

ISSUES IN ADVENTISM AND SCIENCE*Ariel A. Roth*

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I. HISTORICAL PERSPECTIVE ON SEVENTH-DAY ADVENTISTS AND SCIENCE

Early Seventh-day Adventists both before and after the great disappointment concerned themselves mainly with prophecies. As the Sabbath became a major doctrine, the importance of the details of creation as the basis for Sabbath-keeping became more significant. The geological significance of the destruction of the world (2 Pet. 3) also engendered scientific interest.

As early as 1860 the possibility of an undeveloped earth created prior to the events of creation week was considered in the pages of the *Review* (July 3). This issue has been discussed more or less continuously since then, but has not yet been settled in the Seventh-day Adventist Church.

Efforts during the latter part of the 19th century centered on the burgeoning theory of evolution and the concepts of longer geologic ages. While general confidence was expressed in science, conclusions that disagreed with the biblical account of beginnings were considered erroneous. The problem was not with science itself but with some of the conclusions of scientists.

In the early part of this century George McCready Price published 25 books opposing evolution, the long geologic ages, and the views intermediate between creation and evolution that were gaining acceptance in many religious groups. His works not only influenced Seventh-day Adventists but were widely accepted by many other Christian groups. Price stands unique and above all others in the creation-evolution controversy.

A few years later Price's student H.W. Clark, while agreeing in principle with Price, took issue with some of his argumentation. In contrast to Price, Clark believed that there was order in the sequence of fossils, that significant portions of the geologic column were not involved in the flood, and that there was an ice age. (For further details, see *SDA Bible Commentary*, Vol. 1, 1978 ed., pp. 70-73.)

As Seventh-day Adventist scholars studied new scientific findings in the 1950s, concern developed over major discrepancies between new interpretations and the biblical account of beginnings. Of special concern were the longer ages suggested by radiometric dating and paleontology.

The General Conference took notice of these concerns and, at the suggestion of college teachers, organized what became the Geoscience Research Institute. Two scientists were first appointed to the Institute in 1958. At present the Institute consists of 5 scientists, an editor, and other support personnel. The Institute conducts research, supervises a research-grant program, and participates in educational activities throughout the world. In general the scientists within the Institute, as well as a number of other SDA scientists, do not feel that the data in favor of long ages for life on earth are that convincing. Some scientists in the church disagree.

II. THE RELATION BETWEEN SCIENCE AND REVEALED DOCUMENTS

A. EVALUATION OF SCIENCE

1. *What Is Science?*: We all know what science is – or do we? Science is what a person called a scientist does! Beyond that the question becomes both intriguing and difficult. There are a multitude of definitions of science. A few of the major concepts include: 1) organized knowledge, 2) verifiable knowledge, 3) facts about nature, 4) explanations about nature, 5) naturalistic (as contrasted to supernaturalism) explanations about nature, 6) a system of thought based on scientific principles – a definition which requires that we know which principles are scientific and which are not, 7) methodology to discover truth about nature, and 8) a naturalistic philosophy which excludes the supernatural.

Actually, we don't know exactly what science is or how it operates. This is a somewhat sobering admission for such a successful enterprise. The noted Nobel laureate and past president of the British Association for the Advancement of Science, Sir Peter Medawar (1969, p. 11), describes the dilemma:

Ask a scientist what he conceives the scientific method to be, and he will adopt an expression that is at once solemn and shifty-eyed: solemn, because he feels he ought to declare an opinion; shifty-eyed, because he is wondering how to conceal the fact that he has no opinion to declare. If taunted he would probably mumble something about 'Induction' and 'Establishing the Laws of Nature,' but if anyone working in a laboratory professed to be trying to establish the Laws of Nature by induction we should begin to think he was overdue for leave.

We do know that science works, but in certain respects a scientist does not know what he is doing, even in his laboratory. Part of the problem revolves around the varied definitions of

science, part from a complex of varied scientific procedures, many of which are ill-defined, and part from the fact that some scientists really do not know what they are doing! This brings us back to our first definition: Science is what a scientist does. However, we have a general idea of what science is. For purposes of discussion we can consider it to be a process of finding truth and explanations about nature, but for more precise discussion we have to occasionally define more specifically what kind of science we are referring to.

2. **Assets:** Science in association with technology has performed many wonders. Its success hardly needs mentioning. Because science deals with the more concrete aspects of nature, it appears as a more secure area of operation; hence evokes a high degree of confidence in its methodology. It is considered to be arguably a self-correcting system that moves steadily towards truth. Science establishes principles that give it "predictive value", being able to foresee the outcome of certain events.

3. **Liabilities:** Science operates in a rather narrow area of experience and does not work well for many phases of the reality that we see about us such as morality, free will, wisdom, consciousness, love, humility, the sacred, etc. Bush (1965), who is called the "father of the modern computer," states: "Science proves nothing absolutely. On the most vital questions, it does not even produce evidence." Roszak (1972, p. 252) objects to the reductionistic tendency of science to "the turning of people and nature into mere, worthless things."

Science does not explain ultimate causes (Weaver 1961), nor does it work well for unique events, as it bases its conclusions on consistency and repeatability. Many scientists are unaware that science works largely under the influence of usually unchallenged concepts, referred to as paradigms (Kuhn 1970). Kuhn defines a paradigm as a universally recognized scientific achievement that for a time provides model problems and solutions to a community of practitioners. Normal science is refining a paradigm. A change of paradigm occurs only when we have a scientific revolution. The phlogiston theory is an example of a paradigm that was eventually rejected. Other authors, Price (1963, 1965), Griffith and Mullins (1972), also point to the "invisible colleges" in science. These are truths that are taken for granted and represent a form of paradigm.

Science, which works best under testable and repeatable conditions, has serious problems with unique past events which are difficult to test and repeat. Both creation and evolution represent unique past events that are difficult to test.

B. EVALUATION OF THE BIBLE

- 1. Assets:** In contrast to science, the Bible addresses itself to a broad spectrum of reality, such as morality, history, science, etc.; hence, it does not suffer from the bias of specialization as much as science does. A broader approach is preferable for arriving at broad truths. While the Bible does not explain everything, it does give meaningfulness to man's existence and the higher attributes of man, such as concern, moral responsibility, etc.

The Bible has an impressive record of acceptance. The American Bible Society alone has produced over 5 billion copies of the Bible, or parts of it.

The Bible, which claims authority from God, has withstood the challenge of time. While its authority has been often challenged, it is revered by many as the guide for life.

The Bible has shown a degree of predictive ability, such as the Old Testament prophecies about Christ; however, some prophetic interpretations are subject to reevaluation.

- 2. Liabilities:** The Bible deals with some areas of experience that are less objective than science; hence, evaluation appears more difficult. There is more room for misconceptions in a less tangible area of experience such as religion.

The Bible does not cover all information and in certain areas (for example, embryology) science is obviously a better source of information.

There are problems with some inconsistencies within the Bible and between biblical manuscripts. These do not materially affect the main themes of the Bible.

C. VIEWPOINT OF SCIENCE ON THE BIBLE

- 1. A God who can overrule nature is considered antagonistic to science.** Many sincere scientists feel that there is a serious conflict between science and God, since science is based on cause and effect, repeatability and predictability, while a God who can overrule in nature can negate these characteristics. The conflict can be resolved if one conceives of a consistent God who has established the laws of nature and who usually operates within these laws. Paradoxically, in this

conflict between God and science, is the suggestion by Whitehead (1950) and others that science developed in the Western world because the God of the Judeo-Christian tradition of monotheism is a God of consistency and order. This type of a God fits well with science. Whitehead suggests that science did not flourish in the Eastern cultures because of polytheism and capricious, inconsistent gods.

2. *God can be used to solve all problems.* Some scientists also feel that the concept of a God such as the all-powerful God described in the Bible is detrimental to science, because whenever one has an unsolved problem, all he has to do is to invoke the power of this almighty God to solve it. Paradoxically, the common practice in some areas of science to use vast amounts of time as a means of explaining improbable events has the same defect. As Wald (1954) points out, given enough time, anything can happen, for "time itself performs the miracles." This reliance on time for improbable events has caused a methodological problem for evolution as a scientific concept, because with time, anything could happen; hence, no matter what has been interpreted as the past history of life, it could have occurred, and since anything could have occurred, there is no way to test it and show that it did not. The problem has been well stated by two evolutionary biologists, Birch and Ehrlich (1967): "Our theory of evolution has become one which cannot be refuted by any possible observations. Any conceivable observations can be fitted into it. It is thus outside of empirical science but not necessarily false. No one can think of ways in which to test it."

3. *Conclusion: "Science" does not accept the Bible.*

D. BIBLICAL POSITION ON SCIENCE

1. *It gives some scientific information.* Examples would include the sun's shadow moving back ten steps (2 Kings 20:10), water covering the highest mountains at the flood (Gen. 7:19), etc.
2. *Commends the scientific type of methodology.* "Test everything; hold fast what is good" (1 Thess. 5:21; see also Eccles. 1:13).
3. *Warns against false information.* (2 Pet. 3:3-6; 1 Tim. 6:20; 2 Tim. 4:3-4). It is rather remarkable that in 2 Peter 3:3-6 we are told that in the last days, there would be a "willing ignorance" of creation and the flood. That these should be the two main points of contention between science

and the Bible at present appears more than coincidental. Hundreds of other areas of contention could have been predicted by Peter.

4. *Urges the use of faith.* (Heb. 11:6; John 20:29). This is considered by some as an unscientific procedure (see the next section).
5. *Faith based on evidence.* Romans 1:20 indicates that the evidence we see about us does point to God, His eternal power and deity; hence, a rather rational approach to faith.
6. *There is more to reality than "science" can show.* "Canst thou by searching find out God?" (Job 11:7).
7. *Conclusion: The Bible cautiously accepts science.*

E. ELLEN G. WHITE'S POSITION ON SCIENCE AND THE BIBLE

1. *Encourages bringing science and the Bible together.* "The great object in the establishment of our College [Battle Creek] was to give correct views, showing the harmony of science and Bible religion" (4T 274). See also Ed 128; CT 426.
2. *Makes a distinction between men's ideas of science (or science "falsely so-called") and science.* PP 114; MH 463; GC 522; CT 425.
3. *Bible and science agree.* Ed 128; PP 114,115; 8T 258.
4. *Science by itself is inadequate.* MH 427; Ed 134; 5T 704; PP 112. "We are not creatures devoid of moral nature. The gospel does not address the understanding alone. If it did, we might approach it as we approach the study of a book dealing with mathematical formulas, which relate to the intellect alone....Its aim is the heart. It addresses our moral nature, and takes possession of the will. It casts down imaginations, and every high thing that exalts itself against the knowledge of God, and brings into captivity every thought to the obedience of Christ" (OHC 105).
5. *Faith rests upon evidence.* "God never asks us to believe, without giving sufficient evidence upon which to base our faith. His existence, His character, the truthfulness of His word, are all established by testimony that appeals to our reason; and this testimony is abundant. Yet God has never removed the possibility of doubt. Our faith must rest upon evidence, not

demonstration. Those who wish to doubt will have opportunity; while those who really desire to know the truth will find plenty of evidence on which to rest their faith" (SC 105).

6. *Conclusion: White cautiously accepts science.*

III. AN SDA PERSPECTIVE ON THE SCIENCES

Seventh-day Adventists believe that the Bible is the Word of God and that God is the Creator. Hence, it is expected that truth is to be found both in God's word and in His creation. Both the Bible and nature are valid sources of information, and since both have the same "authorship", they should agree with each other. Truth should be consistent with itself. Seventh-day Adventist science takes into perspective information from both Scripture and nature and bases its inferences on both.

When the issue of whether the Bible or science is correct is raised, one has to recognize that both the Bible and science are subject to some interpretation. On the other hand, there are good reasons to give the Bible primacy when considering disputed points. For instance, science has failed to provide adequate scientific answers to the question of the origin of life. Some kind of Designer seems to be a necessity. The Bible explains this necessary Designer and therefore is the preferred choice.

Also, the conclusions of science, which are subject to considerable revision as new theories are proposed, seem less secure than the more enduring Bible. There are many other good reasons to believe in the Bible, such as archaeological and historical authentication, etc.

The question is sometimes asked as to what the Seventh-day Adventist scientist should do when incontrovertible evidence indicates that the biblical concept of beginnings is erroneous. This question assumes that science can come forth with incontrovertible evidence regarding past events and that the Bible may be controvertible. Like many questions, this one is weighted towards a given conclusion. However, the past is an area in which science has problems, and this raises the question of whether the evidence is really incontrovertible. Absolute proof belongs more to the realm of logic and mathematics, not science. Science is at its best while working with the present, but has some difficulty with the past which is often not easy to duplicate and test. Dealing with the past has sometimes been called historical science, which is not considered as definitive as experimental science. Also, an Adventist scientist holds a degree of commitment to the Bible, to beliefs beyond

naturalistic scientific interpretations, and Adventist beliefs in particular. One of the 27 fundamental doctrines of the church is a belief in creation by God in six days (No. 6). The question posed above tends to be somewhat hypothetical but needs to be approached with understanding and concern.

Can a Bible-believing Adventist be a scientist? This question can revolve around one's definition of science. If science is a methodology for arriving at truth, then a Seventh-day Adventist can be a scientist looking for the truth found in nature. On the other hand, if science is a naturalistic philosophy which excludes the supernatural, then a Bible-believing Seventh-day Adventist will sometimes postulate interpretations that would conflict with a purely naturalistic philosophy. A narrow, naturalistic search for truth seems less satisfactory; hence, an approach that employs science as a methodology seems preferable. Seventh-day Adventist science can work effectively in this context; in fact, because of its broad base, it appears to be a better approach for the discovery of truth related to broad questions such as origins.

IV. PERTINENT DEVELOPMENTS IN SCIENCE

A. CHANGES IN THE PHILOSOPHY OF SCIENCE

For well over a century there has been a tendency in science to explain almost everything within its own context. External influences such as religion have been persistently rejected. Logical empiricism, the idea that we derive truth from sense evidence, has dominated scientific philosophy.

Certain problems have developed with this philosophy. They include: 1) The problem of the impossibility of accurate measurements of complex physical phenomena, 2) the development of the limitative theorems in mathematics that show that you cannot prove the consistency of any large system of thought, and 3) science is viewed now more from a sociological phenomenon (paradigms, etc.) than a purely objective one.

The philosophy of science has lost its tone of confidence and is in a state of uncertainty. The dominant position that this philosophy has had in philosophy in general a few decades ago also appears to be gone.

B. BIOLOGY

One of the more significant trends in biology is the development of the discipline of sociobiology. This new area of study challenges some of the most valued arguments against evolution.

Sociobiology provides some naturalistic explanations for a number of the strong arguments in favor of creation. These include evolutionary explanations for altruism, ethics, human behavior, and some of the evidence for design.

The Darwinian concept of evolution appears to be in serious trouble (Taylor 1983, Denton 1985). It has become almost fashionable in scientific circles to criticize Darwinism. Darwinism is not to be confused with evolution, which is still strongly defended. Darwinism is that particular model of evolution that was generally accepted earlier this century and which reflects some of the basic concepts proposed by Charles Darwin.

An apparent result of the rejection of Darwinian evolution has been a plethora of other ideas that conflict with Darwinism and with each other. Conflicts center around: 1) Were evolutionary changes gradual or episodic? 2) What are acceptable criteria to evaluate evolutionary changes? and 3) Does survival value play a part in evolution?

C. GEOLOGY

The plate tectonics concept (movements of continents, etc.) has revolutionized major segments of geological thinking; however, what was apparently a grand simple model consisting of the movement of major plates over the earth is becoming clouded with concerns over the finding of the wrong kinds of rocks on the ocean floor and especially evidence for a multitude of smaller, independent microplates. Data suggest that the western part of North America has been formed by the accretion of some 200 microplates.

More significant to the creation-evolution controversy is the change in geological thinking from uniformitarianism (slow gradual geologic changes) to neo-catastrophism (catastrophes as major agents of geologic change). In returning to catastrophism, geology is not adopting concepts of a biblical worldwide flood as the major geologic event that shaped the crust of the earth, but the trends are in that direction, and major catastrophic events are both incorporated in the interpretational repertoire and assumed to have taken place over long ages. However, there are some data that indicate that not much time has occurred between catastrophic events.

D. COSMOGONY

In the field of cosmogony, the Big-Bang concept of the origin of the universe is still the majority view. This model may be in trouble because of the uneven distribution of matter in the universe. Other ideas are being considered.

V. ORGANIZED OPPOSITION IN THE CREATION-EVOLUTION CONTROVERSY

A. CREATION MOVEMENT

The modern creation movement was partly stimulated by the exclusive teaching of evolution in public schools. Parents in Southern California in the early 1960s especially objected to teachings which contradicted religious and moral values. A long series of public hearings and lawsuits provided significant publicity.

In the United States, most court hearings and judicial decisions have favored evolution; not on the merits of one concept over the other, but on the basis of the principle of separation of church and state. Although creation has been labeled as "scientific creationism," courts have generally held that it is a religious concept that should not be taught in public schools. Also, at these trials a significant number of church leaders have testified that the Genesis account of beginnings is not to be taken literally. Gilkey (1987) points out that at the 1981 Arkansas trial over mandated teaching of both evolution and creation, "Religion took the lead in defending science at the trial."

The creation movement has spread over the world. Numbers (1987) concludes that "strict creationism had become an international phenomenon." Huse (1983, Appendix B) lists 73 "creation science" organizations, two fifths of them outside the United States. The volume of literature opposing evolution is almost beyond belief. McIver (1988) lists 1852 books and pamphlets opposing evolution. This list excludes the creation-oriented journals, where much of the creation-oriented literature is published.

Seventh-day Adventists have had some part in the modern creation movement, especially in its early stages; however, it has been largely promulgated by conservative evangelical groups. Because of both inaccurate argumentation and aggressive tactics of many creation groups, most Seventh-day Adventists have tended to isolate themselves from the creation movement.

B. THE ANTI-CREATION MOVEMENT

The initial reaction by evolutionists to the creation movement was to ignore it. However, after creationists continued to win debates and public opinion (while still losing in the courts), evolutionists began to protest and organize. Argumentation usually centered around whether creation was science, not whether the concept was true. It was strongly urged that it be excluded from the science curriculum. Such a non-naturalistic philosophy was considered an affront to the integrity of naturalistic science. Too often the battles were reduced to name calling (Roth 1983).

In 1980 each state formed a loosely organized group of autonomous committees. Calling themselves the Committees of Correspondence, they kept in contact with each other for the purpose of opposing the teaching and promotion of creation concepts. They became more formally organized as the National Center for Science Education. Money is raised through grants, membership fees, and publications. They publish a journal, *Creation/Evolution*, and a news periodical, *National Center for Science Education Reports*.

It must be noted that the anti-creation movement represents an extreme view. All scientists who believe in evolution should not be categorized with the anti-creation movement. Many of these also believe in some kind of designer. They readily recognize that science has limitations.

Unfortunately, the creation-evolution controversy has been characterized by too much carelessness and acrimony, at the expense of careful scholarship.

VI. SEVENTH-DAY ADVENTIST SCIENCE EDUCATION

A. IMPORTANCE

Adventist educational institutions should provide the finest education, including the most recent developments in science, using laboratories that are provided with the best equipment available. This goal, while widely accepted, is not always realized.

However, beyond producing competent and well-educated graduates, Adventist science education has a unique purpose in counteracting the secularism that currently dominates scientific interpretations. These classes must consciously seek to restore God to His rightful place as Creator and Sustainer of the universe.

Many scientists now perceive a basic conflict between the Bible and scientific methodology, a schism emphasized by recent debates in the controversy between creation and evolution. Creation is sometimes described as being "unscientific." This actually means that we cannot analyze it using scientific methodology. Because creation does not lend itself to such examination, science pursues its own course providing naturalistic interpretations, which, paradoxically, it may be unqualified to give.

Many people do not recognize that science is unable to analyze creation because of its own limitations rather than because creation may be a fallacy. Others cannot reconcile an indiscernable God who can manipulate nature with the consistency they see in the laws of nature. They do not recognize that a God of law and order created the laws of nature that make science possible.

Perhaps the most serious problem in this area is that science, using its own system of thought, has failed to provide adequate naturalistic explanations for the origin of many realities in the world about us. These include the simplest form of independent life, complex integrated biological systems such as the brain, or the phenomenon of free will, which if free is not based on cause and effect.

Simpler arguments that were leveled against Charles Darwin's idea of general evolution remain unanswered. Apparently these troubled Darwin, for he wrote to his friend and supporter, the American botanist Asa Gray:

I remember well the time when the thought of the eye made me cold all over, but I have got over this stage of the complaint, and now small trifling particulars of structure often make me very uncomfortable. The sight of a feather in a peacock's tail, whenever I gaze at it, makes me sick! (1888, II.296).

The concept of intelligent design offers a better explanation to such problems than do contemporary scientific theories.

B. A THREAT TO ACADEMIC FREEDOM?

Seventh-day Adventist science education has a special challenge to counteract the present naturalistic secular philosophy of science by emphasizing the many evidences for a creator that are found in the natural world about us. However, this assertion immediately raises questions about academic freedom, which is important to scientific research.

Some scientists believe that accepting the concept of creation denies the openness of science, which should be free to pursue truth wherever it may lead. However, the only way to be equally open to all positions is to make no decisions, except to decide to not decide – an unsatisfying if not paralyzing conundrum. Both science and the Seventh-day Adventist Church have the right to draw conclusions, decide what is believed to be true and act upon those decisions.

This does not imply that the church does not need to constantly reexamine its tenets. It does. However, there is a danger that any process of reexamination may be dominated by skepticism. This will paralyze any activity that bases its conclusions on established truth.

While every individual and every social group needs to evaluate its beliefs, the *primary* purpose of Seventh-day Adventist education – including its science education – is not to debate the pros and cons of every issue ad infinitum, enjoyable as that may be. Secular institutions which do not have such strong moral and religious goals can more readily accommodate this kind of activity. Seventh-day Adventist educational institutions should not be debate societies that produce agnostics; they have the higher purpose of preparing youth to serve the needs of a troubled world.

Science instruction in Adventist institutions can help significantly by emancipating science from its traditional secular mode, and through a wholistic approach to investigation, emphasize the information that points to a creator. This type of curriculum will help train graduates with a proper appreciation for the moral values of the Bible – men and women of conviction and action.

C. OUR PRESENT CHALLENGE

During the earlier part of this century, Adventist science education successfully met the challenge of organic evolution. Today's challenge questions the authenticity of the biblical account of beginnings, especially as it relates to time. In general, science provides an encouraging endorsement of the creation concept. From a biological viewpoint, advances in molecular biology over the past decades have revealed a complexity that makes the undirected organization of complex life structures all the more plausible.

The serious debates among evolutionary biologists about different concepts suggests that the case for any one model of evolution is not compelling. Geology has had a major "philosophical breakthrough" (Erle Kauffman, in Lewin 1983) from uniformitarianism (slow changes) to

catastrophism (rapid changes). Geologists have not abandoned the concept of long geological ages, but they are reporting an abundance of catastrophic activity "throughout the geologic record" (Nummedal 1982) of the past, which is exactly what creationists would expect to see based on the flood described in Genesis.

Discrepancies in time-related factors also raise questions regarding the validity of the standard geologic time scale. We can be encouraged by these general trends, which the Adventist science teacher can use to affirm his students' belief in the word of God. Seventh-day Adventist students need to be kept informed of the latest developments and their implications.

Not all problems are solved, of course, and teachers should forthrightly and honestly admit this. However, the recent advances of science have not provided a cogent bulwark against the Bible. Quite the contrary. Modern developments in biology and geology, while difficult to quantify, probably give us more reason to believe in the Bible than ever before.

A further challenge to Adventist science is the process of secularization that is occurring in both our churches in educational institutions. Naturalistic scientific interpretations have contributed significantly to the process. I know of no single idea in Western thought that has done more harm to the Bible than the theory of evolution. Most major churches have accommodated to a variety of concepts of evolutionary development over vast periods of time.

Seventh-day Adventist schools must make special efforts to counteract such secular trends in order to maintain their unique reason for existence. No church of our intellectual sophistication has so far been able to resist the trend towards evolution. For the church to survive, Adventist beliefs must be reaffirmed in the classroom. Therefore, church science teachers bear a special responsibility for the future of their denomination.

D. IMPORTANCE OF SCIENCE COURSES

We live in an age dominated by science and its discoveries. Adventist education must recognize the implications of this situation and adjust its emphases accordingly. Past Adventist education has had a fairly strong science component. This is no doubt due to the emphasis Ellen G. White has placed on both nature education and the healing professions. This emphasis appears to be waning.

As a result, our graduates are unprepared to meet the challenges that science has brought to society.

Almost one hundred years ago Ellen G. White (1890) wrote:

I have been warned that henceforth we shall have a constant contest. Science, so-called, and religion will be placed in opposition to each other, because finite men do not comprehend the power and greatness of God.
(MS 16, 1890).

Are we preparing our graduates for this "constant contest"? One of the greatest contributions our educational institutions can make is to astutely meet this challenge.

Evolutionary concepts, which originated in science, have permeated most major academic disciplines. The challenge of secular scientific interpretation concerns not only the science major, but also students in almost every area of specialization.

E. CONCLUSION

Any good college or university can produce technically well-trained graduates. However, the Adventist college must achieve a more lofty challenge: producing technically proficient graduates who are also capable of evaluating the basis of their religious beliefs. Adventist faculties need to reassess their core curriculum in order to address this problem. A stronger scholastic emphasis on the relationship between science and religion is essential if Adventism is to successfully fulfill its mission.

REFERENCES

- Birch, L.C. and P.R. Ehrlich. 1967. Evolutionary history and population biology. *Nature* 214:349-352.
- Bush, V. 1967. *Science is not enough*. William Morrow, New York.
- Darwin, F. (ed.). 1887-1888. *The life and letters of Charles Darwin*. 3 vols. John Murray, London.
- Denton, M. 1985. *Evolution: a theory in crisis*. Burnett Books, The Hutchinson Publishing Group, London.
- Gilkey, L. 1987. Religion and science in an advanced scientific culture. *Zygon* 22:165-178.
- Griffith, B.C. and N.C. Mullins. 1972. Coherent social groups in scientific change. *Science* 177:959-964.
- Huse, S.M. 1983. *The collapse of evolution*. Baker Book House, Grand Rapids, Michigan.
- Kuhn, T.S. 1970. *The structure of scientific revolutions*. The University of Chicago Press, Chicago.
- Lewin, R. 1983. Extinctions and the history of life. *Science* 221:935-937.

- McIver, T. 1988. *Anti-evolution: an annotated bibliography*. McFarland & Co., Jefferson, North Carolina.
- Medawar, P. 1969. Induction and intuition in scientific thought. *Memoirs of the American Philosophical Society* 75.
- Numbers, R.L. 1987. The creationists. *Zygon* 22:133-164.
- Nummedal, D. 1982. *Clastics*. *Geotimes* 27(2):23.
- Price, D.J.D.S. 1963. *Little science, big science*. Columbia University Press, New York.
- Price, D.J.D.S. 1965. Networks of scientific papers. *Science* 149:510-515.
- Roszak, T. 1972. *Where the wasteland ends*. Doubleday & Co., Inc., Garden City, New York.
- Roth, A.A. 1983. Where has the science gone? *Origins* 10:48-49.
- SDA Bible Commentary, Vol. 1, 1978 ed. Review and Herald Pub. Assn., Washington D.C.
- Taylor, G.R. 1983. *The great evolution mystery*. Harper & Row, New York.
- Wald, G. 1954. The origin of life. *Scientific American* 191 (August):44-53.
- Weaver, W. 1961. The imperfections of science. *American Scientist* 49(1):99-113.
- Whitehead, A.N. 1950. *Science and the modern world*. Macmillan and Co., London.