

Modern Geology and the Bible

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[Editor's Note: Appended to the manuscript of this article were about fifty source citations which have been omitted for lack of space. The names of the authors appear in the text.]

The purpose of the paper is to show first, that Modern Geology is anything but an exact science, a fact hardly to be concluded from school text books, and secondly that what is established beyond reasonable doubt need not in any way be considered as conflicting with a traditional and conservative view of the Holy Scripture.

One cannot ignore the studied manner in which modern teachers, and professors, and even more, popular writers such as Huxley, Shaw, and Wells array the evidence of geology against the truth of the Biblical Revelation as though it were expressly designed for that very purpose. And since it is fatal to underrate the strength of the position of one's adversary, we cannot do better than to examine briefly the fundamental principles which underlie the study of geology today, although the diversity of opinion which maintains in this field of enquiry is bewildering to the casual enquirer. And if agreement is any mark of truth and if a harmony of conclusions generally points to the discovery of what is sought, then we may form our own conclusions from the following facts which are drawn from recent sources, and are in no way the beliefs of insignificant scientists, but of the leading figures of the past decade.

I suppose the first point in which we might expect to find some general agreement would be in the matter of the approximate age of the earth. There are many ways of

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determining with comparative accuracy minimum and maximum time periods in which to place the age of a solid globe. While the evolutionists claim millions of years for the accomplishment of the necessary transmutations of species if their theory is true, so many millions of years, in fact, that the physicist is ignored, the latter demonstrates that the earth cannot be "old" in the geological sense. While Prof. Newman asks One Thousand Million Years, Prof. Russell of Princeton, asks for Eight Thousand Million Years. The Department of Geology in the University of Toronto suggests at least Three Thousand Millions. But Lord Kelvin, one of the great British scientists of a generation ago, almost demoralized evolutionists by his studies regarding the possible age of the sun. The sun gives out enormous quantities of heat, and the main agency of the production of heat was figured by Kelvin to be the contraction of the sun, a fact which Sir James Jeans today admits. He determined that, with this as the source of heat, the sun could not possibly be older than from twenty to forty million years. In the very nature of the case he maintained that the earth could not be older than the sun, and thus an approximate maximum was established.

Now this is of course the conclusion of a man who has been dead for over a decade, but subsequent facts have come to light which abundantly bear out his conclusions. For example the discovery that uranium sent out energy, and produced Radium, and that Radium produced energy as it turned into common Lead, and Helium, showed physicists that there was another possible source of heat in addition to contraction. In time they came to believe that great amounts of heat could be produced by the destruction of the atom; they decided that in the interior of the sun atoms were being destroyed, producing heat which would keep the sun bright and hot for untold millions of years. This was just what the evolutionists wanted of course. And of course they jumped at it with such avidity, that Sir William Bateson, one time

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President of the British Association, was led to say, with characteristic caution, that the old idea that species came into being by a gradual variation, which only needed enough time to result in the present diversity of forms of life, had to be abandoned. His own words are, "We do not any longer feel as we used to do that the process of variation is the beginning of a work which needs merely the element of time for its completion: *for even time cannot complete that which has not begun.*"

But apart from this candid admission from one who was himself an evolutionist, the whole theory above has been abandoned by almost all modern physicists, and a search for a supply of heat which will keep the sun going beyond the period Kelvin calculated is still going on unsuccessfully so that the truth is today that no astronomer knows of a method by which the sun could produce heat materially longer than Kelvin estimated.

Curiously enough another scientist who showed that the earth was probably not old was Sir George Darwin, son of Charles Darwin. George Darwin was a great mathematician and studied the effect of tides on the earth, and discovered that the moon was gradually drawing away from the earth, and also causing the earth to rotate more slowly. In other words if we went back far enough we should find the moon on the earth and the time limit for this, a fact which is admitted to be possibly true by modern scientists, he set at fifty-seven million years.

Now all this seems to be a long time, but actually for the evolutionists it is not nearly enough. Another striking bit of evidence is based upon the very changes which take place in Uranium, which were claimed by astronomers to postulate a sun indefinitely old. These four elements, lead, uranium, radium and thorium are apparently found widely distributed through rocks, particularly granites and similar substances. The rate of change is known, so that by determining the amount of uranium or thorium in a rock, and the amount of

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helium and lead, the age of the rock can be approximately figured. And another factor enters here, for the rocks at the surface are continually wearing away, and disintegrating. As they do so the helium in them passes out into the air, and becomes part of the atmosphere. On a very

old earth an enormous amount of rock weathering must have occurred, and an enormous amount of helium have been added to the atmosphere. The demoralizing feature of the case for the men who say that the earth is very old is that there is little more than a trace of helium in the atmosphere. An authoritative government document gives the helium content of the atmosphere as being only.0004 per cent by volume. Dr. Harold Jeffreys, one of the greatest British physicists, in figuring the amount that should have been added to the atmosphere by the wearing of the rocks, if the earth is to be considered as old, says, "This is an impossibly small amount." He says that no explanation has been found for this, but of course the explanation is probably simple, -the earth is not old.

Moreover the earth has visitors from space whose fewness indicates that the life of the earth has been brief. These visitors are the meteors and the meteorites whose flaming paths are often seen on a clear night. About twenty million meteors are figured to enter the earth's atmosphere in twenty-four hours! Although meteors are burned to dust by the friction of the atmosphere, the material of which they are composed nevertheless settled to the earth and it could be detected if it were plentiful. The particles which reach the surface of the earth are called meteorites. Many of these have been found. The relation of these to the possible age of the earth can easily be understood. Geologists assert that the earth is very old, and that the sedimentary rocks were laid down during many millions of years. If so, meteorites should be as common through them as they are on the surface of the earth. Instead meteorites are hardly found in the sedimentary rocks at all. H. H. Nininger in "Our Stone

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Pelted Planet," estimated from the rate of deposit of meteorites that along with their dust in 60,000,000 years a thickness of nineteen feet of such material would accumulate. These meteors and meteorites contain great quantities of nickel and iron. Nickel exists in very small quantities in ordinary sedimentary rocks, but a layer of meteoric dust falling through such millions of years should make it abundant. Its virtual absence therefore indicates that the earth is not old. Moreover Nickel is practically absent from the deep ocean floors, where it should have been accumulating for the life of the earth.

If just one of these objections stood alone its evidence that the earth were not old might be doubted, but they all testify the same thing. One other striking piece of evidence on the subject should be mentioned, for as the rain falls on the land the water passes through the rivers to the sea, and carried with it soluble material removed from the rocks. Various salts are continually being added to the sea from the land, and a very old earth should therefore have a very salty sea. And this is particularly true since it has been demonstrated that the oceans must have been very salty from the very beginning of their existence as bodies of water. Not much sodium would have to be added to produce the present amount, so that the earth cannot be very old. Other elements testify even more strongly than this element for all the magnesium in the ocean would accumulate in such a brief period as nineteen million years, all the sulphur in about ten million years, and all the potassium in less than ten million years. And considering that the ocean must have contained much of each of these at the very outset, a very brief period would be enough to give the ocean its present mineral and salt content. The figures for this are all taken from the U. S. Geological Survey, Bulletin 770, and should therefore be considered as authentic.

Some of the calculations of other scientists might be appended to make this survey, brief as it is, more or less

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complete, and the following figures are taken from various works by the respective authors. Prof. Ramsey calculated the age of the earth as being ten thousand million years. Eugene Dubois, about one thousand million years. Goodchild about seven hundred million years. Sir Chas. Lyell, about four hundred million years. Sir Oliver Lodge, one hundred million years. Sir Geo. Darwin, sixty million years, Prof. Sollas fifty-five million years, Lord Kelvin twenty million years, Dr. Croll, twenty million years, as also Helmholtz. Prof. Young says the earth is not more than eighteen million years old, and Prof. Tait, ten million years. Now it must immediately appear that, however approximate these figures are, they all tell the same story, when read as a whole, that the earth is not nearly so old according to physicists, and astronomers, as it was once dogmatically asserted to be by the disciples of Darwin.

We cannot pursue this particular aspect of the matter further, but it is certain that modern geologists, who are anxious only to find support for their theory of evolution have no right to state in such certain terms the various stupendous time periods which they claim for the outworking of their theory. Physicists agree at least that from the positive evidence of the elements in the earth, the whole testimony is in quite the other direction. As Dr. Dudley Whitney says, "Summing up the whole case, we know nothing of the naturalistic origin of the earth, nor indeed of the rest of the solar system; we know nothing of the early condition of the earth, and obviously we have no starting point from which to calculate it save from rock formations. Examining the data which geology provides we find many conflicting features which contradict any theory of the earth as being of purely naturalistic origin, and although we find nothing in nature to show its actual age, we find definite evidence to show that it cannot be old. And if it is not old, then scientific opinion in many lines, will have to be revolutionized before it can rightly be called Scientific."

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Now from the earth itself we turn to a study of the rocks which cover its surface, and with which modern natural sciences deal for the most part. The study of the rocks is called Palaeontology, when it has particular reference to the fossiliferous contents of their strata. And at this point we can find a little more agreement among geologists than in the former case. A definite system of dating such fossils has come into use which is, like all the rest of the data used in text books, so set down as to suggest immediately the idea of a gradual evolution of fossil life from simple unicellular forms to evolution's supposed masterpiece, Homo Sapiens. We are told that the earth's strata can be read like a book, and that when read the evidence points inevitably to the conclusion that the lowest rocks which are the oldest, contain the simplest forms of life, and the higher layers contain higher forms of life in an ascending order. This order is so regular they tell us, that evolution is now an established fact, entirely from the evidence which this ordered system presents. Thus four main eras have been taken as showing the various time periods in which the strata were laid. These are called Pre-Cambrian, Palaeozoic, Mesozoic, and Cenozoic.

I suppose we must always allow for personal bias, and individual convictions. We must always accept the fact that no man is entirely free in

any enquiry from "himself." Certainly this is true of men with religious convictions, but it is far more so with the evolutionists. Genuine scientific enquiry, which takes cognizance of all data that may present itself regardless of the difficulty of interpreting it according to a theory in mind, should have been the rule in every strictly scientific field of research. But that this is not so is a fact which is widely known among scientists themselves, while it would not even be dreamt of from a study of their popular publications.

Perhaps a few quotations might not be out of place, before we begin to examine the supposed evidence of palaeontology for evolution. "Haeckle, as is well known, was convicted in

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his old age by the Faculty of his own University of altering and doctoring certain animal illustrations designed to sustain his evolutionary theory. In reply, to these charges he made the following statement: "I should be utterly condemned and annihilated by the admission were it not that hundreds of the best observers and biologists lie under the same charge. The great majority of all morphological, anatomical, historical and embryological diagrams are not true to nature, but are more or less doctored, schematized, and reconstructed."

Prof. Thomas Dwight, an evolutionist himself, says, "The tyranny of the Press in the matter of evolution is overwhelming to a degree to which the public have no idea. Not only does it influence our manners of thinking, but there is oppression as in the days of Terror."

Another example of how often the evolutionists' wishes are father to their hasty and unfounded inferences; not long ago it was reported that skeletons found in France, deep under geological strata, were proclaimed as evidence of man's fabulous age upon earth. But a little fact can easily upset a pet theory; and evolutionists are not broadcasting that one of the skeletons in the same strata was that of a girl, and on her wrist a Roman bracelet!

Prof. Rendle Short recently said, "A most unexpected part of the palaeontological evidence, however, remains to be mentioned; the further we look for early man, the more like ourselves he appears to be. When skulls with a cranial capacity equal to that of a modern man, and in all respects undeniable members of the species *Homo Sapiens*, were discovered at Galley Hill, at Calaveras, and at Castenedolo, in geological deposits at least as old as those in which *Pithecanthropus erectus* was found, it was felt that evidence must be lying, and it was more or less discredited. But during the past year or two, at Kanam and Kanjero in East Africa, Dr. Leakey has obtained portions of a jaw and skulls of the same great age, early pleistocene, which are definitely

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modern in type, and associated with worked flints of human manufacture. These conclusions were verified last year by four committees of experts, anatomists, and geologists sitting simultaneously. We thus reach the surprising conclusion that *Homo Sapiens* is as old as, or older than, any of his alleged ancestors. In other words the palaeontological evidence concerning the forerunners of man reduces itself to something not far removed from nil."

Without any difficulty these examples could be multiplied indefinitely almost, all of them with the same story, plainly showing that much of the so-called scientific evidence of the evolutionists is often quite invalid being merely the product of their own fruitful imaginations.

But to return to the actual study of paleontology. It was this study which really gave the greatest strength to the theory in its earlier stages, and which is still the mainstay in school text books. Yet what is the evidence really? Is it true that the oldest rocks lie underneath, and contain the simplest forms of life?

This whole theory, which is often called the onion coat theory, was first suggested by a man named Werner, but all his researches were limited to the narrow field of his immediate neighbourhood, and he boldly drew the conclusion that the same must be true over the whole earth! This idea has never been disposed of, and so it was that Sir Henry Howarth said in his exhaustive work on Glacial Theories, that, "It is a singular and notable fact, that while most other branches of science have emancipated themselves from the trammels of metaphysical reasoning, the science of geology still remains imprisoned in *a priori* theories." And for over seventy-five years geology has not made a single advance movement in its theoretical aspects. In fact the figures which Lyell concluded from his study of the recession of Niagara Falls, to give the time of the end of the Ice Age, in America, as being 60, 000 years ago, are still used as a basis of geological dating. And this in spite of the fact that the commission of the

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American Geological Survey at Niagara has made three extensive reports, which have reduced the possible time to ten thousand years at the most, and even suggests a reduction of this to 7000 years.

All of which is ignored in the Geology Department of certain Canadian Universities. This kind of convenient ignorance is rampant. Julian Huxley made the candid admission a year ago that "The Evolutionists not only do not avail themselves of the new tool, the study of Living Species and Mendelianism, but evince a positive hostility to it. The new principles are indeed the *only tool* we at present possess which is capable of putting evolutionary theories to experimental test. Yet with a few honourable exceptions, most of the taxonomists, and evolutionists prefer to stick to speculative methods."

Now there are five leading arguments against the reality of these supposed successive ages in the rocks. Four of these will not be discussed here for they would take considerable time, and enter into technical details which would not be particularly easy to formulate in so short a compass. But the fifth is so striking, and so well known among geologists and yet so little referred to in their works, that we cannot pass it by without some consideration of the facts.

Bearing in mind their argument that the simpler forms of life occur in the oldest rocks, and that these in turn lie underneath, let us just examine the actual rock formations. It is a well known fact that the so-called "oldest" rocks occur only in detached patches over the globe, while the younger rocks are just as likely to be found on the Primitive or next to the actual crust itself, which is composed of metamorphosed rock. On the other hand some of the very oldest rocks, may, like the later ones around the Baltic and in some parts of the United States, resemble in

form the very youngest rocks, even to the extent of appearing as muds scarcely indurated, and as sands still incoherent. All of which means that there are facts regarding the position of the strata as

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well as regarding their consolidation into rock, which contradict entirely the theory of successive ages. For it is obvious that if there is a very old period in which the oldest rocks were consistently laid down, as a coat, this would occur uniformly over the whole globe, but as a matter of simple and acknowledged fact there are only a few places where such is the case. One is in Canada. Moreover some of the more ancient rivers wear through all these rocks as though their hardening took place at one time, regardless of their age, such is so with the Rhine, the Meuse, the Danube, in Europe, and the Sutlej in India, and the upper part of the Colorado in America, not to mention others. Again the ore veins of the various minerals are about as likely to be found in Tertiary, a division of the latest Era, as they are in the Mesozoic, and in the Paleozoic, the oldest. A very similar lesson is to be learned from the fossils found lying exposed on the deep ocean bottom, for they are about as likely to be Palaeozoic as Cenozoic. And from such facts we have to conclude that practically all the great natural chronometers of the earth seem to treat the fossiliferous rocks as if they are all of about the same age.

According to the present chronological arrangement of the rocks, very many genera, often whole tribes of animals are found as fossils only in the oldest rocks, and have skipped all the others, though found in comparative abundance in our modern world. Very many others have skipped from the Mesozoic down, while still others skip large parts of the series in successive ages. These absurdities would all be avoided by acknowledging that the current distinctions as to the ages of the fossils are purely artificial, and that one fossil is intrinsically just as old or as young as another.

Moreover it is now known that any kind of "young" beds whatsoever, Mesozoic, Tertiary, or even Pleistocene, may be found in such perfect conformability on some of the very oldest beds over wide stretches of country that the "vast interval of time intervening is unrepresented either by

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deposits or erosion;" while in some instances these age-separated formations so closely resemble one another in structure and in mineralogical make-up that, "were it not for the fossil evidence, one would naturally suppose that a single formation was being dealt with." And these conditions are "not merely local, but persistent over wide areas" so that the "numerous example of these conditions" may well be cause for astonishment. A still more astonishing thing, from the standpoint of current theories is that these conformable relations of incongruous strata frequently occur "repeated over and over again in the same vertical section," the same kind of bed reappearing alternately with others of an entirely different age, that is appear "as if regularly interbedded," with them, in a manifestly undisturbed series of strata.

And added to this is the further amazing fact, that in these very numerous cases, and over hundreds, and even thousands of square miles, the conformable conditions specified in the previous fact are exactly reproduced upside down. That is to say, "old rocks" and "very old rocks" occur with just as much appearance of natural conformability on top of very young rocks, and the area in some instances covering as many hundreds of square miles, and in one instance in Montana and in Alberta covering about five or six thousand square miles of area.

Briefly the following are a few of the places in which such is the case, and of which I have photographs of sections. At Glarus in Switzerland. In reference to this Albert Heim, says, "These Flat lying Faults of which those at Glarus were the first to be discovered are universal phenomena in the northern and central Alps."

Prof. McCready Price in referring to them says, "in these larger examples, it is manifestly impossible that there should be any physical evidence sufficient to indicate a huge earth movement of this character, especially when, as is usually the case, both the upper and the lower stratifications are quite uninjured in appearance. No. The fossils are here in the wrong order, that is all."

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An example in the Highlands of Scotland was the next to be discovered and Geikie gives many details concerning this fault, and adds, "had these sections been planned for the purpose of deception (of the evolutionist he means), they could not have been more skilfully devised, and no one coming to them first, would suspect that what appears to be a normal stratigraphical sequence is not really so." In other words there is no *physical* evidence whatever that this is not a simple form of stratification, and not a fault at all. The fossils are simply in the wrong order again, that's all! This kind of thing can be repeated again and again, in the Southern Appalachian Mountains of eastern Tennessee, and northern Georgia. Here is one of these so-called faults having a length of 375 miles. This condition has, we are told, provoked the wonder of the most experienced geologists! As one writer says, in trying to save the evolutionary hypothesis here, "the mechanical effort is great beyond comprehension, but the effect upon the rock is inappreciable," and "the fault dip is often parallel to the bedding of one or other series of strata."

Which means, in other words, that the thrust planes look just like ordinary planes of bedding between conformable strata. Again, the Rocky Mountains furnish examples of many kinds of such phenomena, for we have an immense area east of the main divide, extending from the middle of Montana, up to the Yellow-head pass in Alberta, over 350 miles long, where the tops of the mountains consist of jointed limestone or argillites or Algonkian or Precambrian rocks, resting upon Cretaceous shales which are still soft.

The Cascade Trough, sixty miles long, in the latitude of the Bow River is another example of this upside down condition, and further south there are two and sometimes three cretaceous valleys parallel to one another, with parallel ranges of Palaeozoic mountains above them on either side. One of these valleys, the Crow's Nest, is 95 miles long. There are many others which could be cited, but space and time will

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not permit. The fact is however, as you see, that the reversal of the order of the rocks, and the complete change in the order of the fossils within them, simply upsets the whole of modern geological science, as Prof. McCready Price demonstrates clearly in his "New Geology." For the youngest fossils are often found buried deep below the supposedly older fossils which could therefore only be considered old because of their form, and not because of their position in the strata of the earth.

Such facts exasperate the evolutionist. He appeals to the embryologist when faced with these facts, which he cannot possibly deny, yet takes care never to mention, while the embryologist when told that the great champion of his faith Sir Arthur Keith has abandoned the evidence there, refers you to the palaeontologist again. And they all do this. There is not time to give further quotations covering all these various fields, but as far as the supposed evolutionary origin of present forms of life, based upon a supposed ascending order to be found in conformably laid strata is concerned, the following quotations from recent and well known evolutionists may be of value.

Prof. Bateson said, "The more our knowledge is extended, the more incompatible does the theory of evolution become with the facts."

Dr. Austin Clark, of the Smithsonian Institute, said, "So far as concerns the major group of animals the creationists seem to have the better of the argument. There is not the slightest evidence that any of the major groups arose from any other. Each is a special animal complex, related more or less closely to all the rest, and appearing therefore as a special and distinct creation. There is in fact no evidence which would show man developing step by step from lower forms of life. There is nothing to show that man was in any way connected with monkeys. He appeared suddenly and in substantially the same form as he is today. There are no such things as missing links. Such are misrepresentations.

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Fossil skulls have been dug up and advanced as missing links showing connection between man and monkey, and all these have been shown as misinterpretations."

Prof. Morgan of Columbia University says, "Within the period of human history we do not know of a single instance of the transformation of one species into another. It may be claimed therefore that the theory of descent is lacking in the most essential feature that it needs to place the theory on a scientific basis."

Henry Fairfield Osborn says, "So far as the descent of man from an ape ancestor is concerned there are no fossil exhibits in the great Museum of New York which demonstrate man's descent from some ancient anthropoid ancestor-the Ape-Man theory is totally false and misleading."

Prof. Watson, before the B.A.A.S., said, "Evolution is a theory universally accepted not because it can be proved to be true, but because the only alternative 'special creation' is clearly incredible."

Dr. Etherington, curator of the British Museum, said, "Evolution is not true. In all this great Museum there is not a particle of evidence of the transmutation of species. This museum is full of proofs of the utter falsity of their views." And he was the foremost expert in fossilology.

At a meeting of the British Association at Oxford, Prof. Osborn said, "The word creation must certainly be linked with the word evolution to express in human language the age long origin of species. Were Darwin alive today, he would be the first to modify the speculations and conclusions of 1859."

Prof. Kammerer, in 1924, said, "The theory of Evolution at present is pointing in the direction of the unchangeableness of types-it is returning to the theory of non-evolution."

Dr. Scott, professor of Botany in University College, London, said, "For the moment the Darwinian period is past. We can no longer enjoy the comfortable assurance which

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once satisfied so many of us that the main principles of the problem had been solved."

Sir George Stokes, said, "I cannot understand the way in which scientists have accepted the theory of Evolution before the chain of evidence is complete. This surprises me exceedingly, for I know of no similar instance in the history of Scientific Knowledge."

We have seen this much at least therefore. That as far as Evolution is concerned the time element is against it. The physicist of the present time cannot allow enough time for the working out of its principles. And that the mainstay of their hypothesis, the succession of fossil forms in the rocks themselves, is a theory which if their attitude were truly scientific would have been abandoned as soon as it was established that the earth itself did not recognize such a system as was formulated by Werner, and ever since generally adopted by themselves.

We have no cause to fear, if only the real facts of the case can be made clear. In one sense the Bible does not need a defender, but needs only a fair presentation of the facts revealed outside of itself to prove its inherent accuracy, and scientific reliability.

Nevertheless one thing must be faced. It seems to be that beyond any reasonable doubt it is established that there are time periods in the history of the world which our present translations do not allow for, in the Genesis record of the beginning of Creation. We are specifically informed that God created and we are glad that there is not the uncertainty and confusion in such a simple and magnificent statement that we find everywhere in secular treatises. We are then informed of the works of God, which were finished in a period of six days. Now it is not questioned by Hebrew Scholars that the word Day may mean a long or a short period of time, or even part of a day, in Hebrew usage, but when qualified by a numeral the term is specifically limited to a period of twelve hours, from sunrise to sunset, six in the

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morning to six in the evening. The only method of finding this out is by enquiry as to usage, and this is the result of that enquiry by almost all Hebrew Scholars, whatever their scientific or their religious position may be. The result is that if we take Ussher's chronology as being of comparative accuracy we are led to understand that six thousand years marked the beginning of this present universe. But this of course presents great difficulty.

The result of this was that a few years ago a new interpretation of the first two verses of Genesis was suggested which has since been termed the Chalmerian [Cataclysmic] theory. This theory is that the Hebrew of the second verse may also be read, "And the earth had become (pluperfect) a ruin and a desolation..." This means that the first verse is the original act of the creation of this universe, and then follows an interval; for reference to Isa 45:18, in the Hebrew, reveals specifically that God did not *create* the earth a ruin. It has been argued of course

that this is an interpretation which only arose when a contingency for it arrived, and that it is a concession to geology, rather than to faith. But this is strictly not true, for the verse has been so understood ever since the time of the earliest known commentaries.

For example, the Midrash, a commentary of the Hebrews on the Old Testament completed about the first century A.D., informs us that among the Jews was a current belief that there had been other creations prior to that of Adam. The Targum, a version in Aramaic completed during the second century A.D. by Onkelos, when translating Genesis 1:2, says, "And the earth was *destroyed*..." that is to say Onkelos used the passive participle of an otherwise active and transitive verb, to express the idea of a calamity. Moreover it is well known among heathen nations that there are often legends of a golden age, preceding this present world, and one such is preserved by the Arabians, who had a belief that the inhabitants of this old world were pre-Adamite giants,

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and became demons when the catastrophe wiped them out. They say that their history was recounted to them by the "Bird of Ages," called by them the Simorg.

Origen, perhaps the greatest scholar of his time, 185–254 A.D., gives a whole chapter to the true meaning of the word καταβολή, used in the Greek of the N.T., and translated as "foundation" in the expression "since the foundation of the world." This word he says means "disruption," and not foundation, and corresponds to the Latin word *deicere*, meaning to throw down forcibly. This is significant, for in another place he says that the heavens and the earth mentioned in the first verse of Genesis I, were only the material out of which the present order was constructed.

Among the early fathers who likewise held to this interpretation were such men as St. Basil, 326–380, St. Chrysostom, 344–407, St. Ambrose, 333–397, the Venerable Bede, 675–735, Peter Lombard, d. 1164, Hugo St. Victor, and others. St. Thomas Aquinas, 1226–1274 held to this, and Petavius says, "How long that interval may have lasted, it is absolutely impossible to conjecture." While Perrerus said, "This interval can only be made known by direct revelation." And in the later centuries such men as Halley, 1656–1742, and Prof. Herchel, 1738–1822 also maintained the same belief, and demonstrated the physical marks of it.

Modern commentators such as Jamieson, Fausset and Brown have recognized this fact, even as many American Doctors of Divinity, and English scientists today, including Sir Ambrose Fleming, and others, have done. All this is not shown in order to prove the interpretation. Rather my point is that here is a possible manner in which the facts might be made reconcilable with Genesis, which actually does more justice to the Hebrew text as it stands. Indeed quite recently an article appeared in the American Journal of Semitic Languages giving this possibility among others.

The fact of the matter is then that Geology and the Bible have no quarrel at all. The age of the earth was recognized

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by the earliest commentators and allowed for in a very simple manner.

These things must therefore be evident. Modern Geology cannot claim to have established a single fact which is not in accord with the plain statements of the Word of God, and evolution remains a hypothesis which requires more credulity for its acceptance, than the grand old record calls for the exercise of a proper and reverent faith. And as Paul says to the Corinthians, and to us, "Let us take care not to think of men above that which is written," for as the Psalmist affirms, "the Word of the Lord is true from the beginning."

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The Solidarity of the Race

"All men of all varieties are psychologically one and prove themselves possessors of the same mental nature and furniture.... They, they all, and they alone, in the whole realm of animal existences manifest themselves as rational and moral natures; so that Mr. Fiske was fully justified when he declared that though for zoological man the erection of a distinct *family* from the chimpanzee and orang might suffice, 'on the other hand, for psychological man you must erect a distinct *kingdom*; nay, you must even dichotomize the universe, putting man on one side and all things else on the other.'"

-Quoted from Warfield by Zwemer,

Dynamic Christianity and the World Today, p. 115.

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