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**FAITH AND SCIENCE
WITHIN A SEVENTH-DAY ADVENTIST CONTEXT:
TOWARDS AN OPEN INTERNAL DIALOGUE**

by

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Prepared for the
38th International Faith and Learning Seminar
Held at
Loma Linda University
July 2008

Introduction

The primary purpose of this paper is to advocate for open dialogue between SDA scientists and theologians in order to better appreciate the underlying harmony that exists between Scripture and the natural world.¹ The paper is divided into three parts in order to accomplish this end. Firstly, with reference to Thomas Kuhn I have defined science as a human endeavour, which is, therefore, a subjective project that at its root requires faith to proceed. This is critical to understand, lest science be given precedence over Scriptural considerations. Secondly, I have identified the epistemological starting point of SDA faith as resting on the principle of *Sola Scriptura*. However, this principle does not mean that Scripture is understood in a vacuum, because clearly there are other influences that impact on our understandings of Scripture. This leads to part three, which addresses the contribution that science can make to Seventh-day Adventist theologies and Bible interpretations. This requires interdisciplinary contact between SDA scientists and theologians. This contact requires an open dialogue, as this mutual expertise is brought to bear on difficult questions regarding science and Scripture. The hope is that the gap that is often perceived between science and theology may be narrowed.

I. Faith in Science and Religion

A. Kuhn and Scientific Paradigm

Conceptions of science prior to the 1960s, particularly the positivist schools of thought, tended to hold that science could deliver objective and absolute truths about the natural world. Scientific truth was considered to be the only meaningful truth, despite the fact that it confined itself to empiricism. This “traditional conception of science”² clearly implied a complete polarisation of science and religion, where science could not take religious thought seriously. Since religions do not draw their beliefs systems exclusively from the physical world, the traditional conception of science could only view their conclusions, at best, as speculative flights of fancy. Religions, quite simply, were not dealing in actual truth at all.

In 1962, however, Thomas Kuhn revolutionised the philosophy of science with the publishing of *The Structure of Scientific Revolutions*.³ Kuhn demonstrated how science’s quest for truth is actually a process that is bounded by precise parameters (laws, principles and so forth), that are themselves the product of theoretical constructs. With reference to history, Kuhn showed how science has been forced to change its theories as the tenets of individual paradigms have become increasingly anomalous. In other words,

¹ In conversations I had with Seventh-day Adventist scientists at the Geoscience Research Institute, notably Dr Ben Clausen and Dr Jim Gibson, it was mentioned that such dialogues have occurred in the past in a North American context. In this sense, what I am advocating here is nothing new, but rather a reiteration and reaffirmation of a fundamental need in the SDA Church when our faith seems to conflict with scientific advances. These dialogues, however, need to take place on a wider platform and be global in scope, in order to allow the church as a whole to move forward as the difficult questions of science are addressed.

² This term is used in Del Ratzsch, *Science and Its Limits: The Natural Sciences in Christian Perspective* (Downer’s Grove: InterVarsity Press, 2000), 17ff.

³ Thomas Kuhn, *The Structure of Scientific Revolutions* (Chicago: University of Chicago Press, 1962).

science has not been steadily accumulating a wealth of knowledge and truth about the Universe over the centuries, but rather has been propounding and refining theories and sometimes abandoning them completely. The empiricist vision which perhaps could be reduced to “seeing is believing” has not proved to be as reliable as one might have thought. Different observers see different things, record different data, accent different aspects of the natural world, draw different conclusions and, it must be said, bring their own set of different prejudices.

The essence of Kuhn’s philosophy of science is governed by something that he calls a paradigm. “A paradigm is, roughly, a standard of scientific achievement in terms of which scientific work is conducted and evaluated.”⁴ Taking the theory of evolution as an example of a scientific paradigm serves to explain the concept. A scientist who is operating within an evolutionary paradigm is concerned that all data be consistent with evolutionary theory. If the data does not cohere, for instance, if there is a organism lower in the geological column than it should rightfully appear, then our scientist is faced with what Kuhn calls an anomaly: a piece of data that does not conform to paradigm generated expectations. Confronted with an anomaly, Kuhn suggests that scientists engage in “puzzle-solving”, that is they try to explain how the anomalous data is nevertheless consistent with the paradigm, in this case evolutionary theory. If no explanation is forthcoming, the anomaly will not serve to destroy the paradigm, rather the scientist will continue to perform science within the parameters of the paradigm and table the anomaly. It is only if anomalies build up in number and threaten the stability of the paradigm or, possibly, a single anomaly is so profoundly significant that it cannot be ignored that the paradigm goes into what Kuhn calls “crisis.” A crisis implies a breakdown in the paradigm where scientists lose faith in the scientific model suggested by the paradigm. However, Kuhn insists that science requires a paradigm in order to function, and so scientists will continue to operate within the threatened paradigm until a viable alternative is discovered. At this time, the shared paradigm of the scientific community may shift in a “scientific revolution” to the new paradigm that is able to deal with the anomalous data that shattered confidence in the previous paradigm. It is to this process in science that Kuhn alludes in his title *The Structure of Scientific Revolutions*.

With regard to the theory of evolution, it is interesting and, perhaps, quite illuminating to note the publication in 1985 of Michael Denton’s influential *Evolution: A Theory in Crisis*.⁵ As a molecular biologist, Denton presented his arguments as a member of the scientific community rather than a proponent of creationism. It is not my place to critique or commend the book here, although it should be noted that it has been received very positively by creationists, while prominent evolutionists have been somewhat disparaging of its claims. The point for this paper is the clear allusion Denton makes to Kuhn’s philosophy of science, when he refers to evolution as a theory in crisis. His point is simple, the anomalous data in evolutionary theory is so significant and voluminous that it can no longer be ignored; an alternative paradigm must be sought. To restate this idea: according to Denton the data that is presented in the natural world is so at odds with evolutionary theory, the theory should be abandoned.

Reiterating, then, my issue is not to agree or disagree with the arguments of Denton’s book, rather it is to note that the allusion to “crisis” in the title, in line with what

⁴ Ratzsch, 41.

⁵ Michael Denton, *Evolution: A Theory in Crisis* (Chevy Chase: Adler & Adler Publishers Inc., 1985).

Kuhn suggests, indicates that the theories of science (in this case the theory of evolution) are not so much the product of data gathered in the natural world, but rather strive to indicate how data fit established theory. But if this is true, it means that science functions with *a priori* theories (even though these may be highly probable and based on *some* data) that demand data be interpreted in a certain way, i.e. in accordance with the dominant shared scientific paradigm.

While acknowledging that certain valid critiques have been levelled against Thomas Kuhn and his notion of scientific paradigm, there does seem to be an evident paradigmatic nature to the way that evolutionists conduct science. Without needing to uncritically accept the totality of Kuhn's philosophy of science, Kuhn nevertheless demonstrates that "scientific truth" is not as absolute and objective as science is often popularly perceived. In other words, when "religious faith" is confronted with "scientific truth", in the sense of the traditional conception of science, science was able to dismiss the claims of religion. The same does not hold, when "religious faith" is confronted with "scientific paradigm." Kuhn's philosophy of science served to destabilise and question science's claims to absolute truth. What Kuhn established is that "science is a deeply human pursuit."⁶ Joseph Spradley in his survey of the history of science, *Visions that Shaped the Universe: A History of Scientific Ideas About the Universe* gave the following pithy and insightful definition: "Science is a *creative human effort* to explain and understand natural phenomena"⁷ (emphasis supplied).

The lofty claims of scientific objectivity need to be understood in the realms of human endeavour. The limitations of humanity infiltrate science and there is no way around this. Science *is* a human endeavour. There are frequently presuppositions in place that govern the interpretation of data. These presuppositions can never be absolutely proved. It is one thing to say that the theory of evolution is scientific fact. It is quite another to say that it is probable.

It is debatable where the epistemological starting point for science resides, particularly when considering the theory of evolution. Is it the natural world? Or is it the theory itself? Kuhn seems to suggest that it is the theory. The data is then interpreted to fit the theory. Of course, one could argue that the data gave birth to the theory in the first place. But even if this is true, it is nevertheless limited data. In other words, a limited selection of data was gathered (in terms of the insurmountable amount of data available) that indicated that the theory of evolution was reasonable. Once accepted, the theory then begins to govern the interpretation of further data which is now expected to concur with the established theory. One could argue that what is actually happening is a dialectical process whereby the theory is developed and reshaped as more data is gathered and, in turn, additional data is given new meaning in light of the developing theory. This means that the theory of evolution today is not precisely that which was formulated by Darwin in *The Origin of Species* and I would hazard to suggest that this is true. But even if this is the case, at no point can the theory be stated as absolute truth. For example, no amount of development to Ptolemy's geocentric solar system, is going to make it true, even though its development may serve to allow it to function better as a navigational guide to ships at sea. The theory is developing, science is functioning, and much of science is useful and

⁶ Ratzsch, 91.

⁷ Joseph L Spradley, *Visions that Shaped the Universe: A History of Scientific Ideas About the Universe* (Wm C Brown Publishing, 1995), 1.

of technological value, but this does not alter the basic idea that its theories are never absolute. To be accepted they require at least a modicum of faith. This doesn't necessarily make scientific theory akin to religion, but it does at least level the playing field somewhat.

B. Religious Faith within a Seventh-day Adventist Context

Religious faith or, more particularly, Seventh-day Adventist Christian faith is not determined by scientific observations, experiments and methods. Rather, SDA faith is determined by theological conclusions drawn from a very specific reading and understanding of the biblical record. Furthermore, faith is an ever deepening and expanding phenomenon as the people of God grow in their relationship with God and their understanding of God. This is true of the SDA Church and their expression of faith that is currently embodied in the twenty-eight fundamental beliefs. These beliefs are prefaced as follows:

Seventh-day Adventists accept the Bible as their only creed and hold certain fundamental beliefs to be the teaching of the Holy Scriptures. These beliefs as set forth here, constitute the church's understanding and expression of the teaching of Scripture. Revision of these statements may be expected at a General Conference session when the church is led by the Holy Spirit to a fuller understanding of Bible truth or finds better language in which to express the teachings of God's Holy Word.⁸

Theological reflection is never a completed task. This does not mean that what is currently understood as truth by the church is ultimately going to prove unsustainable; it is merely an acknowledgement of the rather obvious fact that when considering the infinity God, the church has barely scratched the surface. It should also be recognised that the theological conclusions of the church are not infallible.

The *Seventh-day Adventist Church Manual* acknowledges that "revision" of the fundamental beliefs may be anticipated. In fact, there has been considerable movement on the wording of the church doctrines in the past fifty years. In the current *Seventh-day Adventist Church Manual* – the 17th edition revised in 2005 – there are, in all, twenty-eight fundamental beliefs. The *Church Manual* revised in 1959⁹ presents only 22 beliefs, a difference which on the surface reflects an addition of 6 beliefs since this time. This summation overlooks the fact that there has been considerable movement in the actual wording of the doctrines as well. For example, in 1959, the Doctrine of the Sanctuary was embodied in four of the 22 beliefs, whereas by 2005 this doctrine had been streamlined and more precisely formulated into a single doctrine.¹⁰ The point is a simple one. There has been genuine revision and reformulation of the Seventh-day Adventist fundamental belief system in a relatively short period of time. The question that arises, is simply this, what is the basis for this theological development?

The answer is given in the preceding statement to the fundamental beliefs, already quoted, but reiterated here with emphasis:

Seventh-day Adventists accept the *Bible* as their only creed and hold certain fundamental beliefs to be the teaching of the *Holy Scriptures*. These beliefs as set forth here, constitute the church's understanding and expression of the teaching of *Scripture*. Revision of these statements may be

⁸ *Seventh-day Adventist Church Manual*, 17th Edition (Hagerstown: Review and Herald Publishing Association, 2005), 9.

⁹ *Church Manual: Issued by the General Conference of Seventh-day Adventists 1959* (Washington DC: Review and Herald Publishing, 1959).

¹⁰ *Church Manual* (1959), 32-3.

expected at a General Conference session when the church is led by the Holy Spirit to a fuller understanding of *Bible truth* or finds better language in which to express the teachings of *God's Holy Word* [emphasis supplied].¹¹

Note that the Bible is referred to a total of five times in different ways to emphasise the origin of Seventh-day Adventist beliefs: 1) Bible; 2) Holy Scriptures; 3) Scripture; 4) Bible truth; 5) God's Holy Word. There is no place given for nature, the natural world, science or any derivative thereof as having a legitimate stake in establishing church doctrine. If the fundamental beliefs are to be revised, it will not be because a scientist applies some data (no matter how compelling) from the natural world that apparently disproves the creation narrative. Revisions of the beliefs occur due to a clearer understanding of Scripture, not a clearer understanding of, for example, the geologic column. This approach to establishing church doctrine has been called *Sola Scriptura* – the Bible only.

Relevant to the current discussion is fundamental belief #6 entitled “Creation” which is quoted verbatim below:

6. Creation

God is Creator of all things, and has revealed in Scripture the authentic account of His creative activity. In six days the Lord made “the heaven and the earth” and all living things upon the earth, and rested on the seventh day of that first week. Thus He established the Sabbath as a perpetual memorial of His completed creative work. The first man and woman were made in the image of God as the crowning work of Creation, given dominion over the world, and charged with responsibility to care for it. When the world was finished it was “very good,” declaring the glory of God. (Gen. 1; 2; Ex. 20:8-11; Ps. 19:1-6; 33:6, 9; 104; Heb. 11:3.)¹²

I would like to suggest that the entirety of this belief has to be accepted by faith. It cannot be the subject of scientific scrutiny for the sake of revision either for evolutionists (who obviously have little or no interest in the corroborating biblical narrative) or even for Seventh-day Adventist scientists. On the one hand, few, if any, would dispute that the origin of this belief is the Bible. But, more than this, young earth creationists, do not appeal to the creation event as the basis for the geological structures found in the world.

Young earth creationists hold that the world as we observe it today was formed by the worldwide flood recorded in Genesis 6. Scientific evidence is presented to support the flood event and thereby demonstrate the short chronology that the Bible narrative (including the creation story) suggests. The creation of the world by God in six days is perceived to be true by implication, not because the shape of the world today is reflected in Genesis 1 and 2. In fact, young earth creationists maintain that the major geological features of the world today are remnants of the flood. Arguments against evolution with regard to intelligent design while required by young earth creationists, again, need not be related to a specific six day creation event. This event is believed and is among the fundamental beliefs because it is testified to in Scripture.

The epistemological starting point for Seventh-day Adventist beliefs is unequivocally the Scriptures. Whether one agrees with the hermeneutics that are employed by the SDA Church to arrive at the conclusions they do is a different question altogether. The issue is quite simply that the starting point for truth, the source of knowledge, is the Bible.

¹¹ *Seventh-day Adventist Church Manual*, 17th Edition, 9.

¹² *Seventh-day Adventist Church Manual*, 17th Edition, 10.

II. Tensions

It is evident from a Seventh-day Adventist perspective that there *should* be harmony between the revelation of truth as it is testified in Scripture and realities to be found in the natural world. The reason behind this is simply that since God is the author of Scripture (via the prophets who actually penned the Bible) and God is the Creator of the world, the two should cohere. Similarly, belief in a worldwide flood is derived from Scripture and the natural world should reflect the reality of this event. In other words, geologists should be discovering that the natural world displays remnants of the worldwide flood that are in line with the biblical narrative. Obviously, a tension arises for scientists if the data they collect in the natural world appear to tell a conflicting story.

The question that now must be addressed is the *Sola Scriptura* method of interpretation adopted by the Seventh-day Adventist Church and the implications this has for the scientist. Quite clearly, this epistemological position with regard to discovering truth in the SDA Church is non-negotiable and it is not the concern of this paper to challenge this position. The question is: given that the SDA Church believes in *Sola Scriptura* what input does the SDA scientist have in establishing Church doctrine?

Is it, for example, the duty of the SDA scientist to unequivocally accept the theological pronouncements of the Church (since they are derived from Scripture) and find ways to interpret the data in the natural world in a manner that harmonises with these theological positions? Or does the scientist have a right to suggest that theological conclusions should be adapted in order to discover a better “fit” between Scripture and the natural world? On the surface, at least, it would appear that the *Sola Scriptura* principle would suggest that these two questions be answered “Yes” and “No” respectively. The scientist is there to confirm the theological conclusions of the Church, not to bring them into question, since to do this is to overstep the bounds of his/her supposed mandate and thereby violate *Sola Scriptura*. But these questions need further examination.

A. Interpretation and *Sola Scriptura*

i. *Prima Scriptura*

The idea of the Bible being the sole authority for Christian belief (*Sola Scriptura*) is offset and challenged by the notion of *Prima Scriptura*. This holds that, while the Bible is the primary epistemological source for understanding Christian faith, it is not the only guide. It would not be at all surprising to find a scientist who, while holding that Scripture is the ultimate authority in establishing beliefs, also holds that these beliefs can be informed and amended by a secondary authority: the natural world. *Prima Scriptura* could have recourse to any number of secondary authorities, e.g. church tradition, divine epiphanies, culture, reason, personal conscience and so on.

An approach to Scriptural interpretation that could be named *Prima Scriptura* has been dubbed the “Wesleyan Quadrilateral.” The man credited with coining the phrase and observing this process of interpretation in John Wesley’s theology was Methodist Albert Outler. Outler draws the following conclusion: “Thus, we can see in Wesley a distinctive theological method, with Scripture as its pre-eminent norm but interfaced with tradition,

reason and Christian experience as dynamic and interactive aids in the interpretation of the Word of God in Scripture.”¹³

And so Wesley appeals to the following: 1) Primacy of Scripture; 2) Tradition; 3) Reason; 4) Christian experience. As an immediate reaction, Seventh-day Adventists may wish to reject Wesley’s method out of hand, particularly when keeping in mind their aversion for certain Catholic understandings of church belief that appear to use tradition rather than Scripture as normative. But one must recall that John Wesley is located squarely in the Protestant camp and, perhaps, these ideas need closer examination. The question is not one of rejecting *Sola Scriptura* but rather discovering exactly what is going on in the interpretation of Scripture.

For instance, in the Seventh-day Adventist Church do we have recourse to tradition? I will give the single example of the writings of Ellen G White. Her writings are part of Seventh-day Adventist tradition, they are not considered authoritative by any other denomination. Are they normative in interpreting Scripture? Clearly not! But are they helpful and relevant in interpreting Scripture? Most Adventists would be forced answer in the affirmative. Her writings play an important role in establishing Seventh-day Adventist identity, but this does not mean they are decisive or the final word in establishing church beliefs. This nevertheless resides with Scripture. To quote Ellen White:

Lay Sister White right to one side: lay her to one side. Don’t you never quote my words again as long as you live, until you can obey the Bible. When you take the Bible and make that your food, and your meat, and your drink, and make that the elements of your character, when you can do that you will know better how to receive some counsel from God. But here is the Word, the precious Word, exalted before you today. And don’t you give a rap any more what “Sister White said”—“Sister White said this,” and “Sister White said that,” and “Sister White said the other thing.” But say, “Thus saith the Lord God of Israel,” and then you do just what the Lord God of Israel does, and what he says.¹⁴

The second questionable corner of the Wesleyan Quadrilateral is that of reason. Does human reason have a part to play in our interpretation of Scripture? Well, quite obviously it does, otherwise we would be unable to read the Scriptures in the first place. One of the fundamental assumptions that any exegete has to make when establishing church doctrine, is that there is, in fact, an underlying logic. Were there no such logic, then there would be no way to actually “work out” what our beliefs should be. Having said this, though, it should also be accented that reason is not the final arbiter on Scriptural matters. Part of the Enlightenment project involved the deification of reason. Not everything about belief systems succumb to logic and reason in the conventional sense. For instance, ideas such as the Trinity, the origin of sin, theodicy, the incarnation, the virgin birth and so forth while not being wholly incomprehensible are not rejected purely because they do not cohere with some sort of mathematical logic. And so, as with tradition, reason is not the final authority on Scriptural interpretation, but it is nevertheless a component in the process of understanding God’s Word.

¹³ Albert C Outler, “The Wesleyan Quadrilateral – In John Wesley” in *Wesley Center Online: Wesley Center for Applied Theology*, 2000, http://wesley.nnu.edu/wesleyan_theology/theojrnl/16-20/20-01.htm (20 July 2008).

¹⁴ Ellen G White, *Spalding and Magan Collection*, 167. This fascinating quote was first share with me by Jeff Crocombe, lecturer in Church History at Helderberg College in South Africa, who noted the somewhat colloquial tone, and attributed it to Ellen White’s vehemence in establishing the point.

The final corner of Wesley's Quadrilateral is Christian experience. This refers to our walk with Christ. Is this irrelevant to Christian understandings of their faith? Should it be ignored when striving to understand our beliefs? My inclination is to say that it should be ignored, that it has no place in establishing Christian faith and yet I am reminded of the much loved Ellen White quotation: "We have nothing to fear for the future, except as we shall forget the way the Lord has led us, and His teaching in our past history."¹⁵ The point, I think, is not that our Christian experience is irrelevant, it inevitably influences us – how could it be any different – but despite this, it is not an authoritative source of knowledge when placed alongside the Bible.

When we consider the Wesleyan Quadrilateral (and this is only one possible example among others that could be said to reflect *Prima Scriptura*), it is evident that there are clear *influences* and these need to nevertheless be confirmed and aligned with Scripture. Yes, we obviously have prejudices and biases. Yes, we use our reason. Yes, we are located in a tradition that informs us and strives to shape our theological conclusions. Yes, we have all walked a road – our Christian experience – that has shaped who we are today as Christians. But none of these can ever take precedence over Scripture or alter the actual words of the Bible. These may be resources in our attempts to understand Scripture, but it is not necessary that they violate our commitment to *Sola Scriptura*.

But what of the Seventh-day Adventist scientist? Is it not fair to suggest that there is an influence, one might even say truth about the natural world that could be introduced into theological reflections. It seems to me that there are key questions that science is asking and that exegetes of Scripture would do well to hear these questions as they consider their interpretations of the Bible.

ii. Variations in Interpretation

Accepting from a Seventh-day Adventist perspective that the only authority for truth is the Bible does not mean that all questions of interpretation have been answered. I am not, here, talking about hermeneutical method, although the questions are naturally related to hermeneutics. Seventh-day Adventists have always adopted a literalistic or historical approach to interpreting Genesis 1, as opposed to, for example, invoking historical-criticism which may result in more allegorical interpretations. That creation week refers to literal 24 hour days is a non-negotiable in standard Seventh-day Adventist understandings of Genesis 1 and I have neither interest nor inclination to bring this into question. But having acknowledged this much does not mean that all interpretive questions have been finally answered.

With regard to the creation narrative Ariel Roth, who argues from within the Seventh-day Adventist tradition, suggests three distinct models for describing the events of creation week:

1. *God made everything during creation week*: This interpretation claims that God made the entire universe during the six days of creation week and, hence, the universe is only several thousand years old.
2. *God created the solar system during creation week; the rest of the universe was created long ago*: This interpretation claims that there is a distinction between the age of the universe (indefinably long ages) and our solar system (several thousand years).

¹⁵ Ellen G White, *Life Sketches*, 196.

3. *God created life during creation week; all the rest of the universe, including the solar system, was created long ago.* This interpretation argues for a distinction in the age of the universe including the earth and our solar system (indefinably long ages) and life on the earth (several thousand years).¹⁶

After briefly outlining these models, Roth makes a significant claim which is absolutely crucial in understanding the dilemma that confronts exegetes of Scripture, whether they are scientists or theologians:

None of the three models proposed above for creation week challenge the concept of a literal six-day creation week and God's rest on the seventh-day Sabbath, and all three can answer the apparent incongruity of a morning and an evening for the first three days of creation week before the sun appears on day 4.¹⁷

Notice that Roth is striving to adhere to the authority of Scripture in his three models. He is not attempting to twist the words of Scripture to fit an *a priori* model that his study of the natural world is demanding. He wants to be true to a literalistic or historical interpretation of Genesis 1. There is no evidence of any attempt to allegorise or "explain away" any of the passages or ideas presented in Genesis 1.

Keeping this in mind (and I am not interested in critiquing any of these models), the question then arises, how are we to determine which of the three is correct? After all, the three models are mutually exclusive. They cannot all be accurate, in fact, at most, only one can be the right model. The answer cannot be found in *Sola Scriptura* because all three models claim the Bible as their sole authority. To put this idea another way, the Bible does not supply enough information for us to be able to determine which of these to accept or reject. If the Bible did give us this information, it would solve the question and we need not be detained any longer on the issue.

The problem that Roth brings to the foreground with these three models is that while the Bible gives us all we need to know about God, Jesus Christ and salvation and, indeed, on a myriad of other subjects, the Bible is not an exhaustive text book on all knowledge. It does not contain details on every subject of human endeavour. Acknowledging this does not violate *Sola Scriptura*, but it does give certain latitude to our interpretations where these details are missing.

Furthermore, what is the source of Roth's three interpretive models? Since none of them is explicitly suggested by Scripture (if it were it would preclude the other two), where or *why* did Roth feel the need to suggest these three separate versions of the creation narrative? Why not merely recognise that Scripture does not give us these details and leave it at that?

The answer is that Roth is concerned to resolve observations in the cosmos with the revelation found in Scripture.

One of the questions frequently raised about creation week concerns the length of time required for light to come from distant stars. . . . If God created stars on day 4 a few thousand years ago, how can we already see the light from stars, some of which are so far away that it requires thousands of millions of years for that light to reach us?¹⁸

Roth then suggests two answers to this dilemma. Either God created the stars prior to creation week or the stars were created with their "radiant light already reaching earth."¹⁹

¹⁶ Ariel Roth, *Origins: Linking Science and Scripture* (Hagerstown: Review and Herald Publishing, 1998), 316.

¹⁷ Roth, 318.

¹⁸ Roth, 317.

¹⁹ Roth, 317.

Scientifically, the difference between these two interpretations is vast. Quite obviously the first of these options, in general, would be more appealing to Seventh-day Adventist scientists, since at least with regard to the long ages of the universe it does not put them at odds with the prevailing scientific understanding. Roth concludes that since Genesis gives us such a brief account regarding origins, there will be “many unanswered questions” and “several interpretations are possible.”

To reiterate, the fact that several interpretations are possible is not to do violence to Scripture. True, these interpretations are an outgrowth of scientific endeavour, but they are also an attempt to harmonise the biblical record with scientific data. The biblical scholar, historically at least, would never have considered it incoherent to suggest that the stars were created a few thousand years ago. Since the speed of light as well as the distance of the stars from this earth are both relatively recent scientific discoveries, this information was, at least prior to the 20th century, completely beyond the scope of the Bible student’s knowledge. Science, therefore, is able to contribute to our understandings of Scripture. For the person of faith, it is important to recall that the God of the Bible is also the Creator of the universe and that ultimately the harmony of the two will emerge. The issue is not to explain away apparently anomalous data in the natural world, but to understand how the data enhances the biblical narrative.

iii. The Problem of Uncertainty

In a world that is plagued by insecurity, suffering and death, there is a desire for certainty. Kuhn demonstrated that science is a human endeavour and that scientific certainty is an illusion, a relic, perhaps, of the enlightenment. Ben Clausen points out that the new direction of science, itself, has moved away from the absolute confidence that was suggested by early twentieth century empiricism. Science in the modern age has developed whole new fields of study: “theories of relativity, quantum mechanics, complexity theory, and astrophysics.”²⁰ These theories, themselves, bring into question the possibility of science as a purely objective enterprise. It is not only philosophies of science such as those instigated by Thomas Kuhn and expanded by others that have deconstructed science’s ambitious claims of objectivity, but science itself is producing uncertainty theories that challenge some of its traditional foundations.²¹

But Christianity, too, is a matter of faith and not absolute certainty. “Science is the human interpretation of God’s creation as marred by sin, whereas theology is the human interpretation of God’s revelation through human channels.”²² Christian faith, and, by extension, Seventh-day Adventist faith is not a matter of certainty, in the sense of rational, provable truth. There is no mathematical equation that can prove the truth of Scripture. It is not as though there is no evidence that can be presented to demonstrate that faith in Christ is reasonable, but there is a distinction between faith and knowledge beyond all doubt.

The problem, it seems, is that science and religion are opponents in a fight for epistemological supremacy. The theory of evolution coupled with the attitude of modern science towards religion has made people of faith wary of scientific advances; and not

²⁰ Ben Clausen and Gerald Wheeler, *The Book of Beginnings: Creation and the Promise of Redemption* (Hagerstown: Review and Herald Publishing, 2006), 73.

²¹ Clausen and Wheeler, 73.

²² Clausen and Wheeler, 72.

without justification. This has served to entrench the conflict. Too often Seventh-day Adventist scientist find themselves engaged in apologetics, defending the faith against science's onslaughts, rather than revealing the wonder of God's creation. In a world where doubts too easily assail and diminish faith, science, for the most part, seems to be an enemy of faith. And yet, surely in a world that is created by God, the opposite ought to be true.

III. Seeking Harmony

Is science the enemy or the friend of Christian faith? Should Seventh-day Adventists be afraid of science's advances or embrace them without fear? Too often modern science seems to throw faith into crisis. It is not uncommon for young people of faith to attend a secular institution and be exposed to ideas that gradually erode and ultimately destroy their faith.

In some ways I think the challenges that modern science brings to Seventh-day Adventist faith are not unlike a severe conflict. In this context, I am reminded of two very different biblical stories.

The first is that of Joshua, the young leader of Israel, poised to enter the promised land. On the night before the Israelites were to attack Jericho, the young Joshua experienced a moment of crisis, a moment when his greatest need was to *know* that God was on his side. Joshua had recently taken over the leadership of Israel from Moses – big shoes to fill by any standards. His task was to lead Israel into the Promised Land, which had eluded them for 40 years because of their fear at the armies of giants and their lack of faith in God. As Joshua steeled himself for the task ahead, that of leading those incorrigible Israelites into their first major battle under his command, all his fears and self doubts must have threatened to overwhelm him.

Did Joshua know that God was with him in that moment? It is true that he had God's word on the matter: "I will never leave you or forsake you" (Joshua 1:5). One of the favourite promises of believers in any generation was personally made to Joshua, what confidence that must have inspired in him. And so on that momentous night before he faces battle in Jericho, Joshua waits for direction from God. But the Bible record delivers a fascinating story that I believe can point us forward in a positive direction in the modern day polemical quagmire that is often the contact point between science and religion.

Joshua is confronted with a man standing in front of him with a drawn sword. And so Joshua asks that question which is so critical in a time of war: "Are you for us or for our enemies" (Joshua 5:13b). Here they stood, man to man, and one of the men had his sword drawn - an act of war that was clearly understood. But was this man's intention to end Joshua's life, or had he taken up arms to join the Israelite's cause? And so Joshua asks the pertinent question: "Are you for us or for our enemies?" And this is the answer the man gave him: "Neither, but as the commander of the army of the Lord I have now come" (Joshua 5:14). This answer on first reading is startling. Surely we would say that this man – this commander of the army of the Lord – would be on the side of Joshua and the Israelites. But the answer is unequivocally given: "Neither."

Let us consider this exchange in the light of religion and science. The question we may well ask of God is "Are you for us or for the scientists?" In a sense, the question is an absurd one. After all, scientists study the natural world, God's creation, and believers

study the Bible, God's Word, so why should there be a split. It is too easy for Seventh-day Adventists to believe that God is on our side simply because many of science's pronouncements fail to cohere with our understandings. When faith is threatened by scientific theory, Seventh-day Adventists tend to go into apologetic mode, rigorously defending the faith, polarising themselves from all who bring information from the natural world that seems to suggest that the Bible narrative is in error.

Let me pause a moment. I am not addressing the challenges that an atheist scientist may suggest, but rather those of Seventh-day Adventist scientists. Notice the following admission and concern expressed in *The Book of Beginnings: Creation and the Promise of Redemption* by Seventh-day Adventists Ben Clausen and Gerald Wheeler:

We [SDA scientists] must intentionally nurture the church's best and brightest intellects who are devoted to Jesus Christ as Lord, but are unwilling to accept superficial scientific answers. As a scientist I may appear to bow to the "god of science" as Naaman bowed with his master in a Syrian temple, but as Naaman told Elisha: 'Your servant will not offer burnt offerings or sacrifice to any god but the Lord (2 Kings 5:17).²³

Science is not the enemy. Science, for the SDA scientist, is the study of God's creation. But what if these scientists find things that just don't seem to match up to our Scriptural understandings? Must they then keep quiet for fear of being accused of worshipping the "god of science"? Do they have to preface everything they say with vehement claims to nevertheless be holding to their faith, for fear that a suspicious SDA audience will bring their faith into question? How dare they discover things that don't seem to defend the faith? Should they keep silence and only reveal those discoveries that can be trumpeted as support for creationism and the flood model?

The difficulty, for me, seems to be an interdisciplinary one. The theologian brings a deeper understanding of the Scriptures and the scientist brings a deeper understanding of the natural world. The theologian interprets the Bible and the scientist interprets the natural world. If the two groups can come together in open dialogue, then surely the underlying truth that pervades both Scripture and the natural world will more easily be harmonised. Scientific understandings of the natural world are obviously not perfect, but neither are theological understandings of Scripture flawless. An unthreatening atmosphere needs to be generated where a methodology can be developed that enables SDA scientists to bring pertinent discoveries to the theological table *without* fear of their faith being questioned. There is a need for total honesty in such dialogues:

Truth can afford to be fair and look at all data, for this is how God presents Himself in Scripture. . . . Honesty rejects the use of sensational claims and scientific overstatement. Well meaning Christians have so often made such claims that we need to go out of our way to remedy the situation. The most useful worldview is a natural outgrowth of the full range of data, not a forced or contrived organization of some of the facts.²⁴

The second biblical story I would like to invoke is that of Christ sleeping in the boat while the disciples battled a storm. Once Christ had calmed the storm he asked a telling question: "Why are you so fearful? How is that you have no faith?" (Mark 4:40). Notice that Christ contrasts faith with fear. Normally, we tend to contrast faith with doubt, but here Christ makes no such comparison. He suggests that it is fear that has destroyed their faith. One might have presumed that after this miracle and Christ's rebuke of the wind and waves, followed by his rebuke of the disciples that his disciples may have

²³ Clausen and Wheeler, 80.

²⁴ Clausen and Wheeler, 78-9.

experienced a strengthening of their faith. We discover that the exact converse happened. The next verse tells us, "And they feared exceedingly, and said to one another, 'Who can this be, that even the wind and the sea obey Him!'" (Mark 4:41). When the disciples were battling the storm, they were afraid. When the disciples witnessed the calming of the storm, they were afraid. When the disciples were confronted with the God who had actually calmed the storm, they were more afraid than ever.

As Christians we need to advance with faith not fear. The God of the Bible is also the God of the wind and the waves, the God of nature. While it may be appealing to blinker our eyes from scientific discoveries and advances, because in this way we feel that we can preserve our faith, this is a fool's paradise. In fact, this attitude is the expression of a lack of faith, a faltering faith, a faith that ultimately will not stand under scrutiny. While it is true that science and religion are distinct disciplines and scientific pursuits do not necessarily have the same goals as those of religion, this does not mean that our theology should not have the same levels of rigour as those employed by dedicated scientists. If we are rigorous, honest and open to listen to those with serious questions about our faith, then the consequence can only be mutual growth.

As Seventh-day Adventist, if we truly believe that God is the Creator of the universe, then we need to have the courage of our convictions and let nature tell its story.

Conclusion

The philosophy of Thomas Kuhn brought into sharp focus the idea that science does not present objective inviolable truth. In essence, both science and religion require faith. Science has its theories that are not verified beyond all doubt. As Christians, therefore, we do not need to fear science as though its pronouncements can automatically invalidate the faith of a person of reason.

The Bible and the beliefs derived from Scripture are not thrust into crisis via anomalies that science may present. *Sola Scriptura* means that the origin of beliefs are Scripture not the natural world. Beliefs should not enter a state of crisis because they do not appear to be verified by modern scientific endeavour. This is not to say that creationist understandings, for example, cannot be enhanced and better appreciated via scientific means. It just means that the truth of the doctrine of creation is not established by science. But since its truth is not established by science, neither can science invalidate it. If the doctrine of creation as understood by the SDA Church is to be adapted and/or altered at all, this belongs in the realm of theology and biblical hermeneutics. In short, it is established on the basis of the revelation of Scripture not science. While it is surely fundamental to faith that science ultimately must agree with Scripture, it is also true that interpretations of Scripture are established on the basis of the revelation of God in Jesus Christ. This demands an adherence to principles that are not innately suggested by science, yet are fundamental to religious faith. These include principles such as justice, love, faithfulness, equality and so forth. Science has no such commitment.

However, the God of the Bible is also the God of all creation. It is true that Seventh-day Adventist scientists are examining the natural world and making discoveries that may or may not appear to conflict with SDA beliefs systems. Should these scientists reveal only that which corroborates these beliefs? There is a need for open dialogue, where the expertise of both scientists and theologians can be brought to the table to discover answers to difficult questions. The truth to a difficult scientific question may

reside in revising a thoughtless and false Scriptural interpretation. This in no way violates the SDA view of *Sola Scriptura*, rather it is the process of discovering what the right questions are. Science often has very different questions to theology, but the theologian has no way of discerning what these questions are except in candid discussion with scientists of faith. A methodology needs to be developed whereby theologians can heed the voice of scientists. This encounter may well bring new questions. These new questions may bring new answers and draw us closer to understanding the harmony between the testimony of Scripture and the evidence to be found in the natural world.