

DINOSAURS, FOSSILS, AND THE BIBLE

by Daniel E. Wonderly, 1988

How many are your works, O LORD! In wisdom you made them all; the earth is full of your creatures. There is the sea, great and wide, teeming with creatures beyond number--living things both large and small. Psalm 104:24-25

Many skeletons of various species of ancient dinosaurs have been found during the past 125 years--and some were found earlier than that. Most of these skeletons are now in the larger museums of our nation, and the more perfect ones have been mounted on steel frames, in life-like positions, for visitors to see. The dinosaur bones have been "fossilized," which usually means that a high percentage of the original bone substance was replaced, ion-by-ion, with minerals, as the bones lay buried in wet sand, gravel, or mud. This process of replacement usually leaves the tiny canals and lacunae (cell-cavities) of the bone substance in place, much as they originally were. So, when a thin, microscopic section of the fossilized bone is made it still can be identified as bone--which is very different from rocks. It is true that the fossilizing substances--usually calcium carbonate or silicon dioxide--are minerals which are found in the rocks and sand in which the bone was buried, but the bones are still organized (microscopically as well as externally) as bones.

Unfortunately, a few people who have never had opportunity to examine fossil bones, and have not studied reliable descriptions of them, try to say that dinosaur bones do not exist. It is a disgrace for Christians to say this, because the people who have studied fossilized bones then get the idea that the Bible denies the realities which science discovers. We are not saying that everything which scientists teach is true, but the fossils and other real discoveries of science should not be denied. After all, this is a real world which God made, and we must be careful not to deny the real things in it which careful researchers discover.

It is true that there is a lot of irresponsible talk by scientists and newsmen who assume that dinosaurs arose from lower animals by evolution. But we can reject that and accept the actual natural history of these extinct animals. The acceptance of information on the existence, anatomy, and classification of dinosaurs is not accepting evolution. God created various kinds of dinosaurs, and we accept that fact just like we accept the fact that He created many other kinds of animals and plants which later became extinct.

Biologists and paleontologists who believe in macroevolution of course believe that dinosaurs evolved from lower animals, but that is no reason for people to doubt their existence. In fact, their existence in past history is no more of an evidence for evolution than is the existence of the wild animals of the cat family or the various kinds of sharks in the ocean. Also, the evidence that dinosaurs lived long before God created man is not at all an evidence for evolution. Many very fundamental Bible teachers, such as those who prepared the Scofield Reference Bible, recognized this principle and rejected evolution.

There are now some creationists who say that man and dinosaurs once lived together on the earth. It is possible that a few kinds of dinosaurs were still living in recent times since the creation of man, but we have no real evidence or Bible teaching that this was the case. At least we can be sure that most kinds of dinosaurs became extinct long before man was created--and we want to be careful not to adopt the idea that man has been here on the earth for millions of years.

Several of the museums and universities of the United States have carried out careful and orderly excavations in areas where fossilized dinosaur skeletons are found. The states of Colorado, Utah, Wyoming, New Mexico, and Montana, and the province of Alberta, Canada, have yielded large numbers of skeletons in these excavations. The work of uncovering them is always done systematically and slowly, by hand digging, so as to preserve as much information as possible. After most of the parts of the skeleton are uncovered, photographs of it are taken, so that the paleontologists will know how to reassemble the bones after they are removed from the ground. Many of the dinosaur skeletons which were found in the above-named areas were nearly complete. For example, some of the ones which are on display in the Carnegie Museum in Pittsburgh, PA, have most of the original, fossilized bones; and I have noticed that it is easy to see on those skeletons which bones are originals and which have been supplied. (The paleontologists have not done anything like painting them to make all bones look alike. That would be a very unscientific procedure!) The supplying of artificially molded, replacement bones where a few are missing is a perfectly legitimate procedure in this case, because there is an abundance of information available from other skeletons of the same species--and even from the very specimen which is being rebuilt. For example, if some of the bones of a right foreleg are missing, it is proper to use the bones of the left foreleg as patterns for rebuilding the right leg. Likewise, when most of the vertebrae of the spinal column are present it is possible to accurately supply the few missing vertebrae by patterning them after the _____ vertebrae of the other skeletons of the same species of dinosaur. (We need to remember that there really are an abundance of these dinosaur skeletons available. The situation is not at all like it is with the so-called, early-human-ancestor skeletons from Africa, where usually only one or a few bones are found at any archaeological site.) An example of the abundance of dinosaur fossil bones and skeletons can be noted in the following paragraphs which have been taken from page 13 of The Illustrated Encyclopedia of Dinosaurs, by Dr. David Norman (a professor of zoology at the University of Oxford, England); Crescent Books--Crown Publishers, Inc., New York, 1985.

From these beginnings in Colorado, teams of explorers hired by Marsh and Cope extended their excavations into Wyoming at Como Bluff (alongside the original Union Pacific Railroad) to Montana, the Connecticut Valley and New Mexico. Between 1877 and the late 1890s Cope and Marsh, driven by their intense rivalry, described about 130 new species of dinosaur, a veritable avalanche of types. Many of these fossils found their way into North American Museums, notably the Peabody Museum at Yale University, the Smithsonian Institution in Washington and the American Museum of Natural History (New York). Today they provide a testament to their mighty labours. The deaths of Cope in 1897 and Marsh in 1899 saw a change to much more careful and co-ordinated exploration of these North American localities.

In 1897/8 new expeditions to Como Bluff, Wyoming were undertaken by the American Museum of Natural History; these proved only moderately successful but in 1898 a new locality, Bone Cabin Quarry, was discovered. The unusual name comes from the fact that a shepherd had built himself a small cabin out of the dinosaur bones that were strewn across the area. Between 1878 and 1905 the AMNH removed hundreds of bones of dinosaurs from this site.

In 1909 Earl Douglass of the Carnegie Museum (Pittsburgh) found one of the richest deposits of dinosaur skeletons that the world has ever known. The locality is in Utah, near Vernal in the Uinta Mountains.* This site was excavated from 1909-1923 by the Carnegie Museum and revealed magnificent skeletons of Diplodocus, Apatosaurus, Camarasaurus, Stegosaurus, Allosaurus and many other dinosaurs. In 1915 it became, by Presidential decree, 'Dinosaur National Monument' and today a working museum stands on the site. The steeply tilted fossil-bearing rocks form a mural with the fossils visibly in place.

Scientific books which accurately describe some hundreds of kinds of dinosaurs are now available. These give the location as to where each was found, and tell how complete the skeletons of each kind were. These books also state the scientific classification of each kind (the class, order, family and genus--the same as in classifying living animals). They also often give a detailed description of certain particular bones of the skeleton. (Such books should not be confused with the many popular children's books on dinosaurs which are available today. Those often have added ideas from the imagination of the authors.)

We should thus be grateful for the large amount of fossil material which has been assembled over the years, since the first important dinosaur fossil beds were discovered. It should be obvious that these skeletons are a far better source of information on what the animals were really like than the mere fossil footprints of dinosaurs which are found in various places.

The types of sediment in which the dinosaur skeletons are found, and the manner in which they are covered, gives us a considerable amount of evidence as to the circumstances under which they were buried. Most paleontologists agree that at least some of the skeletons found in the western half of the U. S. were buried by the several large, local floods and sediment flows which occurred in that area during the Mesozoic Era.

How Could Animals Have Been Created A Long Time Before Adam and Eve?

Some people have asked, "If Adam named all the animals, how could some animals have become extinct before Adam was created?" Genesis 2:18-20 describes Adam's naming of the animals, during the "sixth day" of creation. It says that Adam "gave names to all cattle, and to the birds of the air, and to every beast of the field" (v. 20). Obviously Adam was not being asked to name every one of the kinds of animals which God created on the whole earth. Think of the thousands of kinds of sea animals and insects which were not there to be named! And notice that the Bible speaks here of only 3 types: "cattle," "birds of the air," and "beasts of the field." So, this would not likely have included dinosaurs, even if they were living at that time. At this time God was merely having Adam name all the kinds of "cattle," "birds," and "beasts of the field" which he and his future wife would encounter in their daily lives. There is nothing in the Biblical teaching of creation which tells us that God was trying to bring together all of the kinds of animals He had ever created, for Adam to name. It may be helpful to mention here that many of the very conservative and fundamental Bible scholars of the first half of this century (and in the 19th century) believed that God had made a much earlier creation of animals and plants, and that they lived on the earth for millions of years, but were destroyed before Adam and the present animals were created. This view was prominently taught for many years in the Moody Bible Institute, Philadelphia College of the Bible, Washington Bible College, Dallas Theological Seminary, and many other fundamental Bible institutes, colleges, and seminaries in both England and America. Actually, there is not much scientific evidence to support this view, but the point is that it does not disagree with the Bible. The Bible allows for long periods of animal and plant life before man was created.

One helpful thing which we can do toward understanding the true relation between the Bible and the discoveries of science is to carefully compare the Biblical record of creation with the tables of the geological periods and fossils, which are an orderly listing of what has been found in the earth's sedimentary rock layers. We do not hold that such geological tables are entirely accurate, nor that the full amounts of time usually allowed for each era and period are necessary. But, on the other hand, we find many points of striking agreement

between the Bible and the usual geologic chronology. For example, you will note that the geological tables show the existence of marine life before terrestrial life, as does the first chapter of Genesis. (Caution--Some of the tables of the geological periods which are found in the more popular books and encyclopedias make bold evolutionary statements. It is better to use a table or chart which does not include these statements of evolutionary theory.) We should not consider a geological time table as necessarily an outline or chart of evolution. There are such outlines or charts of the supposed evolutionary development of animals and plants, but a simple, systematic listing of the kinds of fossils in the order in which they appear in the strata of the earth, beginning with the oldest and continuing to the most recent, does not necessarily imply evolution. Non-evolutionary discoveries of science, such as these, are helpful to the Christian in understanding and appreciating the earth, and in talking with those non-Christians who already know about the fossils and strata.

Long Periods of Time Seen in God's Creation

Unfortunately, many people think that there is a contradiction between what science and the Bible tell us as to how long the animals and plants have been on the earth. But for the past one and one-half centuries large numbers of very conservative, Bible-believing ministers and teachers have been showing us that the first chapters of Genesis allow sufficient time for all the living things of the earth--both past and present--to have lived and grown. These Christian teachers realized that very long periods of time were needed for this growth and fossilization, and modern sedimentological research has abundantly confirmed this view.

The first chapters of Genesis do not tell us how long ago the earth was created. Genesis 1:1 merely says the creation was "in the beginning"; and then the rest of the chapter is written in such a way that long periods of time can be recognized in it. Even the expressions "evening" and "morning" were sometimes used figuratively in the Hebrew language, to merely mean "the beginning and the end." So, the Holy Spirit who was inspiring the Biblical writers was careful to leave room for the necessary time for the growth and fossilization of immense numbers of plants and animals. Sometimes fundamentalist ministers condemn scientists who are Christians for believing in the amounts of time which were necessary for forming the rock layers and fossil deposits of the earth, but, obviously, God does not want Christians to judge each other in this way.

The idea of God's creative acts being accomplished over long periods of time may bring up the question, "Does this mean that God's placing of plants and animals here on the earth was a process of slow development?" The answer to this is of course, no, because the Bible clearly teaches us that life was put here on the earth by a series of instantaneous acts of God's creative power. On the other hand, we should guard against demanding that these acts of God were spaced exactly as we may visualize them from the Bible-story books. There is nothing in the Genesis account to demand that there was a set, and equal amount of time between each of God's creative acts. Thus the account allows for possible periods of considerable time in which God let certain plants and animals which He had created propagate themselves, exhibit variation, and distribute themselves to other areas of the earth, before He created the remaining plants and animals, and finally the human race.

The Problem of Death Before the Fall of Man

Some Christians suppose that the Bible tells us that there was no death among animals before Adam and Eve sinned in the Garden of Eden. The main verse that is quoted in support of this view is Romans 5:12, "Therefore, just as through one man sin entered into the world, and death through sin, and so death spread to all men, because all sinned." A full explanation of this verse and how it applies to the world would be too lengthy for this short paper on fossils and the Bible, but we will point out a few features as follows.*

1. The latter part of the verse quoted above shows that the authors (The Holy Spirit and Paul) were concentrating on the effects of sin on the human race, and not really saying anything about the animal world. The latter part of the verse reads, "and so death spread to all men, because all sinned." This statement has nothing to say about any living things except mankind.

2. In Romans 8:22 we read that, because of man's sin, "the whole creation groans and travails in pain together until now." But even this passage says nothing at all about the beginning of death in the animal kingdom. (We do recognize of course that man's sin has brought much disruption, suffering, and unnecessary disease and death upon both the animal and plant kingdoms.)

3. We all have to admit that, according to God's instructions to Adam and Eve concerning the sources of food He had provided for them in the Garden of Eden, there was death before man sinned (Genesis 2:15-16). God had created both man and the lower animals so that most of their necessary source of food would be living plant material. These were to be killed and digested in the stomach and intestine. Plant cells are actually very similar to animal cells in that they are alive and carry on most of the same immense number of chemical reactions and other activities that occur in animal cells. When we eat apples, peas, carrots, potatoes, and practically all other plant foods we are eating living cells. (These cells can be easily seen under even 150 diameters magnification if mixed with a little water and placed on a microscope slide.) If we go to the produce section of a grocery store and find plant products which are dead we do not buy them; when ^{the} cells die they turn dark and soft very quickly. So, God arranged that the food of animals (and even of most of the fungi) requires the death of living plant cells. Since this is true, how can we say that God could not have had some animals eating other animals before man was created? In fact, it is practically impossible for a grazing animal such as a cow or sheep to pluck one mouthful of grass from the ground without including several-to-many tiny insects and mites. (And when we study the complex body systems of these insects and mites we find that they are practically as complex and highly organized as the cow or sheep is.)

4. We of course admit that the thought of death is repulsive to us; and certainly God intends for us to think that way. But, God's thoughts and plans are far more inclusive than ours are. Apparently He thinks of the beginning and ending of the lives of the incalculable numbers of animals and plants on the land and in the sea as a part of His plan for the world of living things. Otherwise

* A somewhat longer treatment of this question appears on p. 236-240 of the book God's Time-Records in Ancient Sediments, by D. E. Wonderly. (See the book list at the end of this paper.) Also, discussion of it can be found in the theological works of conservative theologians such as A. H. Strong and J. O. Buswell.

reproduction among even the tiny animals of the ocean would have to be reduced to zero, or the balance of nature would be destroyed. Or, how can we suppose that God intended for every one of the tiny creatures of the ocean, for example, microscopic-sized crustaceans, to live on and on for millions (or even thousands) of years? Would none of them ever be even accidentally eaten by larger animals "grazing" on the masses of algae in the ocean, or be splashed up on the beach and dried up by the sun? So, the ending of the lives of these animals and the production of new ones to take their place seems just to be a part of God's plan for life on this earth. In thinking about this we need to remember that none of these animals fears death. The only brain which God ever made which can contemplate death, or the past or future, is the human brain, with the spirit which God gave to us. Only by that spirit can we have intelligence, self consciousness, and reasoning powers. (We frequently see magazine articles and other announcements of man's efforts to show that several of the lower animals--such as dogs, cats, porpoises, and apes--have the same kind of intelligence which man has. But such ideas are totally false, and are written by people who believe that man is only a highly evolved animal that, by pure chance, attained the ability to think rationally with a mere animal brain.)

Another reason for thinking that the death of living cells was a part of God's original plan for life on this earth is that God could easily have made Adam, Eve, and all of the animals so that they would not be dependent upon eating living cells. There are ways by which energy for life can be obtained by the use of inorganic substances. Examples of this are the sulfur and iron-using bacteria, and all of the green plants. (The green plants obtain their food and energy by photosynthesis, which uses carbon dioxide instead of organic materials. They then use some inorganic minerals from the soil (phosphorus, potassium, nitrate ions, sulphur, etc.) to incorporate into the molecules of their plant bodies.) But the fact that God did not choose to make the animal kingdom with the ability to live on inorganic materials seems to show that the death of plants and animals, under the proper circumstances, is not a repulsive or displeasing idea to God.

5. It may be true that the vicious carnivorous animals we know today, which ruthlessly attack and kill, did not behave in that manner before the fall of man. That is an idea which I, and I hope everyone else, naturally want to believe. These animals may have lived on plants and lower animals up to the time of man's sin. That would also mean that the many sensational pictures of the ancient dinosaurs attacking and eating each other, which we now see, are wrong. Carnivorous dinosaurs may have eaten dead or sick members of their ^{animal} class, but nobody has any proof that they had a desire to make vicious attacks on each other.

More Fossils, Older, and Deeper in the Earth Below the Dinosaurs

Because Christians need to avoid a one-sided view of what the fossil record of life is like, we should yet take time to think about the immense number of kinds of fossils which lie deeper in the earth's crust than do the dinosaurs. The dinosaurs make up only an extremely small percent of the total number of fossils found in the sedimentary rock layers of the earth. In the deeper layers of the earth's sedimentary cover--sometimes down to a few miles deep--lie a vast number of kinds of marine-type fossils which were buried long before the dinosaurs were. Many of these fossils are brought up from the depths by oil drilling processes, and many others can be collected in places where deep canyons or great valleys have been eroded into the earth's sedimentary cover.

Nearly all of the skeletons or shells of these early marine fossils have been replaced by other minerals as the skeletons or shells were dissolved away.

But the intricate outlines of the shells and other structures are often so perfectly preserved that one feels that he is viewing the actual sea shells. Some of the fossil-containing rocks are so completely filled with these fossilized shells, and the resulting air spaces which lie between them, that the rocks feel unusually light in weight.

Some of the most common kinds of marine-type fossils are: (1) mollusks and brachiopods (both are shell-type animals), (2) bryozoans ("moss-like" animals which grow in colonies which look superficially like seaweed), (3) corals (which built great coral reefs even in ancient times), (4) crinoids ("sea lilies"), and (5) microscopic-size animals such as the radiolarians and foraminifera. A very significant fact about these fossils which are so deep in the earth is that many of them are located beneath rock layers which are of types which no flood could produce. For example, the ancient, buried, coral reefs in the oil fields of Alberta, Canada, have many of these kinds of fossils in the rock layers which lie deep beneath the reefs. (One place where these fossil-bearing layers are described is in the American Association of Petroleum Geologists Bulletin, vol. 52, pages 1903-1907 and 1930-1931.) This kind of situation of fossils which were obviously buried and fossilized long before the coral reefs even started to grow is found in several of the oil fields of the world. A further description of some of these sedimentary, fossil-bearing layers is given in Chapters 5 through 8 of the book God's Time-Records in Ancient Sediments which is listed at the end of this paper.

Conclusion

In closing this study we should realize how wonderful it is that God has not given us a Bible or a religion that contradicts the observable facts which He has allowed scientists to discover. Many religions have ideas of the formation and state of the earth which are completely incompatible with the demonstrable facts of science, but Christianity does not. I am often thankful that I can talk to a scientist who is aware of the great age of the earth, and of life on the earth, without being ashamed of my religion. For, I can point out to him that God so carefully supervised the writing of the Book of Genesis that its statements do not contradict the geological principles which we can readily observe in the earth.

A FEW OTHER SOURCES OF INFORMATION ON DINOSAURS, AND ON GOD'S CREATION OF LIVING THINGS

I. ON DINOSAURS:

There are a great many books on this subject now in print. A high percentage of them have a large number of highly imaginative pictures which have been added to make the book sell well. I am not recommending these. If one wants technical information on dinosaurs he/she can use college textbooks of vertebrate zoology, such as those by Edwin H. Colbert, or the book, A New Look at the Dinosaurs, by Alan Charig: Mayflower Books, 1979. Otherwise, I suggest the following:

1. The Dinosaur Encyclopedia, by Michael Benton: Julian Messner, A Division of Simon and Schuster, Inc., of New York, 1984, 188 pages, \$9.29 (paperback is \$6.95), ISBN: 0-671-53131-x.

This is only a small book, and is fairly elementary, but it contains a large amount of usable and helpful information. It treats 130 kinds of

dinosaurs (alphabetically), with a picture of each, and--for a good number of them--tells where the skeletons were found. The pictures are sensible and informative, and the book does not emphasize evolution. The author, Dr. Michael Benton, is a recognized scholar in dinosaur studies in England. This work seems to have been carefully and accurately written. The usual pronunciation of the dinosaur names is given for each kind. Many public libraries and bookstores have this book. If your local library does not have it they can obtain it by Interlibrary Loan for you.

2. The Illustrated Encyclopedia of Dinosaurs, by David Norman: Crescent Books, 1985 (Distributed by Crown Publishers of N. Y.), 208 pages, ISBN: 0-517-468905.

This is a large, highly illustrated book which gives a wealth of reliable information on dinosaurs. It is an authoritative, accurate sourcebook, yet can be understood by the interested layman. Chapters 1 and 2 give a good summary of the major phases of exploration for dinosaur fossils throughout the 19th and 20th centuries, and explain the place of dinosaurs in the animal kingdom. The reptilian orders and families into which they are classified are also listed and explained.

Most of the book is taken up with a good-quality description of each of the 22 major groups of dinosaurs which the author recognizes. An especially valuable feature of these descriptions is the large, detailed, well-labeled drawing of the entire skeleton of a representative of each group. Since these are drawings made from the actual bones, it is factual material which is being presented. (Photographs of some of the skeletons are also included.) The book does contain several somewhat imaginative paintings of the different types of dinosaurs, in life-like environments, but they are not nearly as extreme as one sees in the popular books. In each of the 22 sections on the groups of dinosaurs, information is given as to what parts of the world have yielded good-quality fossils of the different genera of these animals. At least most of the sections give information as to how many skeletons have been found, and in which quarries. The text deals briefly with the supposed evolutionary origin of the groups of dinosaurs, but this is not so dogmatic or prominent as to decrease the value of the book. The main treatment of the evolutionary theories of dinosaur origin are on pages 20-22 and 34 to 36. I have not been able to find any reference to human evolution in the book--and would not expect to find any in a scientific book of this type.

I feel that, for the person who does not have time to read this entire book, a very helpful way to gain an understanding of some of the most important parts of it is as follows. Read the first two chapters, and then study the following pages, which are descriptions of some of the most representative types of dinosaurs: Pages 45-47, 63-65, 80-89, and 152-155. These pages include a few of the best, well-labeled skeletal diagrams mentioned above, and much other good factual information about the discovery and study of each of the dinosaur groups with which these pages deal. This book, like the one by Michael Benton, described above, was produced in England and then brought to the U. S. This fact seems to be one reason for the conservative, high quality of the works. Like Benton's book, this Illustrated Encyclopedia of Dinosaurs can be obtained from most local, public libraries. If it is not in the local collection, ask the library workers to order it on Interlibrary Loan for you.

3. The World of Dinosaurs. This is not a book, but is a set of 14 "Fact Sheets" describing 14 of the main types of fossilized dinosaurs which are on display in the Carnegie Museum in Pittsburgh. These sheets were written for the upper grades of elementary schools, but are very informative for all ages. They can be obtained from The Carnegie Museum of Natural History, 4400 Forbes Ave., Pittsburgh, PA 15213, at \$2.00 per set, plus \$1.00 for postage and handling.

Each of the 14 sheets has a simple, good-quality picture of the dinosaur being described. Most of the information is factual, including--on the back of each sheet--a statement of where and when that particular dinosaur skeleton was found, and where other skeletons of the same kind were found. They usually tell how complete the skeleton was, and whether or not they had to use some bones from other skeletons of the same kind when they were setting it up in the Carnegie Museum. Each sheet states the number of millions of years ago the dinosaur is believed to have been living, but little or nothing is said about evolution.

II. OTHER, RECOMMENDED, CONSERVATIVE BOOKS WHICH ARE RELATED TO THIS PAPER

1. Genesis One and the Origin of the Earth, by Robert C. Newman and Herman J. Eckelmann: Baker Book House, 1981, 154 pages. (Also published by InterVarsity Press in 1977)

This book upholds special creation and shows how the actual data of modern science are in agreement with the divinely inspired, Biblical account of creation. (Unfortunately, this book has recently gone out-of-print, but many libraries of Christian colleges and seminaries have it. It can be obtained from those college and seminary libraries on Interlibrary Loan, through your local library.)

2. Creation and Evolution, The Facts and the Fallacies, by Alan Hayward: Triangle SPCK, London, 1985, 232 pages. (can be obtained through Abingdon Press, P. O. Box 801, Nashville, TN 37202, for about \$6.00)

This book strongly refutes atheistic theories of biological evolution, upholds special creation, and shows why most of geological research is biblically acceptable. It also contains a very good chapter, "Some Biblical Objections to Theistic Evolution."

3. Evolution on Trial, by Cora Reno: Moody Press, 1970, 192 pages. (Out-of-print, but can be obtained from the libraries of many Christian colleges and seminaries, by Interlibrary Loan)

An unusually valuable book, defending Biblical creation as opposed to evolutionary theories. This was a careful and thorough revision of a smaller book on the same subject, by the same author, which Moody Press sold for many years. (They sold over 200,000 copies of that work, Evolution: Fact or Theory.) Chapter 14 of Evolution on Trial has an unusually good, and rather long, treatment of fossil cave men, what we can know about them, and how they are different from the so-called "ape-men" which evolutionary biologists describe.

4. God's Time-Records in Ancient Sediments, by Dan Wonderly: Crystal Press Publishers, 1909 Proctor St., Flint, MI 48504, 1977, 270 pages, \$7.00. (Also obtainable at the same price from Interdisciplinary Biblical Research Institute, P. O. Box 423, Hatfield, PA 19440)

This is the book to which a footnote on p. 5 of this paper refers. It upholds special creation and shows why Christians do not have to reject the great amount of truly non-evolutionary geologic data which is now available. (Many creationists want to reject practically all the data of geologic research, but doing this is a stumbling block to the great number of honest scientists who have done most of this research. Rejection of data by creationists has also caused a high percentage of the public educators of the U. S. and Canada to lose all confidence in creation doctrine.)

5. Neglect of Geologic Data: Sedimentary Strata Compared with Young-Earth Creationist Writings, by Daniel E. Wonderly: Interdisciplinary Biblical Research Institute, 1987, 140 pages, \$6.95. This is a sequel and supplement to God's Time-Records in Ancient Sediments, by the same author. Many new sources and data are cited.

6. The Source: Eternal Design or Infinite Accident, by John N. Clayton: Published by the "Does God Exist?" organization, of 17411 Battles Rd., South Bend, IN 46614, 1983, 170 pages, \$4.00.

John Clayton was formerly an atheist, but now defends the Bible as God's inerrant Word. He is a high school science teacher and has been a great help to many students and others, on the subject of how to properly relate the Bible and science. This book contains some minor errors, but is very helpful in showing that the Christian can accept the many non-evolutionary discoveries of science without rejecting the Bible.

Background of the Author

Daniel E. Wonderly

(as of 1988)

A lifelong interest in clarifying
Bible-science questions

Undergraduate Degree:
Wheaton College, anthropology

Graduate Degrees:
Central Baptist Seminary, Kansas City,
OT, NT, theology
Ohio University, biological science

Teaching Experience:
Southeastern Bible College (3 years)
Bible, anthropology
Wingate College (5 years)
science
Grace College, Winona Lake (7 years)
science

Additional Formal Studies:
NSF Institutes: biology and paleontology
Indiana University: geological science
Bermuda Biological Station:
sedimentary geology

Further Geologic Background:
Extensive and regular study of published
geologic research reports, consistently since
1970. Regular attendance at professional
geological meetings and participation in field
trips of the Geological Society of America
and similar groups.

Current Professional Memberships:
Interdisciplinary Biblical Research Institute
Geological Society of America
(Sedimentary Geology Division)
American Scientific Affiliation
Indiana Academy of Science
West Virginia Academy of Science

This paper, "Dinosaurs, Fossils,
and the Bible," was written primarily
as a supplementary resource to help
teachers of science courses in Chris-
tian day schools. It upholds the
doctrine of special creation, and
rejects theistic evolution. One
prominent principle demonstrated
in this paper is that belief in
ancient, extinct types of dinosaurs
does not at all require a rejection
of the Biblical account of God's
creation of specific types of
animals by divine fiat.

--Dan Wonderly