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ORIGINS: CAN SCIENCE AND BIBLICAL
CHRISTIANITY CO-EXIST?

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Introduction

"In the beginning, God created the heaven and the earth. And the earth was without form, and void: and darkness was upon the face of the deep. And the spirit of God moved upon the face of the waters. And God said, Let there be light; and there was light ". Gen 1:1-3 (Holy Bible KJV)

"No, faith, die by attorney. The poor world is almost six thousand years old, and in all this time there was not any man died in his own person---" William Shakespeare: As You Like It. Act 1V, I, 71-11

"The scientific path leading to better estimates of the age of the earth has been long and difficult. We still don't have an exact answer, but we're closer to the truth - about 4.6 billion years closer - than Shakespeare was". Paul F. Brandwein et al, Matter: Concepts in Science (Harcourt Brace Jovanovich N.Y.) 1975

The Bible states in Genesis 1 that God in the beginning created the heaven and the earth, then set time in motion by separating the light from the darkness.¹

Based on this beginning, Bible-believing Christians including William Shakespeare, accept this planet earth as we now know it, as being in existence for just about 6000 years. Scientists, mainly geologists and paleontologists, on the other hand, compute the age of the rocks of earth to be millions and billions of years.

To create our world as we know it, the Creator must be a great scientist. Then why the discrepancy? Is it that the writer of Genesis is wrong ? Or has Science got it wrong ? Can it be that Bible-believing Christians are misinterpreting or misapplying the Genesis account ? Or should the "age of the earth" be considered in a different light from the "age of life" on the earth.

This essay will attempt to address some of these questions and to help teachers and students of Earth Science and Bible at the High School level to recognize the importance of the integration of faith and learning as they deal with the subject of the "Origins" of Matter - organic and inorganic.

Origins and the Identity Syndrome

The question of origin is not new. People have always been trying to discover their "roots" - their ancestors. Many of the "fads" common in our society today are attempts to identify with one's "roots". The new or current hairstyles, the use of decorative body adornments, patterns of speech and dress, are all part of the identity syndrome.

Even in academia a great deal of time and effort are put into attempting to answer these questions. When did it all begin? Who invented writing? How did language come about? In biology, what is the origin of life? "Which came first, the chicken or the egg?"

Why Study Origins?

The study of origins is important for many reasons - scientific, sociological and personal. According to Henry M. Morris.²

--Science must seek to answer the question "whence"? as well as "what?"

--Science is based on a cause and effect reasoning and as one assimilates effects to their immediate causes and those causes to their causes, one eventually confronts the question of a First Cause.

--A knowledge of natural law processes, without an appreciation of at least the problems associated with their origins, is stultifying to the discovery and comprehension of new scientific principles.

Morris explains further that each person needs a sense of his/her own identity and personal goals which is gained from an awareness of his/her origin. A knowledge of where one comes from will to a great degree help one in deciding where one goes.

It is this "lack of sound scientific understanding of origins and meaning among modern young people," says Morris, that "impelled them to seek anti-social solutions as mind expanding drugs, witchcraft, astrology, and the like."³ It is important therefore, for the true mental health, especially for young people that they be given a solid and satisfying mental "concept of their personal origin and future."⁴

How Old Is The Creation? Earth - Age Computation

"A rock or fossil is 2 billion years old", states a scientist. How does he or she know? There are two methods generally used in determining the age of objects in the earth. These are Relative dating and Absolute dating.

Relative Dating

This method allows the researcher to state, for example, that fossil A is older than rock B or than fossil X in a given area or from another stratum. This method is used mostly in dating sedimentary rocks, one in relation to another. ⁵

Scientists have been using various forms of relative dating and have come up with different ages for the same material. In 1715 the British astronomer Edmund Halley suggested that saltiness of the ocean was a clue to the age of the earth. Almost two hundred years later, the Irish geologist John Joly attempted to calculate the age of the earth based on the amount of the salt in the ocean. Joly determined the amount of sodium carried into the ocean each year and obtained an age of 90 million years for the earth. Was he right?

Lord Kelvin, a respected British physicist of the nineteenth century, tried a different form. He reasoned that the earth was once molten and was still cooling off. One cannot feel the heat escaping from the earth - but he claims it does. Miners feel the earth's heat in deep mine shafts. In

fact, it gets so hot that mines must be air-conditioned for the miners. Other scientists used sensitive electric thermometers to measure the flow of heat from the earth.

Kelvin knew the melting temperature of rocks, and he knew approximately how fast heat was flowing from the earth. He calculated that the earth had taken 20 to 40 million years to cool from its original molten condition. How close was Kelvin to knowing the true age of the earth ?

In another relative dating technique, geologists used the thickness of sedimentary rocks as a clue to the age of relatively recent events in the earth's past. They estimated that about 120,000 meters of sedimentary rock have been deposited since the first hard-shelled marine organisms appeared on the earth. This depth of sedimentary rock was not deposited in one place, so the total thickness of all sedimentary rocks had to be estimated.

In addition to the total thickness, geologists must know how fast the sedimentary rock is being formed. Estimating that 30 centimeters of sedimentary rock is formed each hundred years, a simple calculation reveals that the hard-shelled marine organism appeared 40 million years ago. This calculation seems to confirm Kelvin's estimate. Was Kelvin right after all?

Absolute Dating

Absolute or radiometric dating is a technique based on knowing that certain radioactive elements decay at a constant rate, more or less rapidly, depending on the nature of the element. The time required for one-half of an original quantity of atoms of a radioactive element to decay or transform is referred to as its *half-life*. The original element is called the **parent** element and the element produced is called the **daughter** element. The table below shows some of the radioisotopes used in absolute dating.

<u>Parent</u>	<u>Daughter</u>	<u>Half life(years)</u>
Radioisotope	Stable atom	
Uranium - 238	Lead - 206	4.5 billion
Uranium - 235	Lead - 207	0.7 billion
Thorium - 232	Lead - 208	14.1 billion
Potassium 40	Argon - 40	1.3 billion
Carbon - 14	Nitrogen - 14	5730 years
Rubidium - 87	Strontium - 87	48.0 billion ⁶

Where the original quantity of atoms of a parent element can be determined, scientists believe it is possible to tell the age of rock by determining the quantity of atoms that have changed into daughter elements. By comparing the number of lead atoms to the quantity of radioactive uranium atoms left from a determined quantity, the scientist can tell just about when a particular block of uranium was formed.

By the use of radiometric dating and fossils found in rocks, scientists have come up with fantastic figures for the age of rocks and geologic events. For example, evolutionists generally believe that the earth is about 4.56 billion years old and that man and apes diverge from their unknown common ancestor "about 30 to 70 million years ago, and that true humans arrived at least one million years ago, possibly more than 3 million years ago." ⁷ In 1906, Rutherford and Soddy calculated the age of a Uranium sample found in the state of Connecticut, U.S.A., to be 550 million years.⁸

Can Genesis 1: 1 - 3 Fit?

The Bible believing Christian, especially if he/she is a scientist, will find it challenging to attempt to reconcile the findings of the paleontologists with the Biblical perspective on the age of the world. Based on the data given in the Bible, using different manuscripts, one comes up with an age for the earth somewhere between 6000 and 7700 years.

There are variations between the most ancient Biblical texts. The table below, adapted from Harold & Coppin with Robert H. Brown,⁹ shows the discrepancies between the Hebrew masoretic text, the Septuagint, and the Samaritan Pentateuch.

<u>Time Period</u>	<u>Masoretic</u>	<u>Samaritan</u>	<u>Septuagint</u>
Age of Present World in AD 1996	4528	5108	5398
Age of Pre-flood World	1656	1307	2262
Occupancy of the Ark	1	1	1
Total time from Creation to 1996	6185	6416	7661

Here the discrepancy between the Septuagint, with the highest reading, and the Masoretic text, with the lowest reading, is less than 1500 years. (7661 - 6185 = 1476). It is not uncommon to find the marginal entries in some older English Bibles with ages less than 6000 for the earth. However, on the other hand, many scholars outside of the Hebrew -Christian tradition refer to a world of vast antiquity.

The Babylonian scholar Berossus, of the third century BC, placed the creation at 2,148,328 BC, Adam at 468,323 BC and the Flood at 36,323 BC. Plato considered that the Flood occurred about 200 million years ago. Appolonius of Egypt (2nd Century BC) proposed that the world is just about 155,625 years old. The Hindu classics written about 500 AD describes the history of the

world in terms of endlessly repeating grand cycles of 4.32 billion year duration, each containing one thousand subcycles of 4.32 million years in length. The Chinese scholar I-Hsing of the 8th century AD, placed the beginning of the latest "Grand Cycle" at 96,962 464 BC. ¹⁰

Judging from the number of different ages given to the earth and the time of special events on the earth, it is clear that no one knows for sure the true age of the earth.

Since no one who has calculated the age of the earth was alive when the earth came into existence, then it is necessary to check the credibility of the methods used in the calculation. It must be remembered that there is no direct evidence as to the ages of the rocks in the earth, therefore the approach must be indirect. Thus, at best, the results will be uncertain.

Most estimates are based on uniformitarianism (the belief that the processes now at work in the earth's crust were always the same and proceeded at a constant rate.)

For the Radiometric Dating method (referred to above) to be valid there are certain criteria to be met.

1. The system must have been closed. That is to say, there has been no loss or gain of parent or daughter elements in the environment.
2. The rate of the process must have been constant. Or if there is a change of rate since the system was established, then this must be known and the necessary corrections/adjustments made in calculation.
3. The system must initially have contained none of its daughter elements. That is, the clock must have been reset to zero when the event under study took place. This means that only the parent isotope is present or if there are daughter isotopes present at the beginning, the number is known and can be subtracted before the age is

calculated.

The above criteria are ideal conditions for the methods of calculation to be valid. But in nature there are no closed systems and to assume that a system remained closed and uncontaminated for thousands of millions of years is unreasonable, to say the least.

Dr. Clyde L. Webster, Jr. in *The Earth: Origins and Earth History*¹¹ quoted a classic example to show that the zero reset assumption does not always work:

“A classic example comes from the volcanic ejecta of Mt. Ranqitoto (Auckland, New Zealand). The volcanic material was found to have a potassium-40 age of 485,000 years; however, trees buried within the volcanic material were found to have a carbon -14 age of only 300 years.

The position of the undisturbed volcanic layers confirms that order of deposition; however, the radiometric age of the individual layers does not necessarily represent the real emplacement times.

Further, a radiometric age is often rejected because it does not conform to the age of the given formation from which it is taken. Arguments are presented for the clock not being reset for ages too old, and arguments for selective removal of daughter isotope or selective insertion of parent isotope are given for ages too young. The question that then arises is, “Is there any radiometric isotope system that we can trust?”

An Old or Young Earth!

So far we have seen on the one hand, based upon the scriptures (Masoretic, Samaritan and Septuagint) that the age of the world (from creation to 1996) is in the vicinity of 6000 - 7700 years -

certainly less than 10,000 years. On the other, scientists (theistic evolutionists) seem to agree that the age of the earth is closer to 4.6 billion years. The “gap” is extremely wide and the discrepancy has caught the attention of many creationists and evolutionists alike. The questions are many and the answers are not unequivocal. For example, when was the “beginning” of Genesis 1:1? Was the empty and dark earth there before the events of Genesis 1:1, 2? Where did the “water” come from? Where did the light come from to separate the “evening” from the “morning” for days one to three before the sun was created on Day 4? Were the “days” literal 24 hour days?

Ariel A. Roth (1980) utilized several models he called intermediate views between creation and materialistic evolution. One of these, the “gap” theory or restoration theory, is common among Christians. In the “gap” theory, God created the earth in the distant past. But in order to punish Satan, He destroyed life on the earth. Hence the earth was unorganized and empty in Genesis 1:2. Therefore, the creation week account was a different creation or re-creation.¹²

Creationists believe that the Bible account must be accepted. God created the earth, animals and plants. Then He created man to cultivate and keep His creation. The theistic evolutionists accept the creation of life by God, but deny the usefulness of the Genesis account as mere human imagination.

Scholars, based upon their particular world views, have come up with a variety of interpretations. Some view Genesis Chapter 1 as mere poetry; others as theology; some consider it mythology; while others regard it as mere symbolism. These all assume that the Genesis creation account is not literal.¹³

Those who accept the literal reading of the creation account, differ in certain aspects and take different views. Davidson¹⁴ distinguished and explained three of those views as referred to by Roth

earlier:

1. The Active-Gap View

This is sometimes referred to as the "ruin restoration theory". According to this view, Genesis 1:1 describes an originally perfect creation some unknown time ago. Satan was ruler of this world, but because of his rebellion (Isaiah 14:12-17) sin entered the universe. So, God, in order to punish Satan, reduced the earth to ruin as described in Genesis 1:2. The verse may be rendered, "the earth became without form and void." Verse 3 of Genesis 1 is then an account of a re-creation in which God restored the ruined earth.

This view makes it very easy to fit in the long geological ages in the interval after the primeval creation and before the ruined condition of the earth as described in Genesis 1:2. It is surmised that some massive cataclysmic explosion terminated the geologic ages, leaving the earth shattered, shapeless (without form), uninhabited and engulfed in darkness. This condition continued for possibly billions of years and accounts for the millions of years computed by radiometric and fossil datings.

2. The Passive Gap View

This view is also called the "pre-creation unformed unfilled view." This view upholds that the text Genesis 1:1,2 refers to a state prior to the creation as outlined in the Bible from Day 1 to Day 6. Here the text Genesis 1:1 is made to read, "When God began to create the heaven and the earth," so that Genesis 1:2 now becomes a parenthesis, describing the state of the earth when God *began* to create it. Genesis 1:3 and onwards describe the actual work of creation (And God said, let...").

In this view, all the universe including the solar system, was created long ago. The earth was then empty and shapeless and remained in that state for eons. All inorganic matter was in place, but

no life as we now know it. Creation was in a state of passivity until relatively recently when God decided to create Life a few thousand years ago during Creation Week. Light during creation week came from the sun which already existed. The partial lifting of the dense clouds on Day 1 of Creation Week lighted the earth, but the sun, moon and stars, while present were not visible from the surface of the earth. The light was similar to an overcast day. The complete lifting of this cloud cover on Day 4 made the previously existing sun, moon and stars visible from the surface of the earth. Hence, their presence is recorded on that day.

3. The No Gap View

This is the traditional view supported by Jewish and Christian interpreters through history. In this view, Genesis 1:1 affirms that God created out of *nothing* the original matter called Heaven and Earth. This was their absolute beginning. Verse 2 declares that the earth was then in a state of emptiness, shapelessness, darkness, and covered with water, and the Spirit of God (air or gas) was moving on the face of the waters. It is apparent that at this point (Genesis 1:1,2) God called into existence (created) the three states of matter - solid (rock and soil), liquid (water) and gas (air). In verse 3, God said, "Let there be light." God is now filling the "emptiness" and shaping the "shapelessness" and separating the light from the darkness. All the events of verses 1-5 are seen as activities of the first day of the seven-day creation week. Here there is no "gap."

Chronology Problems in Dating of Fossils: The Petrified Trees ¹⁵

Science must be based on reason and evidence. One finds it difficult to explain, within a short biblical chronology, fifty superimposed layers of petrified trees in apparent positions of growth. Geologists and paleontologists have, by and large, assumed that erect petrified trees are in the place of growth. The unearthing of tree stumps in the carboniferous layers of Europe and Canada

was perceived to be strong evidence of long ages of geological record. It was believed that layers of coal could not have been deposited by the Noachian Flood if standing trees are found within and between the seams of coal.

The most striking examples are found in the Yellowstone Petrified Forests found in the Yellowstone National Park. At least forty-eight superimposed forests have been counted.¹⁶ It is estimated that a growth of so many successive forests, one above another, would have required 15,000 years. Using similar calculations, the Specimen Creek Petrified forest, with more than twice as many tree levels, would have required 40,000 years.

Coffin¹⁷ proposes that volcanic activity in the Yellowstone region occurred while the area was partially under water. The trees, some vertical, floated in the water along with organic debris. As the trees and vegetables became water-logged, they sank to the bottom. Within a few days or weeks, another slide buried the trees and organic debris. Before each succeeding flow, more trees and organic debris settled to the bottom. In this way, layer upon layer, trees and organic zones were built up in a relatively short period of time.

After the burial of the trees and organic debris, the water receded and/or the land was lifted. Petrification occurred quickly before decay became pronounced. As the water drained and large-scale erosion of the landscape took place, the petrified rocks/trees were exposed so that the number of layers of petrified forests is not consistent with the chronological age of the forests.

Recent Case in Point

Mt. St. Helens¹⁸ erupted in 1980, creating a giant log raft on the surface of adjacent Spirit Lake. Many of the logs floating in the lake, especially those with root systems, turned upright. Eventually, many of those upright floating stumps settled to the bottom of the lake where they now

sit in an upright position. Sediments brought down by the streams are now slowly burying these stumps. Another eruption can greatly hasten the process. Based on side-scan sonar search of the bottom, as many as 20,000 stumps may now be located on the lake bottom.

This modern example of transport and deposition of trees in an upright position is useful in evaluating the history of petrified trees. Any catastrophe that eroded trees from their growth positions and transported them by or in water could be the mechanism for creating a standing petrified forest that is not *in situ*.

It is therefore unwarranted to assume as was done in the past, that all upright petrified trees had grown in the place where they are now found. The transportation of trees and their deposition in an erect stance are not all unlikely or as rare as might be expected. Upright fossil trees within the geological column are compatible with a flood model. When all the factors are considered, a catastrophe involving water and many floating trees is a satisfactory explanation for their origin.

Teaching Alternative Views

It is the responsibility of the teachers in our schools to present the alternative views on origins in as simple and clear a manner as possible to our children and young people. Yes, we live in an era of science and technology and many believe that the answers to all problems or situations must come off a test tube or microchip. Teachers, therefore, must be equipped, that is, have the resource information available, to teach the creation model in *origins* as a logically sound alternative to the evolution model. Students must be taught that all true wisdom comes from God. Science-*knowledge* comes from God. In fact, He is omniscient, that is, he knows everything there is to know. So that when popular science fails to give answers or is inconsistent with the Word of God, mankind, who are creatures, must be willing to accept answers given by the Creator, even when this is just an

act of faith.

While there is a breakthrough within recent times and a few textbooks may be found that were written from a biblical Christian world view perspective, the overwhelming majority of textbooks on the market were written with an agnostic evolutionary bias. Even the teachers, some of whom are practicing Christians, were trained and indoctrinated with an evolutionary point of view.

Summary and Conclusion

The author's idea behind this essay was to find a simple, unambiguous and unequivocal answer to the question of origins, particularly in the light of Genesis Chapter I. Findings have revealed that there is no such simple answer. In fact, scientists - both creationists and evolutionists have been looking for such an answer for many years. Many theories and models have been advanced. Depending on one's world view, some models are acceptable, others are not. The search will continue.

We have seen that origins will long remain a topic for discussion. We have seen that the evidences presented based on radiometric dating cannot be accepted as authentic since the methods used do not all satisfy the necessary criteria. Neither the relative nor absolute dating methods are without flaws.

The evidence in the petrified trees in Yellowstone Park seemed to be strong in favor of long chronology, but the eruption of Mt. St. Helens in 1980 showed that in a catastrophe trees can be eroded, transported, buried and fossilized in a relatively short time. In fact, according to Dr. Jim Gibson of GeoScience Research Institute, some Adventist scientists "went to Yellowstone and studied the fossil "forests" for themselves. As a result of their studies, they discovered that the

previous interpretations were wrong. A great deal of field evidence indicated a catastrophic burial of the trees, many of them in upright positions as though growing in place. Re-examination of the data led to an interpretation that is consistent with the biblical description of earth history.”¹⁹

It must be remembered that God is the God of nature. Our failure to understand everything in nature is due to our inability to understand everything about God. God continues to reveal Himself, His will and His power to those who will humbly seek.

All Truth is God’s Truth. He has promised to reveal His secrets to His servants. If one willingly submits to the leading and guidance of the Holy Spirit, one will find scientific studies to be very rewarding. More and more he/she will learn of the greatness of the God of the universe, who “guides into all Truth”. John 16:13.

For the Seventh-day Adventist Christian who believes in the Spirit of Prophecy, there are many references to the age of the earth, all of which speak of it as being approximately 6000 years.

1. Testimonies to the Church p. 172 (2T172) “During his experience of nearly *six thousand years* he (Satan) has lost none of his skill and shrewdness. All this time he has been a close observer of all that concerns our race.”
2. Signs of the Time § November 15, 1877: “*Six thousand years* ago has this arch enemy been warring against the government of God and continued practice has increased his skill to deceive and allure.”
3. Signs of the Time § May 8, 1884: “The great controversy between Christ and Satan that has been carried on for almost *six thousand years* is soon to close.”
4. Patriarchs and Prophets p. 51 (1890): “The laws and operations of nature, which have engaged men’s study for *six thousand years*, were opened to their minds by the

infinite Framer and Upholder of all.”

There are at least thirty similar references in the Spirit of Prophecy, stating that the earth is approximately *six thousand years*.

References are also made to the age of the earth from creation to the First Coming of Christ being four thousand years.

Examples:

1. Spirit of Prophecy Vol. 2., p. 88 (1877): “For *four thousand years* the race has been decreasing in size and physical strength, and deteriorating in moral worth; and, in order to elevate fallen man, Christ must reach him where he stood.”
2. The Great Controversy p. 328 (1888): “With the great sacrifice offered upon Calvary, ended the system of offerings which for *four thousand years* had pointed forward to the Lamb of God.”
3. Desire of Ages p. 759 (1898): “For *four thousand years* Christ was working for man’s uplifting, and Satan for his ruin and degradation. And the heavenly universe beheld it all.”

All of the above quotes are taken from Ellen G. White statements relating to Ecology and Earth Science.
Ellen G. White Estate March 1982 (Reformatted 1994; GeoScience Research Institute.)

In the book Education page 129, is the following quotation: “It is true that remains found in the earth testify of the existence of men, animals and plants much larger than any now known. These are regarded as proving the existence of vegetable and animal life prior to the time of the mosaic

record. But concerning these things Bible history furnishes ample explanation. Before the flood, the development of vegetable and animal life was immeasurably superior to that which has since been known. At the Flood, the surface of the earth was broken up, marked changes took place and in the re-formation of the earth's crust were preserved many evidences of the life previously existing."

There is enough information in the Scripture, the writings of E. G. White and in science and nature to reduce, if not eliminate, the tension between science and the Bible relative to origins. Conflicts or tensions arise because of the basis of one's beliefs.

The major problem seems to be in deciding how much time elapsed between, "and darkness was upon the face of the deep," and "and the spirit of God moved upon the face of the waters," in Genesis 1:2. Here is where science and religion seem to differ. Was this a same day continuous process or did it take millions of years? If there was a geological gap at that point, then that answers for the age of the earth (rocks) as determined by radiometric and fossil dating. This is an easy way to view it and this makes the proponents of Concordism (attempt to find a harmonious connection between Bible and science) happy. But was there a gap?

If it is only a matter of the age or maturity of the creation, it is not far-fetched to appreciate that the Creator, just as He created (made) a mature Adam and Eve, He could have done the same for the rocks. It is very possible that the rocks, coming from the Creator on the first day of creation week, could have been made to register any age the Creator desired.

If there are yet questions regarding the fossils in relation to the sedimentary rocks, remember there was the Noachian flood, and the example of Yellowstone Petrified Forest and the 1980 eruptions of Mt. St. Helens referred to above. Precambrian fossils (algae, bacteria, fungi, the oldest

and deepest fossils) wherever they may be found, could have originated during the flood or before the flood. They could easily have infiltrated into the lower rocks during the flood or even after the flood since "all the fountains of the great deep were broken up."²⁰

Endnotes

¹See Genesis 1:1-5

² Henry M. Morris, *Scientific Creationism - General Edition* (Creation-Life Publishers, San Diego, CA, 1974) pp. 1, 2.

³ Ibid.

⁴ Ibid.

⁵ Paul F. Brandwein et. Al., *Matter: An Earth Science HBT* (1975)

⁶ See Henry M. Morris, *Scientific Creationism* pp. 140, 145, 161 and Clyde L. Webster, Jr., *The Earth Origins and Early History* (The Office of Education - North American Division, 1989) pp. 36, 37.

⁷ Henry M. Morris, *Scientific Creationism*, p. 160.

⁸ Clyde L. Webster, Jr. *Genesis and Time Dialogue* Vol. 5, No. 1, 1993

⁹ See Harold G. Coffin with Robert H. Brown, *Origin by Design* (Review and Herald Publishing Association, Washington D.C. 1983) pp. 290-291. N.B. 16 years were added to "Age of Present World" to read for 1996 instead of 1980.

¹⁰ Ibid pp. 287, 288.

¹¹ Clyde L. Webster, Jr., *The Earth Origins and Early History* (The Office of Education, NAD, 1989) pp. 37, 38.

¹² See Jacques Sauvagnat: *Christ in the Classroom* Vol. 3, p. 221.

¹³ Richard M. Davidson, "In the beginning: How to Interpret Genesis 1," *Dialogue* Vol. 6, No. 3 (1994).

¹⁴ Ibid.

¹⁵ See Harold G. Coffin, "The Puzzle of the Petrified Trees," *Dialogue*, Vol. 4, No. 1 (1992).

¹⁶ Ibid.

¹⁷ Ibid p. 30.

¹⁸ Ibid.

¹⁹ An Adventist Approach to the Sciences. Paper presented by Dr. Jim Gibson of GeoScience Research Institute. 18th Faith and Learning Session, June 1996. West Indies College, Jamaica.

²⁰ Genesis 7:11.