoming; Arizona; and the Alps. These anomalous fossil orders should be sufficient to scrap the hypothesis, but men do not do so because they resort to circular reasoning by saying that the evolutionary fossil order in the rocks must be maintained even at the expense of turning the rocks upside down, or assuming that some great tectonic event in nature has previously turned them upside down, or slid "older" strata over "younger" ones. The present author remembers Dr. Leith of the University of Wisconsin, wondering what giant lubricator greased the rock layers so that thousands of square miles of rock strata could slide over other beds without crumbling!

Van de Fliert answers by contending that in every case where fossils are in the wrong order, there are physical evidences of overthrusting. It is correct that where one finds overthrusting, he should also find physical evidences, such as tectonic breccia, gouge, slickensides, etc. Space forbids going into detail on the subject of thrust-faults, but reference is made to former issues of *Creation Research Society Quarterly*,⁹ in which the present writer finds some structural exposures marked as thrusts, showing typical physical signs of thrusting, while other exposures also

marked as thrust-faults show no such physical evidences.

Work done on the Lewis overthrust 1968 showed a startling lack of physical evidences of thrusting, as found in studies in Arizona.⁹ If studies on more exposures are like the Lewis thrust-fault study, evolutionary geologists will be in deep trouble. In the past, geologists have been over-confident on the order of the rocks based on fossil evidence. So much has this been so that checks of physical evidences have been largely neglected.

Referring once more to uniformity and the fossil record, van de Fliert asserted that "uniformity is written down in the fossil records themselves." This we would stoutly deny. Charles Shuchert¹⁰ of Yale has admitted that for fossils to be preserved at all they must be buried quickly, not by the slow accumulation of sediment in the sea.

Rodgers and Dunbar¹¹ refer to the buried trees still standing upright in Nova Scotia. If they had been buried at slow uniform rates, the tops would have disappeared long before there was time to bury the tops.

Referring again to the sudden entombment of vast herds of mammoths and other beasts in Alaska and Siberia, J. D. Dana,¹² one of the leading geologists of the past century, said,

The encasing in ice of huge elephants, and the perfect preservation of the flesh, shows that the cold finally became suddenly extreme, as of a single winter's night, and knew no relenting afterward.

Whitley adds that,

On Kotelnoi Island neither trees, nor shrubs, nor bushes exist, and yet the bones of elephants, rhinoceroses, buff aloes, and horses are found in this icy wilderness in numbers that defy all calculation.

How could one harmonize the extinction of such vast herds of beasts with uniformity? Most fossils, it appears, point toward catastrophism rather than uniformity.

Age-Dating the Earth

This subject has a direct bearing on Flood Geology and Creationism. Since the discipline of dating is yet in its infancy, dogmatic conclusions must be postponed.

It was Arthur Holmes,¹³ the eminent British geologist, that reminded us that although radiometry had the appearance of mathematical accuracy, one step in the equation was a pure assumption (an educated guess)—that the half-life of radioactive elements has been the same throughout geologic time. In other words it is assumed that the rate of radioactive decay has been constant throughout the ages. This is of course not amenable to scientific verification.

One barrier to assigning billions of years to earth-age is the inability to find all the radiogenic helium that should be present in the atmosphere and lithosphere from so many years of radioactive decay. Only about one one hundred thousandth of the assumed helium production can be found. There is no evidence that appreciable quantities of helium could have escaped from the earth, especially when helium has been found on the moon which has much less mass than the earth. The only plausible explanation would appear to be that the earth and the moon are much younger than previously thought.

Due to lack of atmosphere and shielding, the moon is being bombarded with "solar wind," consisting of rare gas concentrations, such as hydrogen, helium, neon, argon, krypton, xenon, argon, etc. In fact such argon contamination from the sun has presented an acute problem for use of the potassium-argon dating method on many of the moon samples.

Argon contamination in some samples has amounted to a million-fold. Contaminant lead constitutes another problem in dating, and scientists in different laboratories who test moon samples have not used the same contaminant lead factor.¹⁴

The presence of gases on the surface of the moon would seem to indicate some build up of an embryonic atmosphere on the moon, which observation in itself would appear to indicate a young moon.

Dr. Melvin Cook told the writer recently, in personal correspondence, that a study of all the data so far from the moon rock samples would seem to indicate only a few thousand years since the moon has attained its present surface condition.

Cosmic Radiation

Cosmic radiation consists of atomic nuclei traveling with speeds so great that they approach the speed of light. The energies are enormous, running from a billion to a billion billion electron volts. Samuel Glasstone¹⁵ describes the energy of cosmic rays:

The extraordinary penetrating power of cosmic rays is shown, in the first place, by their ability to pass through the earth's atmosphere, the absorptive power of which for ionizing radiations is approximately equivalent to one meter thickness of lead. But that is not all. The rays have been detected underground and under water at distances equivalent to 1,400 meters of water below the earth's surface. Only particles with many billions of electron volts of energy could have penetrated to such depths.

Dr. James Van Allen¹⁶ was the one chiefly responsible for the discovery of the radiation belts. He found the counting rates of radiation more than 1,000 times the theoretical expectation for cosmic rays. He has this to say:

The postulated environment would probably produce a variety of nuclear transmutations in addition to accelerating the disintegration of uranium, thorium, etc. The various elements in the decay chain would also be affected . . . the net effect is namely, an increase in the ratio of "daughter" to "parent" elements in each series.

There is evidence that the earth's magnetic field has changed polarity more than once; and as Dr. John Grebe pointed out, in personal communication, during polarity reversal, there is a period of no magnetism, during which cosmic radiation would bombard the earth with greater force. High-powered radiation, then, is a possible means by which the decay rate of uranium, thorium, and perhaps other radioactive elements has been accelerated. This possibility casts suspicion on all age-dating involving radioactivity.

Certain iron meteorites have appeared to be hundreds of millions of years old, while stony meteorites are considered only tens of millions. Why the difference? Dr. Harold Urey¹⁷ explained it by saying that the stony meteorites were buried deeply under the surface of the parent body. They were thus shielded from the highly energetic cosmic rays; therefore *appeared* younger. The iron meteorites came from the surface of the mass where the intense radiation "aged" them more rapidly. One may well wonder if, in computing earth-age in billions of years, we are merely seeing the appearance of age?

Perhaps Curt Teichert¹⁸ best summed up the situation when he said, "At present no coherent picture of the history of the earth could be built on the basis of radioactive dating." Dr. James B. Conant,¹⁹ president emeritus of Harvard, had this to add:

More than one physicist has expressed grave doubts as to whether over such enormous intervals of time one can assume uniformity as to the behavior of matter. What does the concept of time mean when we appeal to thousands of millions of years? Just as the physicists found it necessary to rewrite some ideas about space and time when very high velocities and small distances came to view, so it is possible that common sense notions of time cannot be carried over into cosmology.

The tree ring laboratory at the University of Arizona has received a National Science Foundation grant of \$45,000 to continue Dr. Charles W. Ferguson's research on the discrepancy be-

tween Carbon-14 dates for California Bristlecone pine and tree-ring dates. The following newspaper account provides detail:

Scientists have speculated that the radiocarbon dating scale deviates from the tree-ring chronology because of heavy cosmic bombardment of the atmosphere which dwindled to the present level about 2,000 years ago. The oldest known living bristlecone pines are found in the White Mountains of eastern California. Discovered in 1956 by the late Dr. Edward Schulman and Dr. Ferguson, the bristlecone pine tree was growing high in the dry White Mountains of east-central California millennia before the Egyptians began building pyramids. This was about the time that the famed Hammurabi ruled the western Semitic kingdom of Babylon and compiled his great code of laws.²⁰

The assumed cause of the Carbon-14 unreliability is the variation of cosmic radiation and consequent fluctuation of Carbon-14 formation. This fluctuation certainly conflicts with the concept of uniformity and is tantamount to the admission that the Carbon-14 content of the atmosphere has not remained constant in ages past. Such an admission undermines the accuracy of such dates generally.

Conclusion

The deep opinions of scientists change very slowly when confronted with fresh evidence that calls for re-alignment of theory. Startling and revolutionary facts have come to light in recent years that call for a revision of evolutionary theory in the field of geology, such as the discovery of human fossil tracks along with dinosaur in the Cretaceous, human shoe-prints amongst the trilobites in the Cambrian of Utah, and the finding of conifer, gymnosperm pollen in the Cambrian and Pre-Cambrian formations of the Grand Canyon.

In his article, "The Case for Hierarchical Cosmology," G. de Vaucouleurs wrote:

The history of Science, of course is full of examples of stubborn "ugly" little facts that destroy "beautiful" theories . . . above all I am concerned by an apparent loss of contact with empirical evidence and observational facts, and worse, by a deliberate refusal on the part of some theorists to accept such results when they appear in conflict with some of the present over-simplified and therefore intellectually appealing theories of the universe.²¹

If new field evidence were incorporated into scientific theory this would be a big step toward the demonstration of the contemporaneous existence of the main types of biological life from

the days of Creation. The mass-extinction of ancient life by some catastrophic calamity would go far toward recognition of the Flood of Noah as one of the major tectonic events of all geologic time.

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PUZZLING SIMILARITIES

EVAN V. SHUTE*

Many resemblances between animals and plants of different genera, families and orders defy evolutionary explanation. There are both differences and similarities between creatures of different kinds. The evolutionist must decide what features are useful as true species criteria and what features are spurious or misleading. A small but interesting sampling of strange similarities between widely diverse living forms is given here, from a study of spinal tracts, ears, placentae, electric organs, kidney function, fern vessels, milk, brown fat, sweat glands, and other systems: It is asserted that these puzzling resemblances are best explained by special creationism rather than by evolutionary convergence.

Introduction

The eye of a human being has a strange but unmistakable resemblance to that of a squid. Evolutionists have classified this as a case of "analogy" because the squid has obviously no close relationship to the backbone or vertebrate creatures.

An evolution theorist then attempts to explain such puzzling resemblances by divergent and convergent evolution. He imagines first (many million of years ago) that the squid ancestor "diverged" or differentiated from the presumed ancestor of the vertebrates. The squid type developed in one way in evolution, quite distinct from the vertebrate types. This is what is meant in evolutionism by "divergent evolution."

Many millions of years later, it is supposed,

both the squid group and the vertebrates evolved eyes and each changed independently to yield a similar type of eye. This is called "convergence" by the evolution theorist in that two obviously different stocks are supposed to have converged to form a similar eye. Such resemblances are also said to be "analogous" or misleading rather than "homologous" or true indicators of relatedness.

If this fascinating phenomenon of analogy occurred only once or twice in biology, perhaps a non-biased observer could reasonably assume that it was a simple case of chance convergence from different groups. Consider the ponderous weight of evidence here, however, and note that *many strange and baffling analogies* exist. Then ask yourself if these data fit best with evolution of one kind from another kind or with the creation of distinct, functional types with similar structures resulting from design.

*Evan V. Shute of London, Ontario, Canada, is a Fellow of the Royal College of Surgeons of Canada.